



# The Coronary Heart Disease National Service Framework

Leading the way

Progress report 2005

## DH INFORMATION READER BOX

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### For Recipient's Use

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**Professor Peter Weissberg, Medical Director, British Heart Foundation**

The NSF continues to deliver real benefits for patients with heart disease. Waiting times have fallen and patients who in the past would have waited months for attention, or worse still, who wouldn't have been referred for specialist care at all, are now experiencing timely access to appropriate diagnostic and therapeutic services. We look forward to additional benefits based on the new chapter of the NSF.

**Sir Alexander Macara, Chairman, National Heart Forum**

Take heart! It is fashionable these days to dismiss good news as the product of "spin." There is no spin about this solid heart-warming record of success across the whole spectrum of heart disease from primary prevention through all stages of treatment to the alleviation of heart failure. The implementation of the Service Framework has been infused with enthusiasm and discharged with commitment and collaboration, and the future is bright.

**Dr Huon Gray, President, British Cardiac Society**

The last year has seen further improvement in the provision of services for patients with heart disease, and continues to show what can be achieved by the close cooperation of healthcare professionals and government agencies. The planned addition of an Arrhythmia chapter to the NSF is most welcome. Some frustrations remain and there is more to be done, but the British Cardiac Society is pleased to acknowledge the great progress made since implementation of the NSF and will continue to support further initiatives.

**Professor Sir Bruce Keogh, President-elect of the Society of Cardiothoracic Surgeons**

In only five years the NSF has achieved the unachievable for patients requiring heart surgery. Waiting lists have been slashed from two years to less than three months and results continue to improve. Now the infrastructure and information are becoming available to allow patients to make real choices about where to have their surgery.

**Janet Davies, Chief Executive, Mersey Regional Ambulance Service NHS Trust**

The National Service Framework has enabled different organisations to work much closer together across the patient pathway enabling early intervention to improve patient care. The introduction of pre-hospital thrombolysis by paramedics is significantly improving the call to needle time and will undoubtedly improve chances of survival. The added benefit has been expansion of professional skills and joint working across boundaries.

# Foreword

by the Secretary of State for Health

The Government's programme for modernisation of public services depends on investment and reform to preserve the core values of our health, education and welfare systems and help those values deliver up to date services in the new century.

For health, the NHS is one of the country's proudest achievements. *The NHS Plan* and *The NHS Improvement Plan* have ensured that, with unprecedented levels of sustained investment combined with a real appetite for change, the health service is firmly on the road to recovery. The Public Health White Paper, *Choosing Health*, lays the foundations for a similar pattern of rapid improvement in services to prevent illness.

The extraordinary improvement we have seen in the prevention and treatment of heart disease over the past five years encapsulates not only the wider successes that have been made in health, but show how properly resourced public services that embrace radical change can prosper in modern Britain and improve the lives of the people that they serve.

This progress report, published to mark the fifth anniversary of the National Service Framework for Coronary Heart Disease, paints a remarkable picture. It puts paid to the doubts of the pessimists who seek to write off the NHS. Death rates from heart disease and stroke are falling and health inequalities are narrowing – the absolute gap between the worst off areas and the country as a whole has been closing for six years now. Britain is no longer the 'sick man of Europe' for heart disease. We are moving to the middle of the pack.

Free school fruit and better services to help people stop smoking are helping to prevent further deaths. The numbers of people on life saving drugs for cholesterol and blood pressure continue to go up steeply. Waiting times for surgery are tumbling and very shortly cardiac services will be the first to guarantee a maximum three months wait for treatment. Waiting times for diagnosis continue to fall.

Of course there is more to be done as we move in to the next five years of this ten year strategy. Providing better support for the hundreds of thousands of people who live with heart failure remains a key task. More consistent and reliable provision of rehabilitation will save more lives. Delivering a maximum 18 week wait will require continued change and continued investment.

The new chapter covering cardiac arrhythmias and the tragic sudden deaths of young people with inherited cardiac problems is an important new agenda. I am confident that the NHS will demonstrate over the next five years the same remarkable degree of progress that it has demonstrated over the last five years.

A handwritten signature in black ink, appearing to read 'John Reid', with a long horizontal stroke underneath.

**John Reid**  
Secretary of State for Health

# Introduction

by the National Director for Heart Disease

Five years ago the Government made tackling heart disease a top priority for the NHS and the Government as a whole. Improvement to cardiac services was desperately needed and with the publication of The Coronary Heart Disease National Service Framework (CHD NSF) we sealed a commitment to put things right.

At the time the NSF was described as radical and ambitious. It set out a ten-year programme of work to reorganise, modernise and therefore transform approaches to the prevention, diagnosis and treatment of coronary heart disease.

We are now half way through that ten-year programme. This report, to mark the five-year anniversary of the CHD NSF sets out what I think is a remarkable story of improvement: better prevention, falling mortality rates, faster and better treatment and real improvements in the way patients experience and use the services available to them.

As well as this progress report, today we are also publishing a new chapter of the CHD NSF on arrhythmias.

Arrhythmias, or irregular heart beats, affect over 700,000 people. They can vary in severity from symptoms that cause the patient minor inconvenience, to more serious symptoms which can have a profound effect on quality of life. Beyond those who experience symptoms, experts estimate that arrhythmias also cause up to 400 sudden unexplained cardiac deaths each year. In most of these cases the patients, and their family have little or no warning.

