

# The Coronary Heart Disease National Service Framework

*Building for the future*

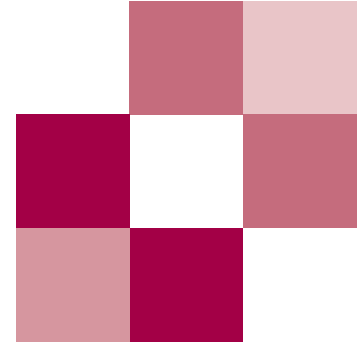
**Progress report for 2007**

**DH INFORMATION READER BOX**

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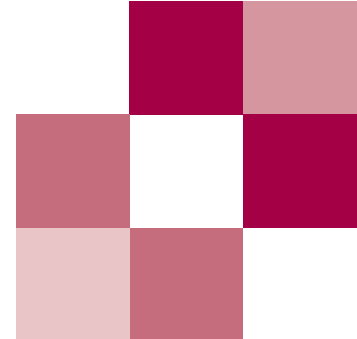


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# Foreword

by the Secretary of State for Health



This is the seventh progress report on the Coronary Heart Disease National Service Framework (CHD NSF), highlighting the progress made since it was first published in March 2000. And I am delighted that we have two major achievements to celebrate.

First, we have hit the target of reducing deaths from cardiovascular disease (CVD) by 40% for people under 75. This means that there are now more than 22,000 fewer premature deaths per year from CHD compared with the baseline figure for our target. 22,000 people alive each year to spend more time with their families and friends; people with CHD enjoying a better quality of life. We have hit this target in half the time originally anticipated – five years early. This is a huge success of which everyone working in cardiac services can be proud. The accelerated improvements in services that have taken place to achieve these results, and the lifestyle changes that people with CHD need to make to improve their quality of life, could not have happened without the dedication and commitment of NHS staff.

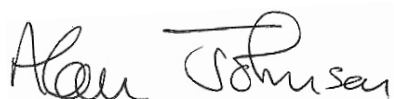
Second, earlier reports have highlighted the £735 million capital programme providing much needed investment to secure world class and state of the art facilities for treating patients with CHD. One part of the programme provides new and refurbished buildings, equipment and technology, including cardiothoracic centres and catheter laboratories, while the other focused solely on catheter laboratories.

The programme is now nearing completion and has provided, for example, two new cardiothoracic centres as well as a host of other capital improvements in hospitals up and down the country. This report records how the additional capital funding has been spent. It gives a clear demonstration of the benefit of our substantial investment in one sector of the NHS. This capital investment has been targeted on areas of greatest need – where capital stock was poor or, indeed, simply did not exist. These new facilities have provided the setting for our substantially increased numbers of cardiologists.

The Big Lottery Fund has matched our investment so that there are now 90 brand new catheter laboratories across the country, costing £122 million. This means that heart disease is detected earlier and access to specialist treatment is quicker than ever before – resulting in improved services and better outcomes for patients. This report gives details of all the developments funded through this capital programme so everyone can see the massive difference it has made to patients and staff alike.

We have made huge strides in improving services for those suffering from CHD since the inception of the CHD NSF. Meeting the mortality target early is testament to this, as is the real difference we have made for patients. But we cannot be complacent. CHD is still responsible for one in five deaths in men and one in six in women. Risk factors such as smoking mean that CHD continues to have a strong socio-economic dimension and so we need to ensure that, in our efforts to combat CHD, the benefits are shared across the whole of society and that no one is left behind. Improvements in tackling CHD must serve to narrow health inequalities not widen them. That is why the work on the development of a vascular screening programme, which the Prime Minister announced in January 2008, is so promising and exciting. It is aimed at reducing heart disease, and other vascular related conditions such as stroke, diabetes and chronic kidney disease, in the population as a whole, as well as preventing CHD in people who are at highest risk of the disease.

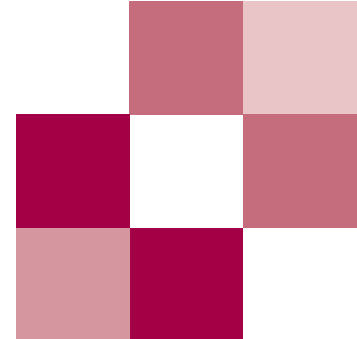
Our focus now should be on maintaining the outstanding performance and progress we have achieved so far, while looking for new and innovative ways to continue and maintain the improvements of the last few years. My thanks to all those who have contributed to and delivered these incredible improvements. I hope we can continue to work together to reduce premature death from CHD and deliver even better services for patients.

A handwritten signature in black ink that reads "Alan Johnson". The signature is written in a cursive style with a prominent horizontal line above the name.

Alan Johnson  
Secretary of State for Health

# Introduction

## by the National Director for Heart Disease and Stroke



This document reports progress on the CHD NSF over the last year, as well as marking the final stages of the capital programme, which has delivered substantial investment in cardiac services across the country. Since *Shaping the future* was published in 2007, we have continued to work at achieving the 12 standards outlined in the NSF and here we outline what progress has been made, and what remains to be done.

Our greatest achievement has been the 40% reduction in CVD related deaths, a target we have met five years early. It is testament to the dedication of the NHS that such an extraordinary reduction in mortality has been realised. I wish to echo my words of last year's report: thank you to all those involved in the prevention, diagnosis and treatment of heart disease – you are making the difference.

Developing services through the investment from the capital programme has doubtless contributed to improved patient outcomes but changes in service delivery have also supported this progress. The treatment of heart attack has improved, with more people receiving thrombolysis within 60 minutes of a call for help, and there has been progress in service change as hospitals look to maximise outcomes for patients. Primary angioplasty is rapidly becoming an achievable treatment through investment and service change. The National Infarct Angioplasty Project (NIAP) reports to be published this year will supply us with evidence of the feasibility of rolling out primary angioplasty service models across the country.

Only two years into delivery, Chapter 8 of the NSF is driving improvement in the management of arrhythmia services. Better coordination of services and stakeholder engagement support the sharing of best practice and innovative ideas for service improvement. Looking forward, there are a number of development sites, which will develop the role of payment by results (PbR) in improving cardiac services.

National audit has been a critical lever in developing and improving services for cardiac care. A number of new registries and audits are currently under development, to be added to those already in place. Audit can be used to drive up quality of care as areas of challenge are identified allowing clinicians and management to prioritise for improvement and share best practice across national services.

## *Introduction*

Developing cardiac rehabilitation services must be a priority in the coming year. The evidence shows this is a cost-effective intervention that reduces mortality and morbidity and we need to raise both the quantity and quality of service provision across the country. The new National Audit of Cardiac Rehabilitation will be critical in providing better information about services currently available and enabling local areas to improve their provision.

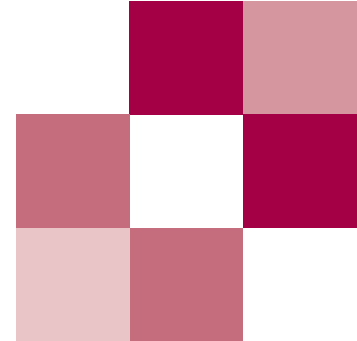
It has been a busy seven years in the world of cardiac services, but once again the professionalism of the service has outstripped expectations and targets. I look forward to working together with you in the coming year to maintain this outstanding progress in tackling CHD.

A handwritten signature in black ink that reads "Roger Boyle". The signature is written in a cursive style with a large initial 'R' and 'B'.

Professor Roger Boyle  
National Director for Heart Disease and Stroke



# Summary of progress and impact



Improvements continue to be made across the board in the delivery of services for coronary heart disease (CHD).

|  | Then             | Now                     |
|--|------------------|-------------------------|
| Adult smoking prevalence   | 28% (2000)       | 22% (2006)              |
| Number of children receiving free fruit at school  | zero (2000)      | nearly 2 million (2006) |
| Number of patients waiting for over 12 months for heart surgery                            | 1,093 (Mar 2000) | zero (Dec 2002)         |
| Number of patients waiting over 9 months for heart surgery                                 | 2,694 (Mar 2000) | zero (Mar 2003)         |
| Number of patients waiting over 6 months for heart surgery                                 | 2,766 (Apr 2002) | zero (Mar 2004)         |
| Number of patients waiting over 3 months for heart surgery                                 | 5,663 (Apr 2002) | zero (Mar 2005)         |
| Estimated number of lives saved with statins   | 2,900 (2000)     | up to 10,000            |
| Percentage of heart attacks treated with thrombolysis within 60 minutes of a call for help | 24% (2001)       | 68% (2007)              |
| Consultant cardiologists   | 467 (1999)       | 752 (2006)              |
| Heart surgeons   | 182 (1999)       | 240 (2006)              |

## Reducing mortality

Our Public Service Agreement (PSA) mortality target – to reduce mortality from heart disease and stroke and related circulatory diseases in people under 75 by at least 40% by 2010 – was set in the public health White Paper, *Saving Lives: Our Healthier Nation* in 1999. It was based on the trend data available at the time, including international comparisons, and was seen as a significant challenge.

Since then we have seen continuing steady progress to the point where we are able to say that the target has been met, five years ahead of schedule. This is a major achievement. It comes as the result of the shared efforts of

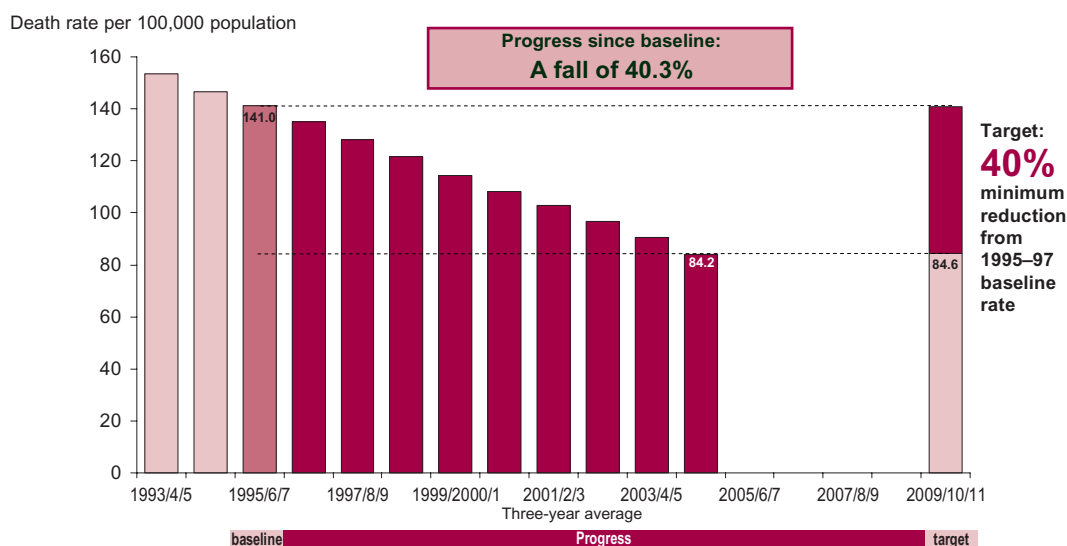
## Summary of progress and impact

people working across the whole spectrum of healthcare. Emergency care is delivering thrombolysis more quickly for people suffering a heart attack; waiting times for heart surgery have dropped dramatically since the inception of the Coronary Heart Disease National Service Framework (CHD NSF), and outcomes have improved; in primary care, with the additional incentive of the Quality and Outcomes Framework, secondary prevention has improved. Smoking cessation has also made a major contribution.

- The prescription rate for cholesterol-reducing statins has more than doubled over the last three years, cutting mortality from CHD and the number of heart attacks each year.
- Prevalence of smoking among adults dropped from 24% in 2005 to 22% in 2006. This is particularly encouraging since the rate of decline had slowed over the last decade.
- Thrombolysis is now delivered within the NSF standard of 60 minutes in 68% of individuals, up from 64% in 2006/07, and up from just 24% in spring 2001.

### Circulatory disease mortality target

Death rates from all circulatory disease in England 1993–2006 and target  
Persons under 75



Rates are calculated using the European Standard Population to take account of differences in age structure. ICD9 data for 1993 to 1998 and 2000 have been adjusted to be comparable with ICD10 data for 1999 and 2001 onwards.

Source: ONS (ICD9 390-459; ICD10 I00-I99)

Primary angioplasty has also been developed in many centres across the country, and the National Infarct Angioplasty Project (NIAP) has almost completed its feasibility study, with final results expected to be published later in 2008. The interim report, published in February 2008, shows that delivery of primary angioplasty is feasible in a variety of geographical settings.

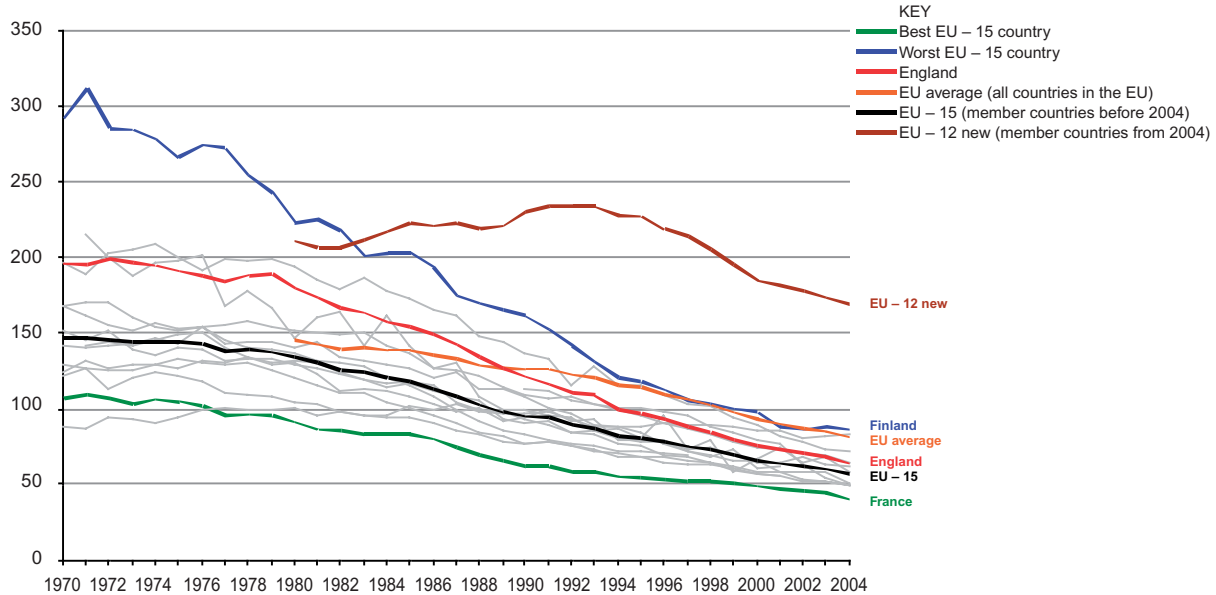
Good quality rehabilitation reduces mortality and morbidity. The new National Audit of Cardiac Rehabilitation (NACR) aims to identify areas of challenge and support local areas in adopting models of best practice. New National Institute for Health and Clinical Excellence (NICE) guidance on secondary prevention, and information on CHD in the disease prevention web based toolkit, all serve to disseminate information and support service improvement.

Mortality due to circulatory disease has steadily improved against the European baseline, with more rapid progress being made in England than in

many other countries. For males, in particular, there has been a dramatic reduction in mortality, bringing England towards converging with the average of the 15 EU member states in 2006.

### Premature mortality from CVD in men aged under 65

Standardised death rate (SDR) per 100,000 population



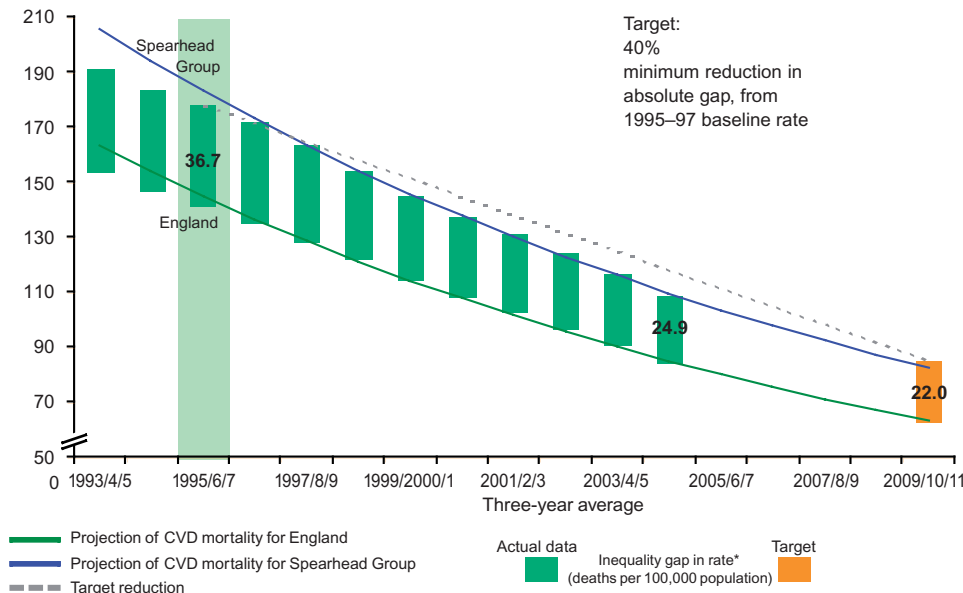
Source: England – ONS mortality data, analysed by Department of Health analysts; all other countries – WHO Health For All database, www.euro.who.int/hfad

### Mending the gap

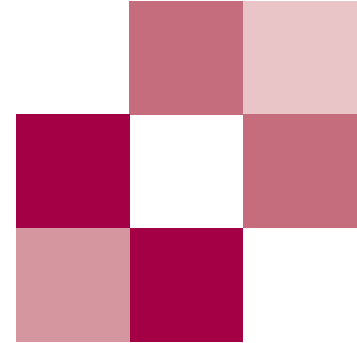
We continue to make good progress towards meeting the inequalities dimension of our target and are on track to meet a 40% reduction in the gap in the premature mortality rate from cardiovascular diseases in the fifth of areas with the worst health and deprivation scores (the Spearhead Group) and England as a whole. Latest data show a 32% reduction in this absolute gap.

### Deaths from circulatory disease in people under 75 years of age England 1996–2006

Age standardised mortality rate per 100,000 population



# Chapter 1: Delivering world class services



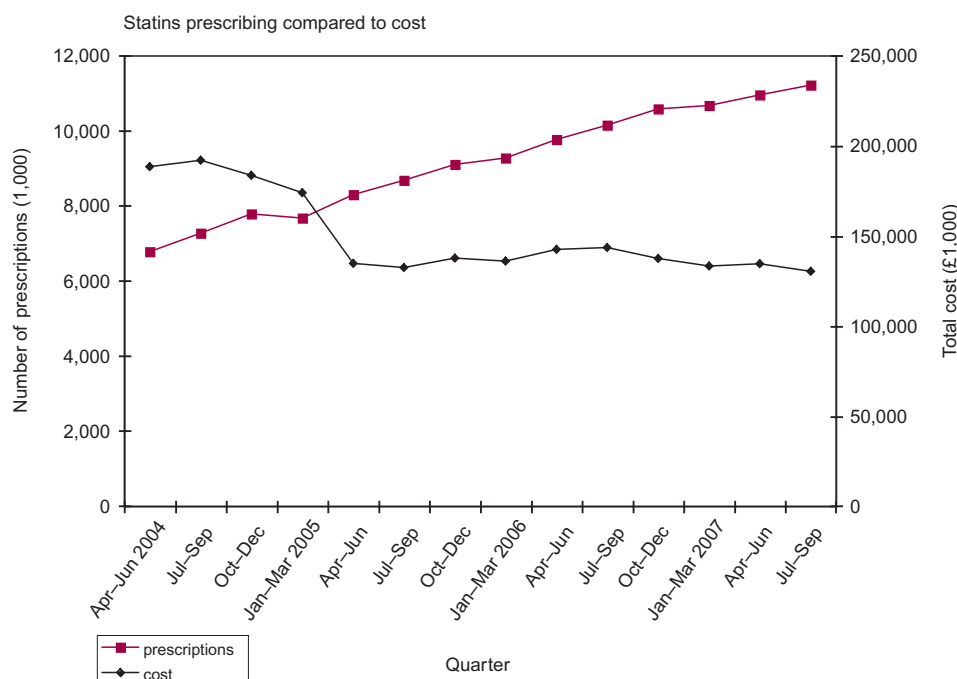
The progress that has been made in improving services comes from the NHS using the various levers and incentives that the Department of Health has put in place.

## Statins

The Quality and Outcomes Framework of the GP contract continues to show very high levels of achievement for the points available for CHD, including those for the measurement and control of cholesterol. In addition, the NHS has been using information on prescribing patterns to improve the cost effectiveness of statin prescribing. The 'better care, better value' indicator on statins, launched in September 2006, is providing the impetus to improve efficiency through systematic use of therapeutically equivalent low cost generic statins in place of higher cost branded drugs. This has already saved around £80 million, without compromising the effectiveness of treatment.

This will have helped deliver a total statins bill of £557 million in 2006/07, a reduction on that for 2005/06, while prescribing itself continues to rise.

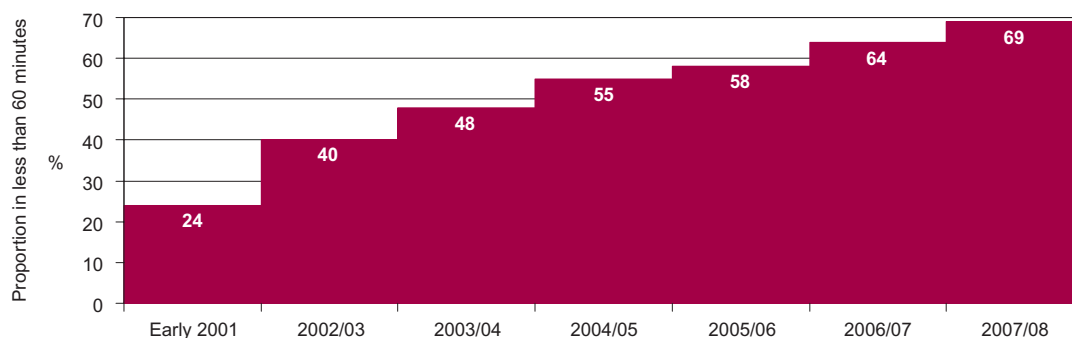
### England – statin prescribing 2006/07: total prescribed and dispensed items and total ingredient costs



## Thrombolysis

The proportion of people treated with thrombolysis (clot-busting drugs) within the NSF standard of 60 minutes of their calling for help has now reached 69% hitting the target. The continued national roll out of pre-hospital treatment by paramedics has substantially contributed to this achievement. This compares with about 24% in spring 2001.

### Thrombolysis – call to needle time



Figures are national annual aggregate for England; 2007/08 is for April to September.  
Source: Myocardial Infarction National Audit Project

## Primary angioplasty

Coronary angioplasty is a technique for unblocking arteries carrying blood to the heart muscle. A small balloon at the tip of a catheter tube is inserted via an artery in the groin or arm and guided to the blocked heart artery. It is then inflated and removed, leaving in place a 'stent' – a rigid support which squashes the fatty deposit blocking the artery – allowing blood to flow more easily. Primary angioplasty is the use of this technique as the main or first treatment for patients suffering a heart attack.

### National Infarct Angioplasty Project (NIAP)

Since 2004/05, the Department of Health has been working with the British Cardiovascular Society and the British Cardiovascular Intervention Society on a study (the NIAP) to test the feasibility of offering primary angioplasty services on a countrywide basis. There are seven pilot sites involving 10 primary angioplasty centres, each offering a different service model or geography.

An interim report, based on the hospital admission data, is being published in February 2008. This suggests that acceptable times to treatment can be achieved in a variety of geographic settings and the ideal model of service delivery is by direct transfer by the ambulance service to a primary angioplasty centre.

A final report on the follow up data, incorporating findings from an independent evaluation of patient experience of primary angioplasty, staffing and costs, is due to be published later in 2008.

### **Palliative and end of life care**

The Healthcare Commission report found an encouraging level of palliative care provision for heart failure. This should continue to improve when the End of Life Care Strategy is launched, which focuses on the development of supportive and palliative care for all terminal conditions, including heart failure.

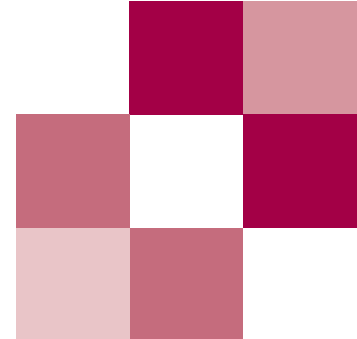
## **Waiting times**

Excellent progress has been made to reduce waiting times for heart patients. Since March 2005, no one has waited more than three months for heart surgery, and since the end of 2005, no one has waited more than six months for angiography.

### **Revascularisation**

Substantial progress has been made to ensure people receive timely and appropriate interventions when CHD is suspected or confirmed. This reduces the number of people going on to experience a cardiac event and is reflected in reduced waiting times, increased activity and investment, and greater numbers of CHD workforce. The number of heart operations increased from 41,000 in 2000/01 to over 78,000 in 2006/07.

# Chapter 2: Improved infrastructure to deliver world class services



## Capital programme

### Investing to improve cardiac services

Two capital development programmes have supported locally determined priorities with a total investment of £735 million:

- revascularisation capital programme – started in 2001 and due to complete in 2009 – £613 million funded by the Department of Health and strategic health authorities; and
- Big Lottery Fund catheter laboratory programme – started in 2001 and completed in 2006 – £122 million, funded half by the Lottery and half by the Department of Health.

The aims of these programmes were to:

- improve and increase local access for appropriate interventions;
- provide modern, state of the art facilities and equipment for patients and clinicians;
- replace old and out of date equipment;
- support the transfer of appropriate services from tertiary to secondary settings; and
- provide more catheter laboratory facilities in district general hospitals.

### Summary of cardiac capital investment by strategic health authority

| Health authority area    | Major schemes | Big Lottery Fund catheter laboratories |             |              | Total        |
|--------------------------|---------------|--|-------------|--------------|--------------|
|                          |               | DH/SHA                                 | BLF funds   | DH funds     |              |
|                          | £m            | £m                                     | £m          | £m           | £m           |
| East Midlands            | 44.2          | 3.4                                    | 2.3         | 5.7          | 49.9         |
| East of England          | 71.0          | 5.8                                    | 6.8         | 12.6         | 83.6         |
| London                   | 0.0           | 10.7                                   | 9.0         | 19.7         | 19.7         |
| North East               | 24.3          | 3.4                                    | 5.1         | 8.5          | 32.8         |
| North West               | 131.2         | 8.3                                    | 7.8         | 16.0         | 147.2        |
| South Central            | 82.2          | 4.0                                    | 3.6         | 7.7          | 89.9         |
| South East Coast         | 15.8          | 5.6                                    | 7.0         | 12.6         | 28.3         |
| South West               | 131.2         | 6.3                                    | 6.0         | 12.3         | 143.5        |
| West Midlands            | 57.1          | 6.4                                    | 5.6         | 11.9         | 69.0         |
| Yorkshire and the Humber | 50.1          | 7.4                                    | 7.8         | 15.2         | 65.3         |
| Other                    | 5.5           | 0.0                                    | 0.0         | 0.0          | 5.5          |
| <b>Total</b>             | <b>612.6</b>  | <b>61.4</b>                            | <b>60.9</b> | <b>122.3</b> | <b>734.9</b> |

### **The revascularisation capital programme**

The revascularisation capital programme has enabled local priority investment in over 30 schemes across the country. By its completion it will have:

- extended and improved facilities in 16 existing centres;
- increased tertiary centre coverage across the country – by establishing two new centres – one for the Black Country (in Wolverhampton) and the other for Essex (at Basildon); and
- increased local catheter laboratory and other facilities in parts of the country that do not have a ‘local’ tertiary centre.

More details of these schemes and developments can be found in the Annex.

### **The Big Lottery Fund catheter laboratory programme**

The first development in the catheter laboratory programme was opened in 2002 and the final scheme was completed in 2006. It has provided:

- 90 brand new catheter laboratories with state of the art diagnostic and treatment equipment;
- 72 of these are additional catheter laboratories and 18 replaced old and outdated technology;
- 63 have been developed in district general hospitals to provide local access (59 additional and 4 replacement); and
- 27 have been in tertiary cardiac centres (13 additional and 14 replacements) over and above the investment from the revascularisation capital programme.

The main developments that have taken place as part of this programme are set out by strategic health authority in the Annex.

### **Summary of overall progress – catheter laboratory programme**

| <b>Strategic health authority</b> | <b>Additional</b> | <b>Replacement</b> | <b>Total</b> |
|-----------------------------------|-------------------|--------------------|--------------|
| East Midlands                     | 5                 |                    | 5            |
| East of England                   | 8                 | 1                  | 9            |
| London                            | 7                 | 9                  | 16           |
| North East                        | 5                 |                    | 5            |
| North West                        | 10                | 2                  | 12           |
| South Central                     | 6                 |                    | 6            |
| South East Coast                  | 7                 | 1                  | 8            |
| South West                        | 9                 |                    | 9            |
| West Midlands                     | 8                 | 1                  | 9            |
| Yorkshire and the Humber          | 7                 | 4                  | 11           |
| <b>Total</b>                      | <b>72</b>         | <b>18</b>          | <b>90</b>    |



## Workforce

Latest figures on workforce indicate that in September 2006 there were 752 cardiologists, an increase of 61% since 1999/2000. September 2006 figures also indicate that there were 240 cardiothoracic surgeons, showing an increase of 32% over the same period.

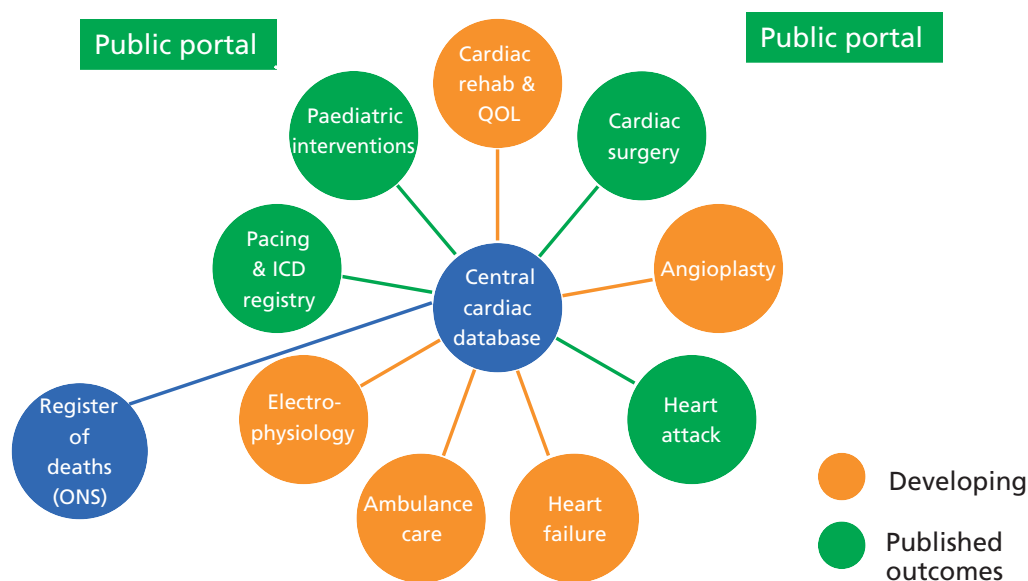
The competency framework for CHD, which was extended to incorporate arrhythmia, sudden cardiac death and pacing in 2006, continues to drive improvements in skills in the whole cardiac workforce.

## Audit

Audit has been a critical lever in driving improvement in the quality of clinical care. Currently under development are registries for angioplasty, cardiac rehabilitation and quality of life, electrophysiology, ambulance care and heart failure. These will be added to the existing audits in paediatric interventions, pacing and implantable cardioverter defibrillator (ICD) registry, cardiac surgery and heart attack. A further addition was the public portal for congenital cardiac procedures, launched in the summer of 2007.

There are two public portals, one of which focuses on all congenital heart disease procedures for children and young people, and the other considers all adult heart surgery. These portals are publicly available from the Information Centre and provide basic information about hospitals offering each procedure, such as where to park and who works there. Procedures are explained in an accessible manner and the portals show risk adjusted performance ratings for all hospitals nationwide. This enables people to make informed decisions about where to have their procedure and support the choice agenda outlined in the *NHS Improvement Plan*.

## National audits and registries



### **Heart failure audit**

The new heart failure audit, developed by the British Society for Heart Failure, is beginning to collect data that will help with future work to benchmark services and to improve quality. The audit was launched at the end of July 2007. Currently, 33% of trusts have registered or are submitting data. This is an improvement from 2005/06 when the Healthcare Commission found that fewer than 20% of trusts could meet the NSF milestone on audit criteria. The Society continues to encourage full participation in the audit.

### **National Audit of Cardiac Rehabilitation (NACR)**

Information is key to understanding service patterns and uptake in rehabilitation and identifying where improvement is needed. This is being addressed by a new NACR, funded by the British Heart Foundation. The audit is being developed across England to provide stronger evidence on quality and effectiveness and encourage local areas to appraise and improve their provision of cardiac rehabilitation. So far, 157 of the 360 UK cardiac rehabilitation programmes have contributed to the audit, with more having agreed to join.

The NACR's *Annual Statistical Report 2007* shows that there remains scope for considerable improvement. However, those programmes contributing to the NACR reported that all of the patient benefit outcomes set as targets by the CHD NSF were significantly exceeded at the end of rehabilitation programmes.

## **Cardiac networks**

Since their inception, cardiac networks have made great strides in service improvement, enabling local areas to provide joined up services for their communities and ensuring best practice reaches nationwide.

In 2007, good progress was made by the networks in the development of arrhythmia services. The Department of Health, with the Heart Improvement Programme (HIP) and other local and national organisations, focused its work on two key complex areas:

- sudden cardiac death and the provision of services for those with or at risk of inherited cardiac condition; and
- the provision of heart rhythm management devices.

The aims being to:

- bring stakeholders together to share ideas and consider how they might work together to bring consistency to the development of services;
- consider how services might be better coordinated; and
- provide service commissioners with national guidance where appropriate.

Work between networks, clinicians, patients' organisations and the Department of Health has produced national guidance for commissioners regarding the provision of heart rhythm management devices (see 'Working with commissioners') and a model for action to take when sudden cardiac death is due to a genetic cause (see 'Chapter 3: Priorities and activities for 2008').

During 2007, HIP has been supporting networks' developments in four areas of national priority:

- 18 weeks whole pathway;
- 18 weeks focus on cardiac diagnostics;
- atrial fibrillation in primary care; and
- making best use of inpatient beds.

Based on these priorities, HIP devised and supported practical projects in local areas working with cardiac networks. These have promoted:

- reductions in length of stay, readmissions and waiting lists;
- streamlined clinical and administrative pathways; and
- improved patient experience.

## **Working with commissioners**

NICE work continues to update the evidence base on CHD and provide guidance on best practice. During the course of the year, we saw the publication of guidance on:

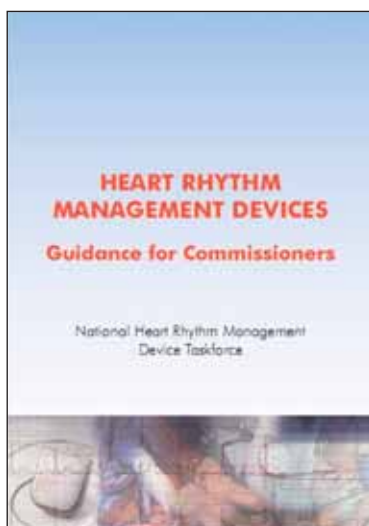
- myocardial infarction: secondary prevention;
- heart failure – cardiac resynchronisation therapy (CRT); and
- hypercholesterolemia – ezetimibe.

Among the other important guidelines, we are expecting four items of particular significance:

- the review of coronary artery stents in the treatment of ischaemic heart disease;
- a new clinical guideline on lipid modification;
- a commissioning guideline on heart failure, expected in March 2008; and
- a commissioning guideline on cardiac rehabilitation services, expected in March 2008.

### **Arrhythmias – Heart Rhythm Management Devices**

Guidance for commissioners on the use of pacemakers, ICDs, CRT devices and remote monitoring was published in 2007. It was produced by the National Heart Rhythm Management Device Taskforce, co-chaired by the Department of Health and the Manchester Heart Centre.



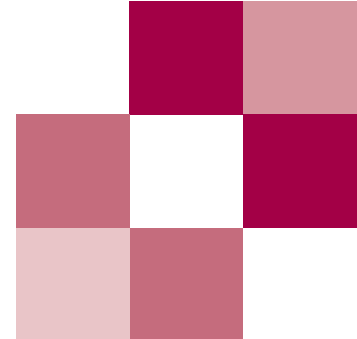
## *Improved infrastructure to deliver world class services*

In 2006, backed by Department of Health and industry funding, the Network Devices Survey Group made public the first systematic survey of the NHS in England and Wales in respect of its level and equity of heart rhythm management device provision compared to local relative need. Information has now been collected, and shared with cardiac networks, for 2003, 2004 and 2005.

Data from 2006, collected in 2007, show an overall 20% increase in device implants over 2005, a step change in the right direction. Within Western Europe, this achievement moves the UK from a position low in the international implant rate league table, with lower than average growth – a position of inevitable deterioration – to a growth rate higher than the European average and the dawning of comparative improvement.

But positive beginnings must not breed complacency – much remains to be done. Overall, UK implant rates must continue to grow faster than the European average and there remain persistent, real inequity of access to devices between cardiac networks and primary care trusts (PCTs). This is something the National Heart Rhythm Management Device Taskforce will continue to investigate.

# Chapter 3: Priorities and activities for 2008



## Health inequalities

As we continue to approach the PSA inequalities target of a 40% reduction in the gap of cardiovascular-related premature mortality, there is much work still to be done. Better assessment of vascular risk will improve prevention, and much work will initially focus on deprived areas where there is more risk and fewer preventive measures are currently undertaken.

### Healthy Communities Collaborative

The Department of Health has commissioned the Improvement Foundation to deliver a programme to improve the early identification and presentation of people at high risk of CVD in areas of poor health and high levels of deprivation. The overall aim of the programme is to:

- raise awareness in target groups of the risk factors for CVD;
- promote earlier presentation of those at risk of CVD; and
- bring about behaviour change in both the public and professionals.

The programme is running in nine pilot sites: Sandwell, Rochdale, Greenwich, Lewisham, Hartlepool, Blackpool, Nottingham, Barnsley and South Tyneside. The Improvement Foundation uses a collaborative process, which involves the sharing of rapid learning and systematic spread of good practice.

## Vascular risk assessment

Between them, heart disease, stroke, kidney disease and diabetes affect the lives of 6.2 million people, causing 200,000 deaths a year and are responsible for a fifth of all hospital admissions.

These diseases share common risk factors such as smoking, high blood pressure and lack of physical activity (all of which lead to the disordered blood chemistry that causes restrictions in blood vessels). But beyond that, they often serve as risk factors for each other; for example, a person with diabetes is much more likely to develop CHD than somebody who does not have diabetes.

The Department of Health and National Clinical Directors for heart disease and stroke, diabetes, and kidney disease, have been working together to address a set of shared issues such as prevention, early detection and risk management.

On 7 January 2008, the Prime Minister announced that the Department of Health will bring forward proposals for a screening programme within the NHS to assess the population for the risk of heart disease, stroke, kidney disease and diabetes.

The purpose of the risk assessment and management programme will be to identify people's level of risk for cardiac and vascular disease. This is a very complex area. The Department of Health analysts are currently modelling the options for introducing a systematic integrated national screening programme for vascular risk in the most cost effective way. Results of the first stage of the analysis are expected early in 2008.

Tackling heart disease in the wider context of cardiovascular disease as a whole will support progress on CHD NSF standards.

### Cardiac rehabilitation

Cardiac rehabilitation is a vital part of caring for patients with heart disease. It is an evidence based and cost effective intervention that reduces future mortality and morbidity. The Department of Health is working with the HIP and the cardiac networks to spread good practice and to help increase the quantity and quality of cardiac rehabilitation services across the country. Looking forward into 2008, there is a variety of tools we shall be using to ensure that improvements take place in this area.

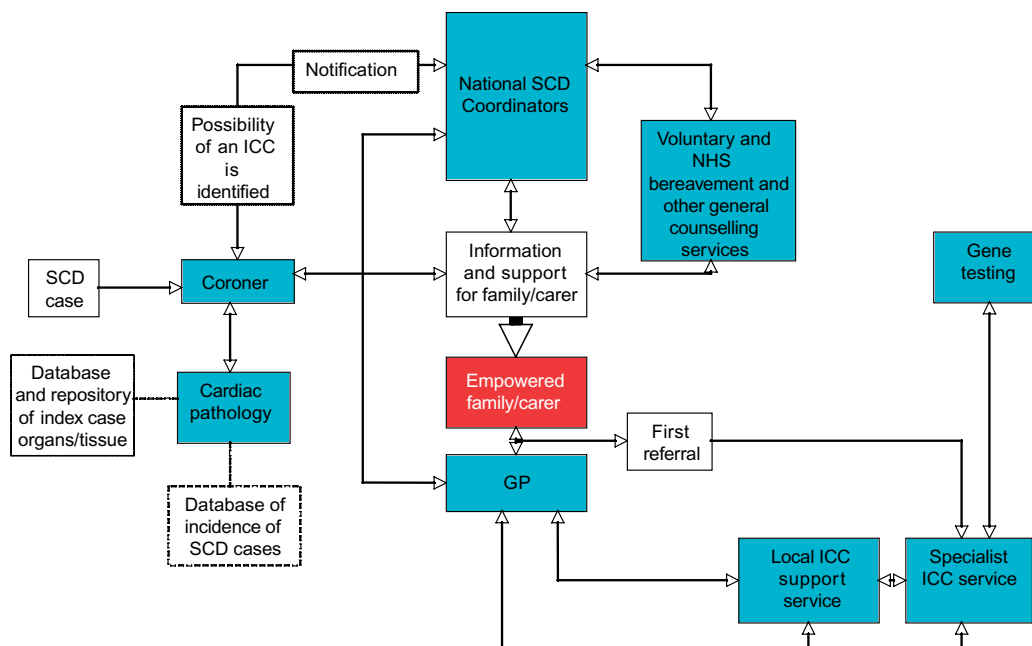
- The British Association for Cardiac Rehabilitation recently published new standards for service provision that will help people to understand what a good service looks like and to raise standards across the country.
- The new NICE guidance on secondary prevention of heart attacks has an extensive section on cardiac rehabilitation and the part it has to play in preventing disease from recurring.
- The Department of Health has recently launched a web-based tool to help the NHS strengthen its approach to disease management, by presenting data at PCT level on conditions contributing to high numbers of emergency bed days. The tool includes a section on cardiac rehabilitation.
- A planned NICE commissioning guide on cardiac rehabilitation services is expected to be published in Spring 2008.

The British Heart Foundation continues to make a significant and very welcome contribution to cardiac rehabilitation services. It does this in particular through its contribution to the funding of specialist cardiac rehabilitation nurses whose numbers increased by 69% between 2000 and 2006.

### Sudden cardiac death

We have developed a model for ensuring preventive action for relatives is taken when sudden cardiac death (SCD) is due to genetic causes. Following group discussions, the following diagram represents what we are working towards to ensure other family members and relations receive the best information, guidance, support, care and treatment.

## Sudden cardiac death services



Significant actions that have taken place to ensure this structure is in place include:

- dissemination of information on the establishment of specialist inherited cardiac conditions (ICC) services, and working with service commissioners and cardiac networks to ensure these services are in place (Department of Health and the HIP);
- development of a UK Cardiac Pathology Network (Royal College of Pathologists with clinicians and other stakeholders);
- Heart Rhythm UK (an affiliated group of the British Cardiovascular Society) position statement on the indications for gene testing in cases of familial cardiac conditions; and
- a British Heart Foundation led project considering the best way of coordinating the sudden cardiac death pathway.

## Payment by results (PbR)

The PbR development sites project has been set up to support the development of the costs and reimbursements system over the next year. A variety of sites will be involved, looking at different aspects of healthcare; within the field of heart health, sites have been set up to look at Chapter 8 fields.

The British Heart Foundation and British Association for Cardiac Rehabilitation have joined with the Department of Health to establish a multi-site project to look at the costs and reimbursement for cardiac rehabilitation in 2008.



Sudden cardiac death and arrhythmias development sites will be looking specifically at:

- remote monitoring of heart devices;
- inherited cardiac conditions services; and
- percutaneous and surgical ablation of atrial fibrillation.

## **Cardiac networks and the Heart Improvement Programme**

For 2008/09, the HIP will build on the priorities of 2007/08 and will focus on four key priority areas. These have been discussed and agreed in conjunction with all 30 cardiac networks.

### **Prevention and early diagnosis**

This will include a focused approach to meeting the new prevention agenda while building on the secondary prevention elements of the rehabilitation agenda, as well as work on early detection and management of patients with atrial fibrillation, heart failure and sudden cardiac death.

### **Emergency care**

The programme will facilitate the development of primary angioplasty where it is the preferred method of treatment and support dual models of reperfusion.

Underpinning this, cardiac networks will continue to be the vehicle for delivering improvements in cardiac care across the country. Networks will extend their scope to support the implementation of the National Stroke Strategy.

The national team will continue to provide support to cardiac networks and input into the networks in terms of training, development, engaging with patients and piloting, developing and capturing best practice.

### **Acute care**

Delivery of the 18 weeks agenda will continue to be a focus, including improving access to cardiac diagnostics. Redesign of the inpatient processes to reduce the inpatient stay will continue to be a priority. A particular focus will be on cardiac surgery.

### **Chronic disease management**

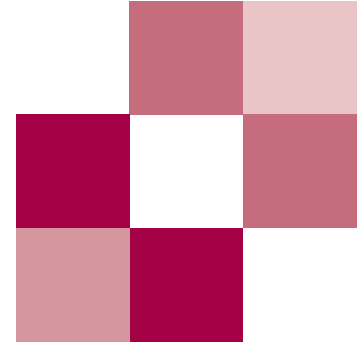
The programme will bring together elements of chronic disease management, providing a package of initiatives including cardiac rehabilitation, heart failure and supportive and palliative care.



# Annex

Cardiac capital developments by  
strategic health authority

## East Midlands



### Nottingham

| FACT CARD         |   |
|-------------------|---|
| Trust             | Nottingham University Hospitals NHS Trust |
| Hospital Site     | Nottingham City Hospital                  |
| Scheme Type       | New replacement cardiac centre            |
| Capital Cost      | £20.9 million                             |
| Main Contractor   | Shepherd Construction                     |
| Start on Site     | December 2003                             |
| Open for Patients | December 2005                             |



The Trent Cardiac Centre (TCC) provides tertiary adult cardiac services to the mid-Trent region and aims to deliver the highest quality of patient care. It receives elective, urgent inpatient transfer and emergency referrals and has the capacity to deliver the interventional activity defined in the Coronary Heart Disease National Service Framework and the East Midlands Revascularisation Strategy.

These aims are achieved by the provision of a wide range of specialist inpatient, diagnostic and day care facilities in a single, integrated building.

The TCC now houses specialist medical, surgical, nursing and critical care all under one roof, working in a purpose-built environment: a specialised satellite building on the Nottingham City Hospital campus that is integrated with the main hospital.

The new facilities have been constructed in a three-storey building with:

- two cardiology catheter laboratories;
- an overnight-stay ward and technical cardiology on the ground floor;
- inpatient Morris Ward containing 36 beds on the first floor;
- two cardiac surgery theatres; and
- a 16-bed critical care unit on the second floor.

The facilities allow for an increased level of activity.

Infection control risks are minimised within the building by a 1:1 ratio of cubicles to bays on ward areas, the proximity of theatres to the critical care unit, infection control cubicles on critical care (25% of the total number of beds), and the use of HEPA-filtered ultra-clean air operating theatres with laminar flow.

New office facilities, seminar and meeting rooms, a cardiac library and teaching areas are situated within the building adjacent to the relevant clinical areas.

# Leicester

| FACT CARD         |   |
|-------------------|---|
| Trust             | University Hospitals of Leicester NHS Trust |
| Hospital Site     | Glenfield Hospital                          |
| Scheme Type       | Major extension of facilities               |
| Capital Cost      | £17.3 million                               |
| Main Contractor   | Henry Boot                                  |
| Start on Site     | June 2004                                   |
| Open for Patients | June–October 2005                           |



The University Hospitals of Leicester NHS Trust (UHL) was awarded national and local capital funds to extend the cardiac services within the Trust. The services extended are based on the Glenfield Hospital site. The project cost £17.3 million.

Construction started on site in June 2004 and was completed in October 2005. All facilities are now operational with the exception of the outpatient development.

Glenfield Hospital is based in the west of the city of Leicester and is a significant tertiary cardiac provider. The project resulted in five extensions being constructed on the site at the same time.

- |         |   |
|---------|---|
| Block A | <ul style="list-style-type: none"><li>• new dedicated paediatric outpatient department;</li><li>• 17 new cardiology and cardiac surgery inpatient beds;</li><li>• new respiratory physiology unit; and</li><li>• 1 additional gamma camera.</li></ul> |
| Block B | <ul style="list-style-type: none"><li>• extended cardiac investigations department, including additional pacemaker, echocardiography and exercise tolerance testing rooms; and</li><li>• 1 additional angiocatheter laboratory.</li></ul>             |
| Block C | <ul style="list-style-type: none"><li>• 1 new cardiac MRI scanner; and</li><li>• 1 new multi-slice CT scanner.</li></ul>  |
| Block D | <ul style="list-style-type: none"><li>• 1 additional cardiothoracic theatre.</li></ul>  |
| Block E | <ul style="list-style-type: none"><li>• additional outpatient clinics.</li></ul>  |

The project has provided the patients of Leicestershire with additional state of the art cardiac facilities. The new facilities have had a positive impact on patient care by ensuring accessibility to cardiac services within UHL. The total cost of the facilities includes £5.6 million spent on the new equipment listed above.

*'Glenfield Hospital is already recognised as a leading centre for the care of patients with heart and lung disease. The expansion will allow us to continue to develop our services to meet patients' needs and keep Glenfield at the forefront of high-quality patient care.'*

Dr Doug Skehan, Clinical Director for Cardio-Respiratory Services

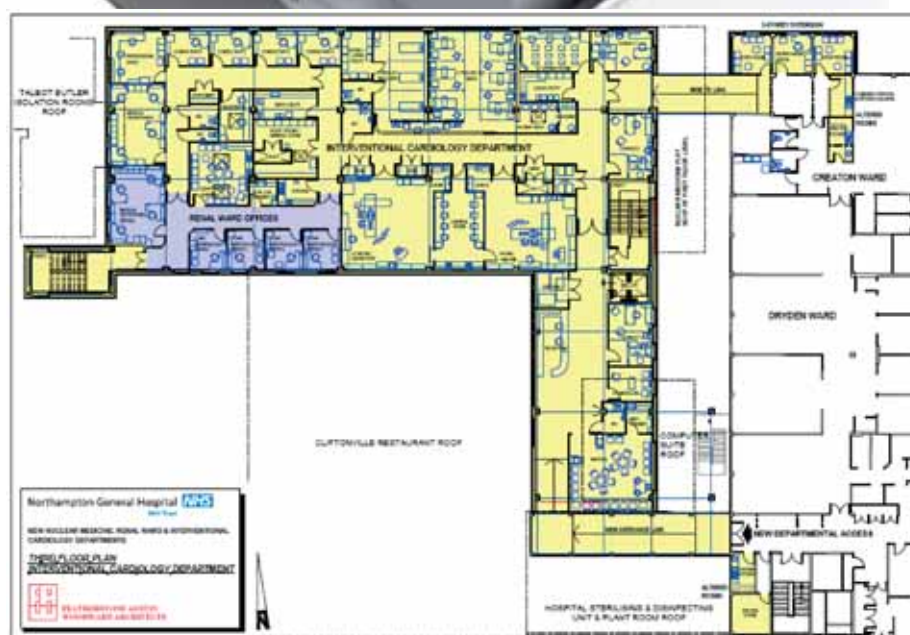
*'National figures show that an increasing number of patients are being diagnosed and treated for heart disease. Glenfield Hospital is regarded as having among the best coronary services in the country. The new facilities show that the Trust is committed to investing and developing its services and remaining as a leader in patient care.'*

Gill Smart, Treasurer, Heart Link



# Northampton

| FACT CARD         |   |
|-------------------|---|
| Trust             | Northampton General Hospital<br>NHS Trust |
| Hospital Site     | Northampton General Hospital              |
| Scheme Type       | Extension with catheter laboratory suite  |
| Capital Cost      | £6 million                                |
| Main Contractor   | Stepnell Ltd                              |
| Start on Site     | July 2006                                 |
| Open for Patients | April 2008                                |



Northampton General Hospital NHS Trust is constructing additional cardiac facilities in a new building housing:

- an interventional cardiology department;
- the nuclear medicine department; and
- an 18-bed renal ward.

The new cardiology facility will enable patients at the Trust to have local access to interventional cardiology services. This will build on, and improve, the existing cardiology service provided at the Trust.

Currently cardiology services are limited for patients having to attend the Oxford Radcliffe Trust angioplasty and nuclear cardiology. The new facilities will enable patients to receive these services in Northampton. Current on-site facilities providing the existing cardiology service are fragmented across the campus and are, in some cases, sub-standard. The new build includes a state of the art catheter laboratory and pacing theatre.

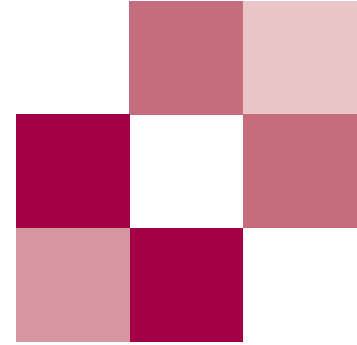
The building will be an extension to the Phase 1 Ward Block. Essential links with the existing high dependency unit, intensive therapy unit, and radiology and cardiology departments will therefore be formed which will improve ease of access for patients and reduce the time spent by clinicians traversing the hospital site.

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## East Midlands

### Summary of Big Lottery Fund catheter laboratories

| Trust  | Additional |
|--|------------|
| Chesterfield Royal Hospital NHS Foundation Trust | 1          |
| Nottingham University Hospitals NHS Trust        | 1          |
| Sherwood Forest Hospitals NHS Foundation Trust   | 1          |
| The United Lincolnshire Hospitals NHS Trust      | 1          |
| University Hospitals of Leicester NHS Trust      | 1          |
| <b>Total</b>                                     | <b>5</b>   |



# East of England

## Basildon and Thurrock

| FACT CARD         |   |
|-------------------|---|
| Trust             | Basildon and Thurrock University Hospitals NHS Foundation Trust |
| Hospital Site     | Basildon Hospital   |
| Scheme Type       | New cardiothoracic centre                                       |
| Capital Cost      | £59.3 million   |
| Main Contractor   | HBG Bloom   |
| Start on Site     | February 2005   |
| Open for Patients | July 2007   |



A new Essex Cardiothoracic Centre has been created at Basildon Hospital. The building was completed in April 2007 and Professor Roger Boyle visited the site on 30 April to accept formally the keys on behalf of the Trust and to celebrate the completion of building work on the £59.3 million specialist centre. The new centre opened its doors for patients, as planned, in July 2007 and was officially opened by the Prime Minister Gordon Brown in October 2007.

With 100 beds, the centre has the capacity to perform over 1,400 surgical procedures and 2,500 cardiology procedures each year, with many more patients being seen as outpatients.

The new centre is a superb state of the art facility that includes:

- 3 cardiac catheter laboratories for tertiary activity – a shell for a fourth laboratory has been included for future potential growth;
- cardiology inpatient and day stay beds;
- 3 operating theatres – a shell for a fourth has been included for potential growth in the future;
- a 22-bed critical care facility;
- cardiothoracic surgery beds;
- outpatient clinic rooms and diagnostic facilities; and
- supporting facilities.

As a result of this development, people living in Essex, who previously had to travel into London for their specialist cardiac services, are now receiving them in the new centre in Basildon.

*'The new Essex Cardiothoracic Centre is a really good news story for the people of Essex and beyond. It is a truly world-class project that has been delivered on time and to budget. This will mean that the people of Essex will no longer have to travel out of the county to receive specialist cardiothoracic services.'*

Michael Large, Trust Chairman

*'We were all extremely impressed with the cardiothoracic centre. The design and layout is all about patient well-being.'*

Nigel Marchment, Cardiac Patient Representative

*'Because the cardiothoracic centre has been developed to the highest standards, we have been able to attract highly skilled healthcare professionals from all over the country to come and work with us.'*

Mr Andrew Ritchie, Clinical Director of Cardiothoracic Services

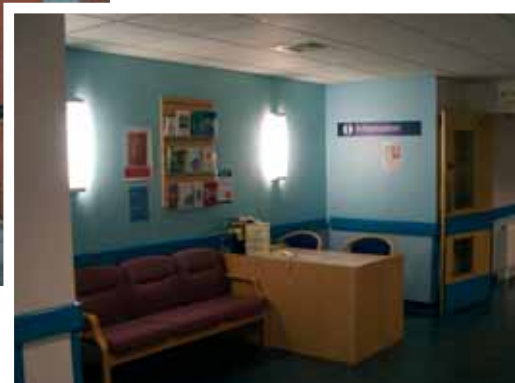
*'I was overawed by the size of the building which internally has well laid out patient rooms with excellent views of the local countryside. This state of the art cardiothoracic centre will provide not only benefits to patients in Essex needing cardiac surgery but will also provide rapid access to the diagnostic and investigative procedures which our patients require. I very much hope that I will not require its services, but if I do I know I will be in a first-rate unit.'*

Mr Bernie Ribeiro, President of the Royal College of Surgeons



# Papworth

| FACT CARD         |   |
|-------------------|---|
| Trust             | Papworth Hospital NHS Foundation Trust      |
| Hospital Site     | Papworth Hospital                           |
| Scheme Type       | Refurbishment and expansion                 |
| Capital Cost      | £11.7 million                               |
| Main Contractor   | Haymills                                    |
| Start on Site     | Various schemes:<br>June 2000–March 2005    |
| Open for Patients | Various schemes:<br>December 2001–June 2005 |



The developments at Papworth had five main elements:

- a new day ward;
- a new inpatient ward;
- a fifth catheter laboratory;
- a new critical care area; and
- a new operating theatre.

### **New day ward**

The 16-bed cardiac day ward facility accommodates 73% of the coronary angiography patients and 12% of the percutaneous coronary intervention patients, as well as caring for an increasing number of electrophysiology patients as day cases.

A nurse-led wound review service is run from this area with the tissue viability nurse receiving referrals from medics and primary care, assessing wounds, prescribing treatments and liaising with medical and nursing staff in the community to ensure patients receive optimum wound care without having to be admitted to hospital.

### **New inpatient ward – Hemingford**

This redundant high dependency area was extended to create a 20-bed cardiac surgery/cardiology ward. This increased capacity has helped achieve all the national waiting time targets for elective patients and also accommodates cardiology and cardiac surgical urgent transfer patients from nine feeder district general hospitals across the region.

### **Fifth additional catheter laboratory**

In 2004, space was used imaginatively to enable an additional cardiac catheter laboratory to come on line, bringing the total to four, plus one electrophysiology laboratory for the Trust.

All five laboratories currently work a seamless day (Monday to Friday, 8.30am to 5pm), and well-planned booking and efficient processes have allowed the Trust to consistently achieve waiting time targets, offering timely access to patients requiring revascularisation.

### **New critical care**

The new critical care area opened in late 2001 with expanded and improved facilities, increasing the number of critical care beds from 17 to 21, and subsequently to 25 beds.

Improvements included a much larger space around each bed, more isolation rooms, better hand-washing facilities, more storage space, office accommodation and facilities for relatives. This has increased Papworth's capacity to treat more patients and ability to improve the delivery of care.

The new critical care area benefits patients as it is brighter and extremely quiet. The design and layout of the bed areas contributes positively to infection control and improves patient privacy. The staff find the critical care area a more pleasant and satisfying place to work.

### **Additional operating theatre**

A fifth operating theatre was opened in May 2002. The new theatre is modern, efficient, spacious and practical and is used for all cardiac and thoracic operations.

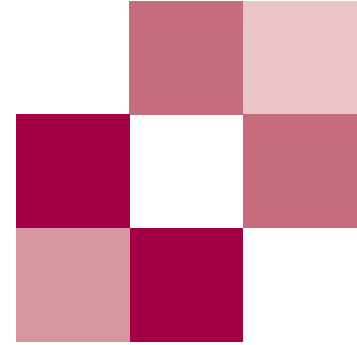
### Activity levels

Critical care and the fifth operating theatre have enabled the Trust to increase the number of patients treated. Since the new critical care area opened, bed utilisation has increased: during 2002/03, 76% of the beds were occupied and this had increased to 92% in 2006/07. Similarly, utilisation of the operating rooms has increased: in 2002/03 the total number of operations carried out was 2,341; by 2006/07 this had increased by 48% to 3,456 operations.

## East of England

### Summary of Big Lottery Fund catheter laboratories

| Trust   | Additional | Replacement | Total    |
|---|------------|-------------|----------|
| Basildon and Thurrock University Hospitals NHS Foundation Trust | 1          |             | 1        |
| Bedford Hospital NHS Trust                                      | 1          |             | 1        |
| East and North Hertfordshire NHS Trust                          | 1          |             | 1        |
| Mid Essex Hospital Services NHS Trust                           | 1          |             | 1        |
| Papworth Hospital NHS Foundation Trust                          |            | 1           | 1        |
| Peterborough and Stamford Hospitals NHS Foundation Trust        | 1          |             | 1        |
| Ipswich Hospital NHS Trust                                      | 1          |             | 1        |
| Princess Alexandra Hospital NHS Trust                           | 1          |             | 1        |
| West Hertfordshire Hospitals NHS Trust                          | 1          |             | 1        |
| <b>Total</b>  | <b>8</b>   | <b>1</b>    | <b>9</b> |



# North East

## Newcastle Upon Tyne

| FACT CARD         |  |
|-------------------|--|
| Trust             | Newcastle Upon Tyne Hospitals NHS Foundation Trust |
| Hospital Site     | Freeman Hospital                                   |
| Scheme Type       | Major refurbishment plus catheter laboratories     |
| Capital Cost      | £5.4 million                                       |
| Main Contractor   | Laing O'Rourke                                     |
| Start on Site     | July 2006  |
| Open for Patients | Summer 2007  |



£5.4 million has been invested in the cardiothoracic centre at the Freeman Hospital in Newcastle.

Two new cardiac catheter laboratories have opened, increasing the provision of invasive cardiac procedures at the hospital.

As a direct result of the expansion scheme it has been possible to reconfigure the revascularisation service leading to a more efficient service for both patients and staff. A dedicated recovery area has improved patient flow and reduced delays between procedures.

All cardiology wards and cardiac catheter laboratories are now housed in one block. This has reduced previously lengthy patient transfer times, improving patient safety, and reduced the need for nursing staff to leave the ward to transfer patients.

The development has provided a catalyst to development in the northern part of the cardiac network of a primary percutaneous coronary intervention service (also known as primary angioplasty which is becoming the first treatment for patients suffering a heart attack). The scheme enables patients to be brought by ambulance directly to the coronary care unit on ground level and taken to the cardiac catheter laboratory situated adjacent to the unit.

Additional operating sessions have allowed development of and improvements to the range of services the centre can now offer patients with CHD. Procedures such as intravascular ultrasound, laser atherectomy and rotational atherectomy are now being undertaken, thereby increasing the scope of revascularisation techniques from which patients can benefit. Preadmission assessment has also been increased, which means a number of patients can now come into hospital on the day of their admission.

Dedicated catheter laboratories with state of the art technology for electrical procedures are improving the efficiency of service delivery.

In addition to the development at the Freeman Hospital, the Northern Cardiac Network has deployed £2 million capital funding to support local priorities for a variety of equipment across the network (including fixed and ambulatory ECG machines and echo machines and 24-hour recording machines) and the electronic transfer of images.

*'Freeman Hospital is one of the leading providers of invasive cardiac procedures in the country. Expansion of the cardiac catheter laboratories has resulted in a more streamlined and efficient service delivery. Consequently, it has allowed us to improve the quality and expand the range of services we can offer our patients.'*

Dr Azfar Zaman, Consultant Cardiologist



# South Tees

| FACT CARD         |                                      |
|-------------------|--------------------------------------|
| Trust             | South Tees Acute Hospitals NHS Trust |
| Hospital Site     | James Cook University Hospital       |
| Scheme Type       | Major expansion                      |
| Capital Cost      | £16.8 million                        |
| Main Contractor   | Carillion Construction               |
| Start on Site     | Autumn 2002                          |
| Open for Patients | November 2004                        |



A multi-million pound scheme to expand the heart unit in South Tees was given the go-ahead early in the national programme and started on site in autumn 2002.

The development has enabled clinicians to make huge inroads into reducing waiting times for urgent and high-risk cases and to address the CHD targets set out by the Government in its National Service Framework. This is particularly important for this area because heart disease is one of the biggest killers in the North East.

The building work on the unit was integrated with the Trust's 'single site' development already under way and took the total value of the building work on the site to £140 million.

Additional facilities include:

- 1 operating theatre (taking the total to 3);
- 1 catheter laboratory (taking the total to 3);
- 6 high dependency beds (taking the total to 12);
- 4 cardiac intensive care beds (taking the total to 12);
- 50 inpatient/day beds (taking the total to 133); and
- additional offices.

*'Tackling coronary heart disease is one of my top priorities – that's why I'm pleased to see the expansion at South Tees going ahead. We're trying to expand the NHS after years of under-investment. This is just one example of the NHS in Teesside starting to grow again.'*

Alan Milburn, Health Secretary at the time of approval

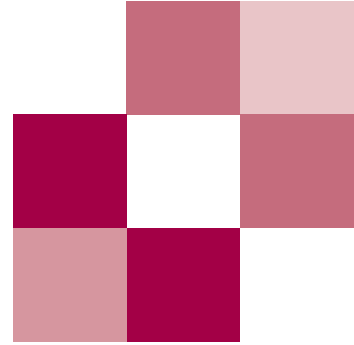
*'Despite being one of the most effective and efficient units in the country, we have been running at full capacity and desperately needed to expand. This investment enabled us to step up activity on the operative side. We want to see more patients getting the early access to heart surgery they need.'*

Dr Jim Hall, Chief of Cardiothoracic Services

## North East

### Summary of Big Lottery Fund catheter laboratories

| Trust  | Additional |
|--|------------|
| City Hospitals Sunderland NHS Foundation Trust         | 1          |
| County Durham and Darlington Acute Hospitals NHS Trust | 2          |
| North Tees and Hartlepool NHS Foundation Trust         | 1          |
| Northumbria Healthcare NHS Foundation Trust            | 1          |
| <b>Total</b>   | <b>5</b>   |



# North West

## Blackpool

| FACT CARD         |   |
|-------------------|---|
| Trust             | Blackpool, Fylde and Wyre Hospitals NHS Trust |
| Hospital Site     | Blackpool Victoria Hospital                   |
| Scheme Type       | New replacement cardiac centre                |
| Capital Cost      | £51.6 million                                 |
| Main Contractor   | Laing O'Rourke                                |
| Start on Site     | November 2003                                 |
| Open for Patients | April 2006                                    |





The new £51.6 million Lancashire Cardiac Centre opened its doors to its first patients in April 2006. The unit, which is based at Blackpool Victoria Hospital, is a centre of excellence in heart and lung treatment and provides state of the art facilities for cardiac and thoracic patients across Lancashire and South Cumbria.

The building is completely self-contained, meaning that patients can have their outpatient visits, investigations, diagnostic tests and any treatment they require in the one location. The facilities are spacious and bright and provide a much-improved environment for staff and patients.

The unit opened with 14 critical care beds, 89 ward beds, 3 dedicated cardiac theatres and 3 cardiac catheter laboratories. However, the Trust was forward-thinking in the design of the new centre by allowing space and capacity to extend services to meet demand.

The building also combines the Trust's medical education and training centre, which benefits not only the staff from the cardiac centre but also all medical and nursing staff from all the Trust's hospitals, keeping them up-to-date with the latest technology and techniques.

### **Developments since opening**

In October 2006 the unit was officially opened by the Duke of Gloucester.

In December 2006 six visiting cardiologists started at the cardiac centre, enabling waiting times for procedures such as angiograms and angioplasties to be reduced.

In April 2007 the hospital's coronary care unit was transferred to the Lancashire Cardiac Centre.

In September 2007 the Trust opened a fourth cardiac theatre, 14 additional ward beds and three additional intensive therapy unit beds, increasing capacity in order to meet the 18-week waiting time target. Two locum cardiothoracic surgeons were appointed to support this work.

In October 2007 two locum consultant cardiologists were appointed to support the coronary care unit.

Since the opening of the Lancashire Cardiac Centre waiting times for diagnostics such as echo and stress testing have reduced from 50 weeks to just 3 weeks. Waiting times for patients with acute coronary syndrome requiring treatment have reduced from 4 weeks to 72 hours.

### **Future plans**

The Trust plans to introduce a heart failure service and electrophysiology service. The cardiac centre has the capacity to open a fifth cardiac theatre to meet demand if required.

# Liverpool

| FACT CARD         |   |
|-------------------|---|
| Trust             | The Cardiothoracic Centre – Liverpool NHS Trust |
| Hospital Site     | Broad Green Hospital                            |
| Scheme Type       | New replacement cardiac centre                  |
| Capital Cost      | £46 million                                     |
| Main Contractor   | Norwest Holst Vinci                             |
| Start on Site     | Autumn 2003                                     |
| Open for Patients | June 2005–September 2006                        |



The Cardiothoracic Centre – Liverpool NHS Trust provides specialist heart and lung care and treatment to the people of Merseyside, Cheshire, North Wales, the Isle of Man and parts of Lancashire.

The centre:

- serves a population of more than 2.8 million;
- employs over 1,300 staff at the hospital;
- has one of the lowest MRSA infection rates for a cardiothoracic hospital nationally;
- provides one of the largest pacemaker services in Europe;
- is the largest single-site cardiothoracic hospital in the UK;
- has one of the largest critical care units within Europe, with over 40 beds;
- has 9 operating theatres, 6 catheter laboratories and a 9-bed surgical recovery area; and
- has a dedicated 12-bed adult cystic fibrosis unit, with private lounge and dining facilities.

The £46 million site development scheme opened in stages and became fully operational in September 2006.

The development project included opening of:

- a brand new outpatient department, pulmonary function, ECG department;
- a state of the art critical care unit;
- acute wards; and
- a radiology department, which boasts new MRI and 64-slice CT scanners.

The new main entrance is spacious and light with comfortable seating – in stark contrast to the facilities it replaced. Alongside is a covered ambulance arrival bay with direct access to the hospital providing quick access for emergency patients.

The hospital has strengthened its position as a centre of excellence through enhanced high-quality research, thanks to funds raised by The Merseybeat Appeal. The hospital has its own fully staffed and equipped research laboratory to undertake vital research into heart and lung disease.

The Trust also now offers a brand new two-deck car park, which provides an additional 350 spaces.



# Central Manchester

| FACT CARD         |   |
|-------------------|---|
| Trust             | Central Manchester and Manchester Children's University Hospitals NHS Trust |
| Hospital Site     | Manchester Royal Infirmary  |
| Scheme Type       | Refurbishment and expansion   |
| Capital Cost      | £11.6 million   |
| Main Contractor   | Bovis (final stage)   |
| Start on Site     | Spring 2002 (staged)  |
| Open for Patients | October 2006–July 2007  |





Capital funding made available at the Manchester Royal Infirmary has enabled the cardiac theatres to be increased from 2 to 3 and the number of cardiac intensive care beds also to be increased from 8 to 13.

The new five-bed area is adjacent to the theatres and has state of the art equipment including over-bed operating lights, an isolation facility with negative pressure and a pre-entry gowning area.

The additional beds came into use at the beginning of June 2007 and the theatre became operational in July 2007.

The additional facilities mean that the department will be able to increase the number of people treated, initially by 200 cases and ultimately by up to 400 cases a year. This will enable the waiting times for surgery to be reduced to no longer than five weeks. The development is a major factor in helping the Trust meet the 18 week waiting time target from GP referral to treatment.

*'I am very pleased with the new facilities. They should help make a real difference to the amount of time patients wait for surgery.'*

Mr Grotte, Clinical Director

*'This development will enable more patients to be treated in a modern environment – money well spent.'*

Ged Terriere, Directorate Manager

*'I am delighted with the designated infection control facility that we now have available to improve the care of our patients.'*

Anne Tighe, Clinical Nurse Leader



# South Manchester

| FACT CARD         |   |
|-------------------|---|
| Trust             | South Manchester University Hospitals NHS Trust |
| Hospital Site     | Wythenshawe Hospital                            |
| Scheme Type       | Major extension/expansion                       |
| Capital Cost      | £22 million                                     |
| Main Contractor   | Laing O'Rourke                                  |
| Start on Site     | September 2006                                  |
| Open for Patients | April 2008                                      |



The new £22 million extension to the existing cardiac unit at Wythenshawe Hospital South Manchester is scheduled to be open for patients in April 2008. It will provide a long-awaited improvement to the clinical environment which will complement the excellent service provided by the hospital.

A new critical care ward will replace the existing cramped cardiac intensive care unit and separate cardiac high dependency unit. This will also reduce patient transfers and give better options for staff training.

The new cardiac outpatients and integrated stress test suite sited on the ground floor will provide an easily accessed one-stop outpatients' service for cardiac patients. This replaces the existing accommodation which is spread over different rooms on the first floor of the existing hospital.

The new facilities include:

- ground floor: 20 consulting examination rooms, stress test area including a five-room echo suite, tilt test, exercise and ECG rooms plus support rooms; and
- first floor: 26 critical care bed spaces (including 6 isolation standard spaces) and support rooms.

In addition, an area of 250m<sup>2</sup> has been earmarked on the ground floor for the provision of a cardiac MRI suite. Negotiations are at an advanced stage to complete works in this area for early 2008.

The new accommodation will complement the existing cardiac unit which contains a four-theatre suite, heart transplant unit, ward accommodation, regional coronary care unit and support accommodation.

During the design works particular attention has been given to improving the patient experience, reduction of cross-infection problems and ease of maintenance. In particular, the ventilation system has been split into four zones to reduce the impact of shutdowns, and sensor taps have been included to avoid the need to touch taps in the clinical areas.

A budget of £2 million has been allocated for new furniture and equipment. This includes new catheter laboratory and echo archiving, together with new critical care patient monitoring.

Alongside the main works, a new catheter laboratory including state of the art electrophysiology facilities has been formed in the existing catheter laboratory suite. This was completed in September 2007.

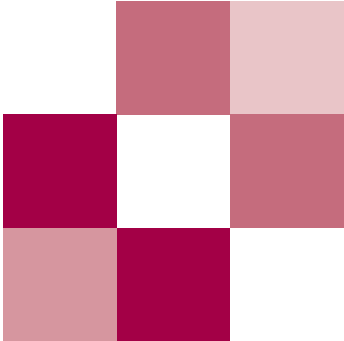




# North West

## Summary of Big Lottery Fund catheter laboratories

| Trust   | Additional | Replacement | Total     |
|---|------------|-------------|-----------|
| Aintree University Hospitals NHS Foundation Trust                           | 1          |             | 1         |
| Blackpool, Fylde and Wyre Hospitals NHS Foundation Trust                    | 1          |             | 1         |
| Central Manchester and Manchester Children's University Hospitals NHS Trust | 1          |             | 1         |
| Countess of Chester Hospital NHS Foundation Trust                           | 1          |             | 1         |
| East Lancashire Hospitals NHS Trust   | 1          |             | 1         |
| North Cheshire Hospitals NHS Trust  | 1          |             | 1         |
| Stockport NHS Foundation Trust  | 1          |             | 1         |
| The Cardiothoracic Centre – Liverpool NHS Trust                             |            | 1           | 1         |
| The Pennine Acute Hospitals NHS Trust                                       | 1          | 1           | 2         |
| University Hospitals of Morecambe Bay NHS Trust                             | 1          |             | 1         |
| Wrightington, Wigan and Leigh NHS Trust                                     | 1          |             | 1         |
| <b>Total</b>  | <b>10</b>  | <b>2</b>    | <b>12</b> |



# South Central

## Oxford

| FACT CARD         |                                      |
|-------------------|--------------------------------------|
| Trust             | Oxford Radcliffe Hospitals NHS Trust |
| Hospital Site     | John Radcliffe Hospital              |
| Scheme Type       | Major extension                      |
| Capital Cost      | £29.1 million                        |
| Main Contractor   | HBG Construction                     |
| Start on Site     | April 2007                           |
| Open for Patients | Spring 2009                          |



The £29.1 million capital expansion of cardiac services in Oxford is currently under construction.

The scheme is a five storey extension to the existing cardiac block at the John Radcliffe Hospital. The development is a combination of new build and the reconfiguration and refurbishment of existing patient accommodation. The new facilities will be as follows:

- Level -1: Four catheter laboratories with an additional shell for a fifth catheter laboratory. Separate ambulance and patient entrances from the hospital road are built in. An adjacent day unit on this level will shorten the patient journey from the catheter laboratories and also provides two university research beds adjacent to the cardiovascular research clinical laboratory. The plans also include a new recovery unit for sicker patients undergoing interventions in the catheter laboratories and a child-focused paediatric recovery area.
- Level 0: The next level up will be the new cardiology floor, adjacent to the catheter laboratories.
- Level 1: This will house the cardiac critical care areas and will be on the same level as the main John Radcliffe Hospital theatre block. The reconfigured area will provide relatives' accommodation, further clinical areas and an office for cardiovascular research.
- Level 2: This level will be dedicated to cardiothoracic activity (moving from its current position on Level 0 with cardiology). Reconfigured space at this level will be used for a dedicated echo suite, physiotherapy gym and support accommodation. This is on the same level as the hospital street and will afford straightforward internal patient access.
- Level 3: This level will house staff changing and rest-room facilities with an optional teaching space. The new building will have a courtyard linking it with the existing building, which will be landscaped to create an attractive view for patients and staff.

### **Acute vascular imaging research facility**

A development to support acute vascular imaging research is also under construction adjacent to the cardiac development. This Wellcome and National Institute for Health Research funded facility will provide integrated diagnostic and research facilities. The Trust is benefiting from economies of scale by building both expansion schemes together.

*'This new building will build on the international reputation Oxford has for treating patients with all forms of heart disease. The development will benefit patients throughout the Thames Valley as there will be state of the art facilities for treating patients with heart attack, heart rhythm disorders, research and development of new specialist services for adults with congenital heart disease.'*

Consultant Cardiologist

*'I am really pleased to be working in a professional capacity on the cardiac expansion project. As a younger heart patient, I can speak from experience about the kind of environment I've been treated in and what I would ideally like if I were a patient in hospital again. There are so many things you can do with restful colours, room layouts, light and fixtures and fittings to improve the hospital stay for patients. Although my condition has put a few limits on my life, I feel that it is part of who I am today. I never had any desire to become a top athlete, so I don't feel like I've been cheated in my life choices. I'm proud to be able to turn my experiences into something productive and be involved in this great project for the benefit of other heart patients.'*

Former patient and interior design consultant on project

# Southampton

| FACT CARD         |  |
|-------------------|--|
| Trust             | Southampton University Hospitals NHS Trust |
| Hospital Site     | Southampton General Hospital               |
| Scheme Type       | Major re-provision and expansion           |
| Capital Cost      | £53.1 million                              |
| Main Contractor   | HBG Construction                           |
| Start on Site     | March 2004                                 |
| Open for Patients | From September 2006                        |





The capital development of cardiac services and its associated facilities at Southampton University Hospitals Trust (SUHT) encompassed a £53.1 million capital build to both replace existing cardiac services and expand core facilities.

The building was completed in August 2006 and was opened officially by the former Secretary of State for Health Patricia Hewitt on 23 November 2006. The building has delivered the following new facilities:

- Re-provision and co-location of the existing four cardiac catheter laboratories, including a dedicated laboratory for paediatric activity and a dedicated laboratory for the cardiac rhythm management service.
- The physical infrastructure for expansion to five catheter laboratories as required.
- A dedicated cardiac day care unit, co-located with the cardiac catheter laboratories. The day unit capacity increased from five trolley spaces to the current level of nine trolleys.
- The provision of a dedicated state of the art cardiac MRI scanner with associated patient reception and recovery facilities.
- Re-provision and expansion of the cardiac intensive care unit from an 8-bed to a 16-bed facility. Currently 12 of the 16 cardiac intensive care unit beds are commissioned, with the remaining four beds planned to open during 2008/09.
- Re-development of the existing cardiac high dependency unit with an increase in capacity from 13 to 20 beds.
- Provision of three dedicated purpose-built cardiac surgical theatres. This increases capacity from 12 x 12 hour theatre lists to 15 x 12 hour theatre lists per week.
- Re-provision of administrative and office facilities within the north wing development.

Further developments over the next three years will include re-provision and expansion of the existing non-invasive cardiology facilities, as well as upgrading all of the existing adult cardiac inpatient ward areas to deliver an increased number of single rooms and improved bathroom facilities in line with modern standards.

The capital development has already led to a significant improvement in both the clinical and physical environment in which patients are treated, together with a positive impact on the staff working within those areas. This has been augmented by the Trust's partnership with Wessex Heartbeat, the local charitable organisation that supports cardiac services at SUHT, through the provision of a state of the art education centre as part of the north wing development.

These education facilities have live data links to the new cardiac catheter laboratories, cardiac MRI and cardiac theatres. This has allowed significant advances in the way that education and training opportunities are provided to clinical staff. It has also allowed the cardiac centre at SUHT to support wider education and training opportunities across the region (for example, for general practitioners, and district general hospital clinical staff).

The development of cardiac facilities at SUHT has allowed the Trust to offer a more responsive service to customers across the region in terms of levels of activity, speed of access, improved patient safety and improved clinical and diagnostic facilities. In cardiac surgery there has been a 16% increase in commissioned surgical activity from 2006/07 into 2007/08. It is anticipated that the capacity provided through the expansion programme within cardiac services at SUHT will deliver an additional 22% capacity above activity in 2007/08 leading to the potential for approximately 1,900 cardiac surgical spells to be commissioned at SUHT in 2008/09.

Within cardiology services the additional capacity delivered through the capital programme has supported significant opportunities for service redesign including:

- reduction in overall length of stay for both elective and non-elective cardiology procedures;
- increase in the day case rate for interventional treatment; and
- the ability to deliver the 18 weeks waiting time referral to treatment target for cardiology patients and the infrastructure required to deliver a primary percutaneous coronary intervention service (Heart Attack Centre) for both the local and the Trust's extended regional population as required by commissioners.

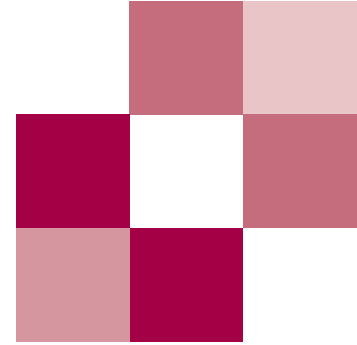
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## South Central

### Summary of Big Lottery Fund catheter laboratories

| Trust   | Additional |
|---|------------|
| Buckinghamshire Hospitals NHS Trust                       | 1          |
| Heatherwood and Wexham Park Hospital NHS Foundation Trust | 1          |
| Milton Keynes Hospital NHS Foundation Trust               | 1          |
| Portsmouth Hospitals NHS Trust                            | 1          |
| Royal Berkshire NHS Foundation Trust                      | 1          |
| Southampton University Hospitals NHS Trust                | 1          |
| <b>Total</b>  | <b>6</b>   |





# South East Coast

## Medway

| FACT CARD         |                          |
|-------------------|--------------------------|
| Trust             | Medway NHS Trust         |
| Hospital Site     | Medway Maritime Hospital |
| Scheme Type       | Catheter laboratory      |
| Capital Cost      | £1.85 million            |
| Main Contractor   | Cardys                   |
| Start on Site     | January 2005             |
| Open for Patients | August 2005              |



The new cardiac catheter suite at Medway Maritime Hospital has enabled the Trust to:

- increase cardiac pacing more than anticipated;
- plan the development of an internal cardiac defibrillator service which is now available; and
- prepare a business case to support the implementation of an angioplasty service.

These plans will increase activity in the future, and enable local people to be treated at the Medway Maritime Hospital as opposed to having to travel to a London hospital.

The clinicians no longer have to travel to London to perform their angiography lists. The result is more time for patients and less time travelling. The local service also means that inpatients in Medway who need angiography can receive their investigation at the appropriate time in the patient pathway, thus enabling timely discharge and referral if necessary, rather than having to wait for a bed to become available in London.

*'Your superb new unit is most impressive. But no matter how good the equipment, it is nothing without the dedication and sheer professionalism of the staff that it was my pleasure to experience.'*

Patient

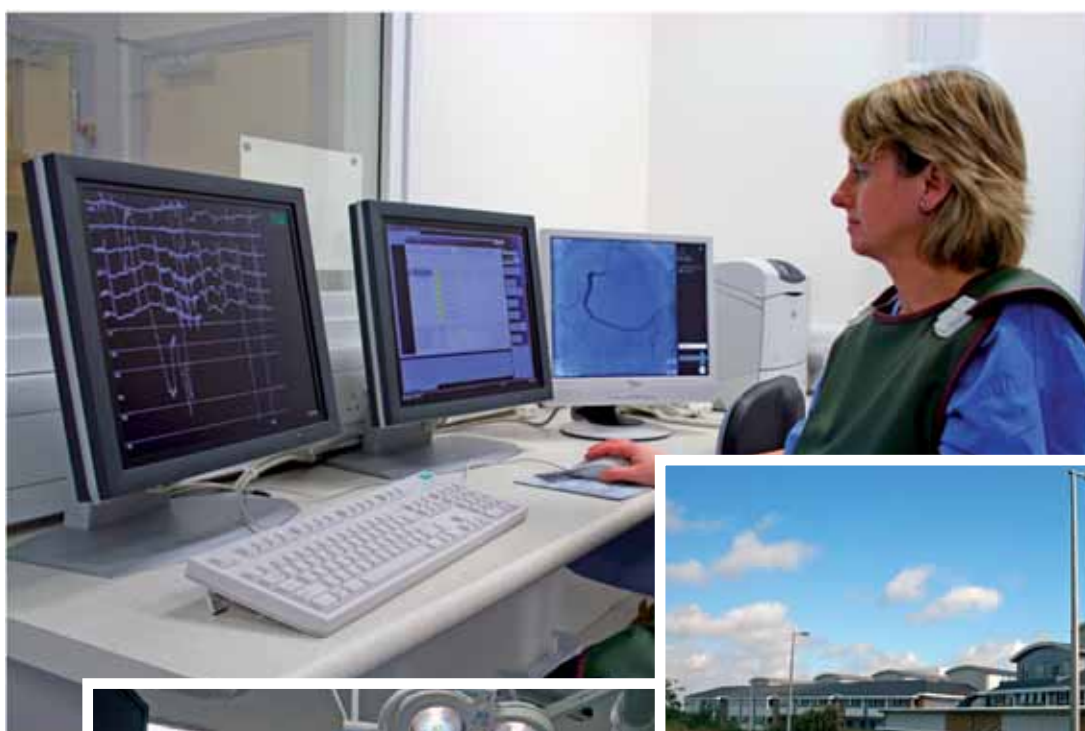
*'The suite is a credit to the Trust.'*

Patient



# Dartford

| FACT CARD         |                                  |
|-------------------|----------------------------------|
| Trust             | Dartford and Gravesham NHS Trust |
| Hospital Site     | Darent Valley Hospital           |
| Scheme Type       | Heart centre                     |
| Capital Cost      | £4.2 million                     |
| Main Contractor   | Carillion Construction           |
| Start on Site     | September 2005                   |
| Open for Patients | January 2007                     |



A brand new £4.2 million state of the art heart centre was opened at Darent Valley Hospital on 28 February 2007 by Sue Jennings CBE. The new centre means local people suffering from heart problems are now benefiting from increased services at their local hospital.

The centre incorporates:

- a catheter laboratory where cardiac procedures are undertaken using the very latest specialist equipment; and
- a day ward with eight beds where morning and afternoon cases are undertaken.

Previously patients needed to spend time in Darent Valley Hospital while awaiting transfer to London. The new centre will increasingly make this unnecessary as patients can now get first-class treatment faster locally. The centre currently performs angiography and the fitting of internal pacemakers, which regulate the heart rate. Angioplasty (the treatment of blocked arteries) will also be performed in the new centre. All of these procedures were previously performed at Guy's and St Thomas', in London.

The centre offers shorter waiting times and improved access for cardiac patients reducing the number of people requiring emergency treatment due to long waiting times.

*'This is excellent news for local people. The new heart centre allows us to treat our patients sooner, closer to home and in brand new facilities using the very latest equipment. Patients can now get a greater range of first class cardiac care locally and will no longer experience delays while awaiting a bed in a London hospital.'*

Dr Winston Martin, Consultant Cardiologist

*'The doctors and nurses couldn't have done a better job. It feels lovely. I have walked further today than in months, and I feel much better. It has made a tremendous difference.'*

The first patient to receive a cardiac pacemaker at the new development, on Friday 16 February, Thomas Couchman, aged 87, who lives in Wilmington

*'It's good news that this service is now available locally. A pacemaker can significantly change the quality of a patient's life. The benefits of a local service are considerable. Previously patients could wait up to two weeks with an uncomfortable temporary pacing wire in place until a bed became available at a London hospital.'*

Dr Ed Petzer, Consultant Cardiologist

# Maidstone

| FACT CARD         |   |
|-------------------|---|
| Trust             | Maidstone and Tunbridge Wells NHS Trust |
| Hospital Site     | Maidstone Hospital                      |
| Scheme Type       | Catheter laboratory                     |
| Capital Cost      | £3.6 million                            |
| Main Contractor   | Provia Construction                     |
| Start on Site     | September 2007                          |
| Open for Patients | Summer 2008                             |

Currently, inpatients and outpatients at Maidstone are transferred and seen at Kent and Sussex. This will change when the new catheter laboratory is completed.

The development started on site in September 2007 and is due to open for patients in June 2008.



# Tunbridge Wells

| FACT CARD         |   |
|-------------------|---|
| Trust             | Maidstone and Tunbridge Wells NHS Trust |
| Hospital Site     | Kent and Sussex Hospital                |
| Scheme Type       | Catheter laboratory                     |
| Capital Cost      | £2.5 million                            |
| Main Contractor   | EC Modular Space                        |
| Start on Site     | January 2006                            |
| Open for Patients | July 2006                               |





The development of Kent and Sussex Hospital cardiac catheter laboratory has already made a significant impact on the delivery of cardiology services across Maidstone and Tunbridge Wells. This will be further enhanced with the opening of similar facilities at Maidstone Hospital in 2008.

Prior to the Tunbridge Wells laboratory coming on line, local residents were either being treated at tertiary centres (mainly King's College Hospital and Guy's and St Thomas') or in mobile laboratories parked on hospital sites.

Now 99% of angiograms and 100% of pacemakers are undertaken within the fixed laboratory at Kent and Sussex, with only complex cases still being referred to tertiary centres.

Prior to the Tunbridge Wells laboratory opening, pacing at Kent and Sussex was undertaken in main theatres, but these now take place within the laboratory setting. When the Maidstone laboratory opens in 2008 all pacing and cardioverter-defibrillator implants across the Trust will take place in specially designed cardiac laboratories.

It is anticipated that in the near future angioplasty will commence in the Tunbridge Wells laboratory and that, within six months, 88% of all angioplasty will take place locally with only very complex cases still being referred to tertiary centres. Currently all angioplasty for local residents is undertaken in tertiary centres.

*'The great advantage for our patients is that they are able to undergo diagnostic cardiology procedures locally in Tunbridge Wells. This tends to help make it a lot less stressful for them and their relatives at what otherwise can be a very worrying time.'*

Staff member



# Margate

| FACT CARD         |   |
|-------------------|---|
| Trust             | East Kent Hospitals NHS Trust                 |
| Hospital Site     | Queen Elizabeth,<br>The Queen Mother Hospital |
| Scheme Type       | Heart centre                                  |
| Capital Cost      | £3.6 million                                  |
| Main Contractor   | Crispin & Borst & GE                          |
| Start on Site     | June 2005                                     |
| Open for Patients | April 2006                                    |



The new heart centre at Queen Elizabeth, The Queen Mother Hospital in Margate was officially opened on Friday 9 June 2007 by the very people it was built for.

Patients Richard Aslet and Margaret Davis unveiled the commemorative plaque to formally open this much needed state of the art facility. Both are members of the Thanet Heart Support Group (Richard is the chairman) and were heavily involved in the planning and design of the new centre.

The purpose-built heart centre serves patients from Thanet, Canterbury and the surrounding areas. It houses a £3.6 million cardiac catheter laboratory – a dedicated operating theatre containing highly specialised equipment that captures moving images of the beating heart, and supporting day beds and offices. It provides a 21st-century environment for the hospital's pioneering cardiology department.

*'I would like to thank all the team in the cardiac catheter suite for their professionalism, kindness and care when they performed my angiogram.'*

Patient

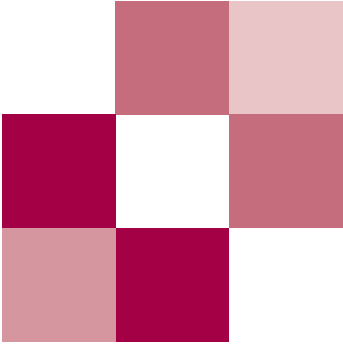
*'Yesterday I attended the catheter suite. I consider myself very fortunate in being able to attend this particular suite.'*

Patient, Herne Bay

## South East Coast

### Summary of Big Lottery Fund catheter laboratories

| Trust                                       | Additional | Replacement | Total    |
|---|------------|-------------|----------|
| East Kent Hospitals NHS Trust               | 1          |             | 1        |
| East Sussex Hospitals NHS Trust             | 1          | 1           | 2        |
| Frimley Park Hospital NHS Foundation Trust  | 1          |             | 1        |
| Royal West Sussex NHS Trust                 | 1          |             | 1        |
| Surrey and Sussex Healthcare NHS Trust      | 1          |             | 1        |
| Medway NHS Trust                            | 1          |             | 1        |
| Worthing and Southlands Hospitals NHS Trust | 1          |             | 1        |
| <b>Total</b>                                | <b>7</b>   | <b>1</b>    | <b>8</b> |



# South West

## Bournemouth

| FACT CARD         |   |
|-------------------|---|
| Trust             | Royal Bournemouth and Christchurch Hospitals NHS Foundation Trust |
| Hospital Site     | Royal Bournemouth Hospital  |
| Scheme Type       | Cardiology expansion with catheter laboratories                   |
| Capital Cost      | £6.1 million  |
| Main Contractor   | Dean and Dyball   |
| Start on Site     | June 2004   |
| Open for Patients | April 2005  |





The new Dorset Heart Centre was formally opened by Her Royal Highness The Princess Royal in 2005. It is a rapidly growing centre with state of the art facilities, and its opening represented a significant improvement in local care. The unit provides specialised adult cardiac services for a population of around a million people, as well as general cardiology services more locally. The catchment area includes Dorset, Wiltshire and Hampshire and these areas have a population growth rate well above the national average.

Dorset Heart Centre consists of three wards, the coronary care unit, the pacing service, a rapid access chest pain unit and the specialist cardiac intervention unit. It now offers:

- high-volume coronary angioplasty;
- specialist coronary intervention including laser angioplasty and rotablation;
- specialist assessment tools such as intravascular ultrasound and pressure wires;
- full specialist electrophysiology services including 3D fusion imaging;
- full pacing services including biventricular pacing;
- a dedicated cardiac radiology service with state of the art CT and MRI scanners;
- fully equipped echo laboratories with 3D imaging and tissue Doppler; and
- dedicated cardiac rehabilitation facilities with an on-site cardiac gymnasium.

The unit has seven consultant cardiologists and one associate specialist who work fully on-site, as well as two cardiac radiologists. There are a further four visiting consultant cardiologists.

The unit adopts a multi-disciplinary team approach to medical care, striving always to deliver excellence. The aim is always to put the patient and family at the centre of this approach.

### **Specialist electrophysiology (EP) services**

The centre provides the full range of cardiological diagnostic, interventional and complex device procedures for adult patients with heart rhythm disturbance and heart failure (with the exception of those requiring multi-disciplinary intervention because of complex congenital heart disease).

The new facilities provide a dedicated and fully equipped electrophysiology cardiac catheter laboratory, and it is one of a handful of laboratories in the UK to include the latest 3D electrophysiological mapping technology. This allows direct integration of CT and MRI images to electrical map images, significantly improving complex ablation procedures.

### **Coronary intervention**

The unit offers state of the art percutaneous coronary intervention and has facilities for techniques such as intravascular coronary ultrasound, laser angioplasty and rotablation. The types of angioplasty procedures undertaken include primary and emergency angioplasty, complex bifurcation procedures and left main stem angioplasty. This has hugely improved cardiac care and access times for the local population.

### Cardiac imaging

The centre has five of the latest echo machines with the facility for trans-oesophageal echo, 3D imaging, tissue Doppler and contrast imaging. A stress echo service is planned for this year. In addition, the Trust uniquely has a dedicated cardiac radiology service with two consultants. This service performs 400 cardiac CT scans per year, 400 vascular scans and 850 cardiac MRI scans. There is a state of the art 1.5T MRI scanner which is fully cardiac equipped. All CT, MR angiography and echo images can be viewed anywhere in the hospital through the IT system.

*'I am really proud of our cardiac team and all that we have achieved. It has made a significant difference to our patients in Dorset and surrounding areas who now receive treatment quicker and at their local hospital.'*

Dr Terry Levy, Consultant Cardiologist



# Bristol

| FACT CARD         |                                     |
|-------------------|-------------------------------------|
| Trust             | United Bristol Healthcare NHS Trust |
| Hospital Site     | Bristol Royal Infirmary             |
| Scheme Type       | Major new extension/expansion       |
| Capital Cost      | £57.3 million                       |
| Main Contractor   | Laing O'Rourke                      |
| Start on Site     | May 2006                            |
| Open for Patients | Summer 2009                         |



The £64.5 million development is a joint project involving United Bristol Healthcare NHS Trust and North Bristol NHS Trust.

There are two elements:

- a new regional adult cardiothoracic centre being constructed at the rear of the Bristol Royal Infirmary (£57.3 million); and
- expanded cardiology facilities in the North Bristol NHS Trust, at Frenchay Hospital (£7.1 million).

The purpose-built cardiothoracic centre will bring services for adult heart and chest patients under one roof in light, spacious surroundings featuring state of the art technology. Final approval of the full business case was given in 2006 and construction is now well under way with Laing O'Rourke as the principal supply chain partner under the Procure 21 process.

The new centre, designed by CODA Architects, will be a four-storey building, the largest construction for the Bristol Royal Infirmary since the Queen's Building was completed in the early 1970s. The shape of the cardiothoracic centre will follow the contours of the hillside site, and will feature a glass atrium running through the centre of the building, allowing natural light to flood in.

The key improvements that will be delivered by the new centre are as follows.

- For the first time, cardiology and cardiac surgery services will be brought under one roof, enabling staff to provide much more 'seamless' patient care.
- Functional integration will enhance efficiency, enabling delivery of quality service improvements in both cardiothoracic surgery and cardiology over the next 5 to 10 years.
- The theatre suite will have a physical link into the Bristol Royal Infirmary to the existing cardiac theatres. The centre's other facilities include three catheter laboratories, inpatient beds, an outpatient department, a coronary care unit and an extended cardiac intensive care unit.
- The centre will provide sufficient capacity to address critical access targets in the NHS Plan and Coronary Heart Disease National Service Framework for myocardial revascularisation and other significant areas such as valvular heart disease, electrophysiology and grown up congenital heart disease.
- The new facility will enable space to be released within the main Queen's Building so that patient care can be moved out from older buildings which are no longer a suitable environment for the delivery of clinical care.

*'The new centre will be a tremendous boost to patients and staff and will provide greatly improved facilities for the 21st century.'*

Dr Peter Wilde, Consultant Radiologist

*'This is the product of five years of planning collaboration between United Bristol Healthcare NHS Trust, North Bristol NHS Trust, the Health Authority, the PCTs and the Department of Health. We are now in a position to build a state of the art cardiac service, and it is exciting to see the first parts of it rising from the ground.'*

Mr Franco Ciulli, Consultant Cardiothoracic Surgery

*'As a cardiac patient of the Bristol Royal Infirmary, and as a patient representative, I am involved in the development of the new cardiac centre. From my experience so far, I can see great benefits to people like me in bringing all the services into one building, and I am delighted to be a part of the process.'*

Tariq Khan, patient



# North Bristol

| FACT CARD         |                         |
|-------------------|-------------------------|
| Trust             | North Bristol NHS Trust |
| Hospital Site     | Frenchay Hospital       |
| Scheme Type       | Catheter laboratories   |
| Capital Cost      | £7.1 million            |
| Main Contractor   | Laing O'Rourke          |
| Start on Site     | June 2007               |
| Open for Patients | February 2008           |

The expanded services will provide two additional catheter laboratories and supporting facilities. Project costs are £7.1 million and the contractor Laing O'Rourke started on site in mid-2007. The building work was completed by the end of the year.

The new service will enable patients from north Bristol and south Gloucestershire to receive angiography, angioplasty and the fitting of pacemakers locally, rather than having to travel into the centre of Bristol.

Philips Medical Systems has been selected to supply the catheter monoplane system.

# Plymouth

| FACT CARD         |                              |
|-------------------|------------------------------|
| Trust             | Plymouth Hospitals NHS Trust |
| Hospital Site     | Derriford Hospital           |
| Scheme Type       | Major extension/expansion    |
| Capital Cost      | £42 million                  |
| Main Contractor   | Sir Robert McAlpine          |
| Start on Site     | Spring 2004                  |
| Open for Patients | May 2007                     |





The new South West Cardiothoracic Centre (SWCC) facilities in the new Terence Lewis Building were finally completed and occupied in May 2007 and subsequently officially opened by the Chief Executive of NHS South West, Sir Ian Carruthers, in November 2007. This event coincided with the tenth anniversary of the SWCC within Plymouth Hospitals NHS Trust.

Cardiac surgery and coronary intervention first started in Plymouth in November 1997. Prior to this, all patients made the long and arduous journey to London, away from their families, and local primary and secondary care facilities.

Within three years it became evident that the unit had become a victim of its own success and the facilities were insufficient to meet the demand for tertiary cardiac services.

The new centre was centrally funded by the National Heart Team, the South West Peninsula Strategic Health Authority and Plymouth Hospitals NHS Trust and provides a massive upgrade of the previous facilities, adding two new theatres, a state of the art critical care and coronary care unit, four co-located 26-bedded wards and an administration suite where all clinical specialists and their support staff are now located.

In addition, the overall build contains a shell for a new general critical care unit, a new expanded library plus a research and development unit with teaching facilities to support the Peninsula Medical School.

The new build will continue to support the Trust's results in mortality, morbidity and infection control rates, as the ratio of beds per bay, single rooms and waste disposal all assist in reducing the risks of infection transmission.

The success of the project has been tremendous, not only for patients but also for staff, who were engaged at the outset in designing, planning and advising from both a clinical perspective and also from the patients' view. Integral to the process was the continual consultation with the 'customers', whose valued opinions made a tangible difference to the end product.

Clinical staff appreciate how fortunate they are to have a working environment that allows them to care for their patients in some of the best facilities in Europe.



*'We think this is one of the best places in the country and possibly further afield.'*

Patient

*'You couldn't have better if you were paying privately.'*

Patient

*'Critical care is the gem stone and [the SWCC] has the biggest critical care space per bed we have ever witnessed.'*

Staff member

*'The overhead hoists per bed enable us to deliver manual handling safely, reducing the possibility of staff or patient injury.'*

Staff member

*'The wards have reduced bed numbers from 35 to 26, arranged as four-bedded bays with en-suite sanitary facilities, which makes the area less noisy with more patient privacy.'*

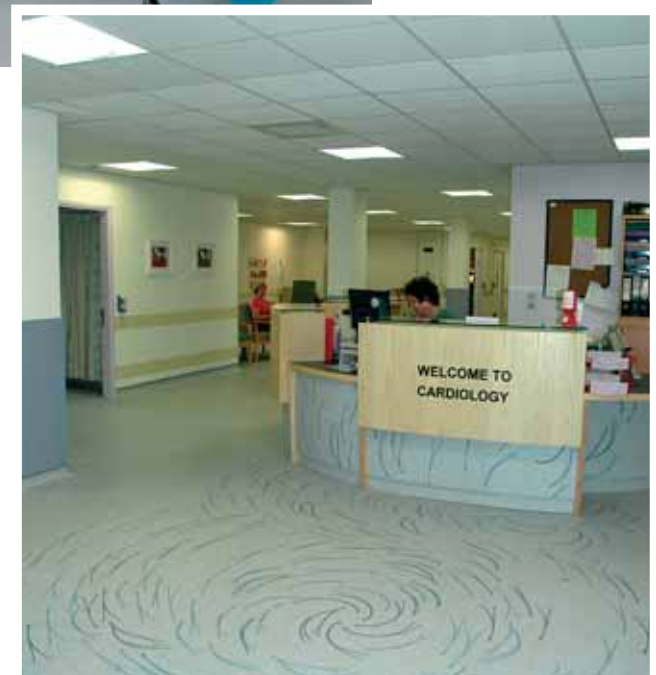
Staff member

The new build has been a successful project in its entirety, delivering the objectives and, more importantly, allowing the SWCC to facilitate patient care journeys in a redesigned service, striving for efficiency and meeting patient/customer expectations.

The expanded facilities will deliver the current local need for cardiac surgery services and, with flexible utilisation, will react to changing needs in the future.

# Taunton

| FACT CARD         |  |
|-------------------|--|
| Trust             | Taunton and Somerset NHS Foundation Trust              |
| Hospital Site     | Musgrove Park Hospital                                 |
| Scheme Type       | Major refurbishment and additional catheter laboratory |
| Capital Cost      | £6.6 million   |
| Main Contractor   | Medicing   |
| Start on Site     | August 2006  |
| Open for Patients | September 2007   |



In August 2006 building works began on the development of new facilities for the cardiology department at Musgrove Park Hospital and they opened for patients in September 2007.

The key element is the creation of a second coronary catheter laboratory. This will enable the further expansion of local coronary angiography and angioplasty services to meet projected future increases in demand and reduce waiting times further.

The laboratory is supported by enhanced cardiology outpatient and diagnostic facilities and a significant increase in the number of cardiology day beds.

The outpatient and diagnostic facilities have enabled the immediate introduction of one stop outpatient and diagnostic visits for patients – increasing convenience for patients and speeding up the patient pathway.

To enable this expansion to happen in the Duchess Building, a new three storey extension was constructed adjacent to the building to accommodate the departments of endocrinology, neurology and respiratory medicine. These departments now enjoy new expanded accommodation including additional outpatient rooms.

Additional staff were appointed during 2007 so that new angiography and angioplasty sessions could be introduced from September onwards. This included the appointment of a new cardiology consultant. The development will greatly enhance the service the hospital can deliver to the local population and ensure that it can continue to provide a safe, high-quality and cost-efficient service.

*'I am delighted to have a spacious, attractive development for cardiology. On completion, the impact it will have on the patient experience will be immense – attractive waiting surroundings, close proximity for clinics and investigations, and reduced waiting times for appointments.'*

Diana Cooper, Sister, cardiac catheter laboratory

*'This new and exciting development has led to significant improvements in our ability to serve our local population's cardiac healthcare needs. We now have the capacity to greatly increase the availability of one-stop outpatient clinics with full cardiac diagnostic back-up, alongside specialist cardiac medical review. We have also been able to separate routine and emergency catheter laboratory work, ensuring further progress towards national routine waiting times, while also giving our emergency patients rapid access to the diagnostic and therapeutic interventions that they deserve. Advising patients that they can undergo their necessary tests and treatments in a timescale determined by their needs and not by our capacity is our ultimate goal. This has been brought a large step closer with this new development.'*

Dr Stuart Walker, Consultant Cardiologist

**Dorset County Hospital NHS Foundation Trust**

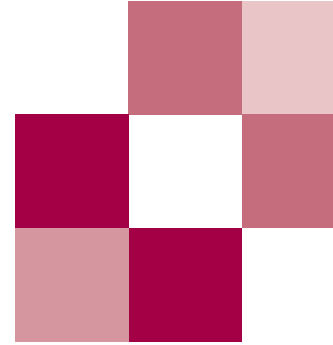
In addition to the developments in Taunton and Bournemouth, a catheter laboratory was also developed at the Dorset County Hospital, again improving local access for patients.

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## South West

### Summary of Big Lottery Fund catheter laboratories

| Trust   | Additional |
|---|------------|
| Dorset County Hospital NHS Foundation Trust                       | 1          |
| Gloucestershire Hospitals NHS Foundation Trust                    | 2          |
| Royal Bournemouth and Christchurch Hospitals NHS Foundation Trust | 1          |
| Royal Cornwall Hospitals NHS Trust                                | 1          |
| Royal Devon and Exeter NHS Foundation Trust                       | 1          |
| Royal United Hospital Bath NHS Trust                              | 1          |
| South Devon Healthcare NHS Foundation Trust                       | 1          |
| Swindon and Marlborough NHS Trust                                 | 1          |
| <b>Total</b>  | <b>9</b>   |



# West Midlands

## Wolverhampton

| FACT CARD         |   |
|-------------------|---|
| Trust             | Royal Wolverhampton Hospitals NHS Trust |
| Hospital Site     | New Cross Hospital                      |
| Scheme Type       | New cardiothoracic centre               |
| Capital Cost      | £57.1 million                           |
| Main Contractor   | Taylor Woodrow Construction             |
| Start on Site     | October 2002                            |
| Open for Patients | September 2004                          |



The development at New Cross Hospital was a completely new £57 million cardiothoracic centre, built to improve access to specialised heart and lung services for patients in the Black Country and surrounding West Midlands (an area with high rates of heart and lung disease).

The three-storey facility was purpose built to include all aspects of cardiology and cardiothoracic surgery.

- It has 116 beds for heart and lung patients.
- It is designed to put both patients and their carers at ease.
- It is equipped with the latest technology.

*'Very impressed with the building.'*

Patient

*'This new unit is one of the best I have been in.'*

Patient

*'All the staff are absolutely brilliant. I received wonderful care from start to finish.'*

Patient

Patient care facilities include the following:

#### **Ground floor**

- Cardiac rehabilitation services, including a gym.
- Pleasant outpatient area opening to a courtyard garden equipped with X-ray and blood testing facilities.
- Cardiac investigations department next to outpatients, with a full range of investigations including transoesophageal echo and 3D echo.
- Health records service committed to rapid communication with referring healthcare trusts and patients.

#### **First floor**

- Four theatres performing coronary artery bypass grafting, valve surgery and thoracic surgery, including minimally invasive surgical techniques.
- Highly specialised cardiothoracic critical care unit.
- Cardiothoracic ward with a high number of single en-suite rooms providing patients with space, privacy and natural light to aid recovery.
- Relatives' suite with refreshment facilities.

#### **Second floor**

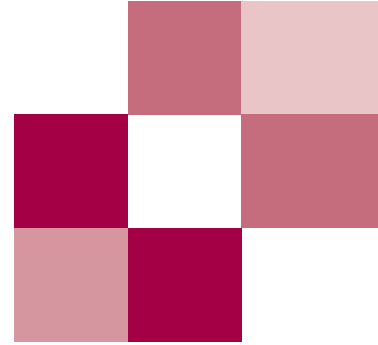
- Three cardiac catheter laboratories performing coronary angiography (radial and femoral) and angioplasty for patients with stable and unstable coronary disease, including acute myocardial infarction.
- Dedicated theatre for pacemaker implantation, including automatic implantable cardioverter defibrillators.
- Cardiology wards with a high number of single en-suite rooms.



# West Midlands

## Summary of Big Lottery Fund catheter laboratories

| Trust  | Additional | Replacement | Total    |
|--|------------|-------------|----------|
| Heart of England NHS Foundation Trust                | 1          |             | 1        |
| Mid Staffordshire General Hospitals NHS Trust        | 1          |             | 1        |
| Sandwell and West Birmingham Hospitals NHS Trust     | 1          | 1           | 2        |
| South Warwickshire General Hospitals NHS Trust       | 1          |             | 1        |
| University Hospital Birmingham NHS Foundation Trust  | 1          |             | 1        |
| University Hospital of North Staffordshire NHS Trust | 1          |             | 1        |
| Walsall Hospitals NHS Trust                          | 1          |             | 1        |
| Worcestershire Acute Hospitals NHS Trust             | 1          |             | 1        |
| <b>Total</b>   | <b>8</b>   | <b>1</b>    | <b>9</b> |



# Yorkshire and the Humber

## Hull

| FACT CARD         |   |
|-------------------|---|
| Trust             | Hull and East Yorkshire Hospitals NHS Trust |
| Hospital Site     | Castle Hill Hospital                        |
| Scheme Type       | Major replacement and expansion             |
| Capital Cost      | £31.4 million                               |
| Main Contractor   | Keir Build                                  |
| Start on Site     | August 2006                                 |
| Open for Patients | October 2008                                |



A £45 million cardiac and surgical unit is currently being constructed at Castle Hill Hospital, of which £31.4 million is for the cardiac facilities. The development will enable the Trust's cardiology and cardiothoracic surgery services to be centralised at Castle Hill Hospital. It will provide state of the art accommodation for this expanding service and is expected to open to patients in October 2008.

The facilities have been designed and equipped to the highest specifications to support the provision of leading-edge cardiac and surgical treatments. Although the building is highly serviced and technically complex, specific priority has been given to the interior design of the new unit and the integration of artwork to create a comfortable, healing environment for patients and pleasant working surroundings for staff.

The new building is on three levels.

- An emergency entrance and facilities management access point are situated on the lower ground floor.
- The ground floor accommodation comprises a cardiac outpatient and non-invasive testing department, four catheter laboratories, five operating theatres and 12 critical care beds.
- On the first floor there are 27 cardiology beds, including a cardiac monitoring unit, and 54 cardiothoracic beds, including 16 high-observation beds. The inpatient accommodation has a mixture of four-bed and single-bed rooms to assist with control of infection and privacy and dignity, and to maximise future flexibility.

Dedicated seminar facilities have been provided within the new building. There are also enhanced IT and audiovisual facilities, with links to the main lecture theatre and the main network, to support an expanding programme of teaching and training.

Dedicated new overnight stay facilities for relatives have also been provided in both the critical care unit and the inpatient wards.

*'The development will bring great benefits to patients in Hull, the East Riding of Yorkshire and surrounding districts. Waiting times for initial consultations and planned treatments will be greatly reduced. There will also be improvements in the quality and timeliness of care provided to emergency patients. From next year onwards, it will be much easier for patients to access the specialist cardiac services that we provide.'*

Dr Farqad Alamgir, Clinical Director for Cardiology

# Leeds

| FACT CARD         |                                    |
|-------------------|------------------------------------|
| Trust             | Leeds Teaching Hospitals NHS Trust |
| Hospital Site     | Leeds General Infirmary            |
| Scheme Type       | Catheter laboratory                |
| Capital Cost      | £2.5 million                       |
| Main Contractor   | Philips Medical Systems            |
| Start on Site     | March 2006                         |
| Open for Patients | September 2006                     |



This development was the sixth catheter laboratory on the Leeds General Infirmary site and cost around £2.5 million.

The pre-installation and building works commenced in early March 2006 and the sixth catheter laboratory was opened in September.

Initially the sixth catheter laboratory enabled the Trust to provide a net increase of 6 sessions of catheter laboratory time a week, with the new laboratory being used fully and the oldest laboratory – which was due for a refit – being used part-time. From the start of this year the full 10 session increase has been achieved. This additional capacity has enabled the Trust to develop further its primary percutaneous coronary intervention (PCI) service across the whole cardiac network.

The laboratory is facilitating the expansion of PCI activity within the West Yorkshire Cardiac Network area from 2,000 PCIs in 2003 to over 4,000 PCIs by 2007/08. This will deliver a PCI rate of 1,400 per million population in West Yorkshire, maintain the 3 month access target and will facilitate the delivery of the 18-week target by the end of 2008.

#### **Bradford Teaching Hospitals NHS Foundation Trust**

In addition to the catheter laboratory developed in Leeds, the programme also funded a catheter laboratory in Bradford to enable local access for patients.

# Sheffield

| FACT CARD         |   |
|-------------------|---|
| Trust             | Sheffield Teaching Hospitals NHS Foundation Trust |
| Hospital Site     | Northern General Hospital                         |
| Scheme Type       | Extension and refurbishment                       |
| Capital Cost      | £13.3 million                                     |
| Main Contractor   | HBG Construction                                  |
| Start on Site     | September 2004                                    |
| Open for Patients | May 2006  |





The development in Sheffield at the Northern General has been open for nearly two years now and has provided:

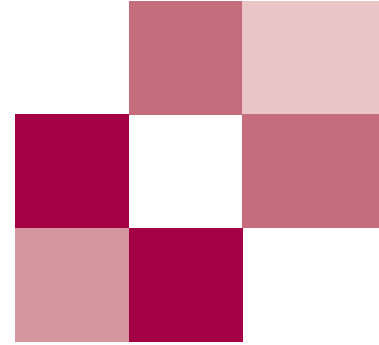
- an excellent pre-assessment and outpatient facility;
- state of the art equipment in the catheter laboratories;
- a new non-invasive cardiology department which is spacious, modern and working well; and
- there is still plenty of new modern space for expansion of other services (such as electrophysiology, genetics, grown up congenital heart disease, and cardiac failure).

The development has put the Trust in a good position to expand the primary angioplasty programme and clinicians are using the new bedded area in the cardiac catheter laboratories as a transfer suite for acute patients.

## Yorkshire and the Humber

### Summary of Big Lottery Fund catheter laboratories

| Trust  | Additional | Replacement | Total     |
|--|------------|-------------|-----------|
| Airedale NHS Trust   |            | 1           | 1         |
| Doncaster and Bassetlaw Hospitals NHS Foundation Trust         | 1          |             | 1         |
| Hull and East Yorkshire Hospitals NHS Trust                    | 1          | 1           | 2         |
| Northern Lincolnshire and Goole Hospitals NHS Foundation Trust | 1          |             | 1         |
| Sheffield Teaching Hospitals NHS Foundation Trust              |            | 1           | 1         |
| Leeds Teaching Hospitals NHS Trust                             |            | 1           | 1         |
| Mid Yorkshire Hospitals NHS Trust                              | 2          |             | 2         |
| Rotherham NHS Foundation Trust                                 | 1          |             | 1         |
| York Hospitals NHS Foundation Trust                            | 1          |             | 1         |
| <b>Total</b>   | <b>7</b>   | <b>4</b>    | <b>11</b> |



# London

In London there was no investment from the major revascularisation capital programme because:

- there were a number of large PFI schemes with planned improvements in cardiac services;
- there are some recently developed services, e.g. at St George’s and Guy’s and St Thomas’;
- the Heart Hospital had been acquired by the Department of Health and given to University College London Hospitals NHS Foundation Trust; and
- developments in the surrounding areas – a new cardiothoracic centre at Basildon and catheter laboratories being developed in many district general hospitals – has freed up clinical capacity within the capital.

However, there was investment through the Big Lottery Fund in seven additional catheter laboratories and nine replacement catheter laboratories, shown in the following table.

## London

### Summary of Big Lottery Fund catheter laboratories

| Trust   | Additional | Replacement | Total     |
|---|------------|-------------|-----------|
| Barking, Havering and Redbridge Hospitals NHS Trust | 1          |             | 1         |
| Barts and The London NHS Trust                      | 1          | 3           | 4         |
| Ealing Hospital NHS Trust                           | 1          |             | 1         |
| Guy’s and St Thomas’ NHS Foundation Trust           | 1          |             | 1         |
| Imperial College Healthcare NHS Trust               | 1          | 1           | 2         |
| King’s College Hospital NHS Foundation Trust        | 1          | 1           | 2         |
| Royal Brompton and Harefield NHS Trust              |            | 4           | 4         |
| Whipps Cross University Hospital NHS Trust          | 1          |             | 1         |
| <b>Total</b>  | <b>7</b>   | <b>9</b>    | <b>16</b> |





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