Since the publication of the CHD NSF there has been significant improvement in both technology and clinical skills leading to increased options available to care for people with arrhythmia. This new NSF chapter provides a quality framework against which local services can map improvements in both the diagnosis and treatment of this condition.

Our challenge now is to sustain the momentum of progress that we have built up in the last five years. We will do this by developing on what has already been achieved and focussing our energies on improving services and care throughout the whole patient journey.

The White Paper and work with PCTs in the areas of highest social deprivation will increase the impetus on preventing CHD and narrowing the inequalities gap.

Heart attack treatment has been revolutionised. Before the NSF was published less than a quarter of patients received clot-busting drugs within an hour of calling for help. Today it is over half and these numbers look set to continue rising.

Excellent progress has been made in cutting waiting times for cardiac patients. Well over 90% of people experiencing chest pain for the first time are seen by a specialist within two weeks. In 2000 it was not uncommon for patients to wait over a year for heart surgery. From the end of this month no-one should have to wait over three months.

Those in the NHS that work with CHD will continue to lead the way in delivering choice. From next month, heart patients will be offered a choice of two hospitals for heart bypass surgery and angioplasty. By the end of the year patients will be able to choose from four or five providers.

We recognise that there is a good deal more to be done. Improving care for people with heart failure is a priority both in terms of the quality of life of people who have the condition, and in terms of reducing unnecessary and costly emergency admissions to hospital. We need to work to ensure more consistent provision of cardiac rehabilitation for patients.

There is good reason to be optimistic on both these issues. The CHD NSF has demonstrated what can be achieved through a combination of substantial investment and real changes to the way that the service operates. Thanks to the hard work of thousands of people, we have definitely turned a corner. In five years the experience of patients with coronary heart disease has changed beyond recognition and we are determined that in the next five years that story will continue.

A handwritten signature in black ink that reads "Roger Boyle". The signature is written in a cursive, flowing style.

**Dr Roger Boyle**  
National Clinical Director for Heart Disease

# Summary of progress

## The CHD NSF continues to deliver improvements in CHD services.

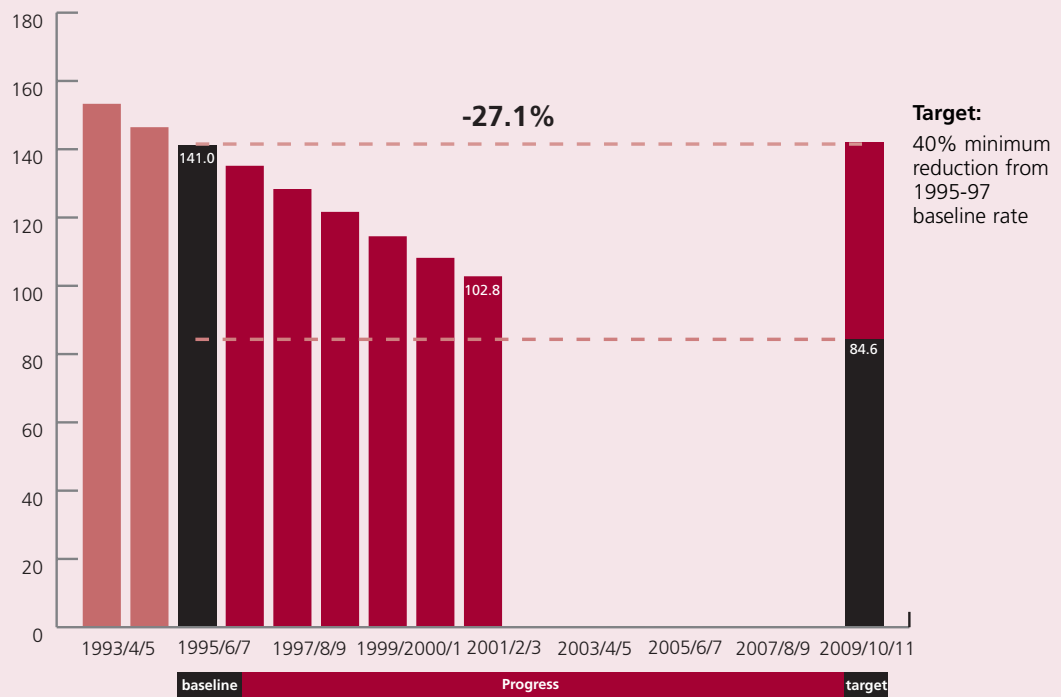
	Then	Now
Adult smoking prevalence	28% (2000)	25% (2003)
Number of children receiving fruit at school	0 (2000)	over 2 million
Estimated number of lives saved with statins	2,900 (2000)	9,000 (2004)
Number of patients waiting over 12 months for heart surgery	1,093 (Mar 2000)	Zero (Dec 2002)
Number of patients 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 (Nov 2004)
Number of patients waiting over 3 months for heart surgery		expected to be zero by end March 05
Percentage of heart attack victims given thrombolysis within 30 minutes of arrival at hospital	38% (2000)	84% (Dec 2004)
Consultant cardiologists	467 (1999)	694 (Jun 2004)
Heart surgeons	182 (1999)	240 (Jun 2004)

## Reducing mortality

The death rate from heart disease, stroke and related diseases among the under 75s has fallen by 27% since 1996.

### Circulatory disease mortality target

Death rate per 1000,000 population  
3 year average rates



Rates are calculated using population estimates based on 2001 census, subsequent to amendments resulting from the Local Authority Population Study (LAPS).

Rates are calculated using the European Standard Population to take account of differences in age structure.

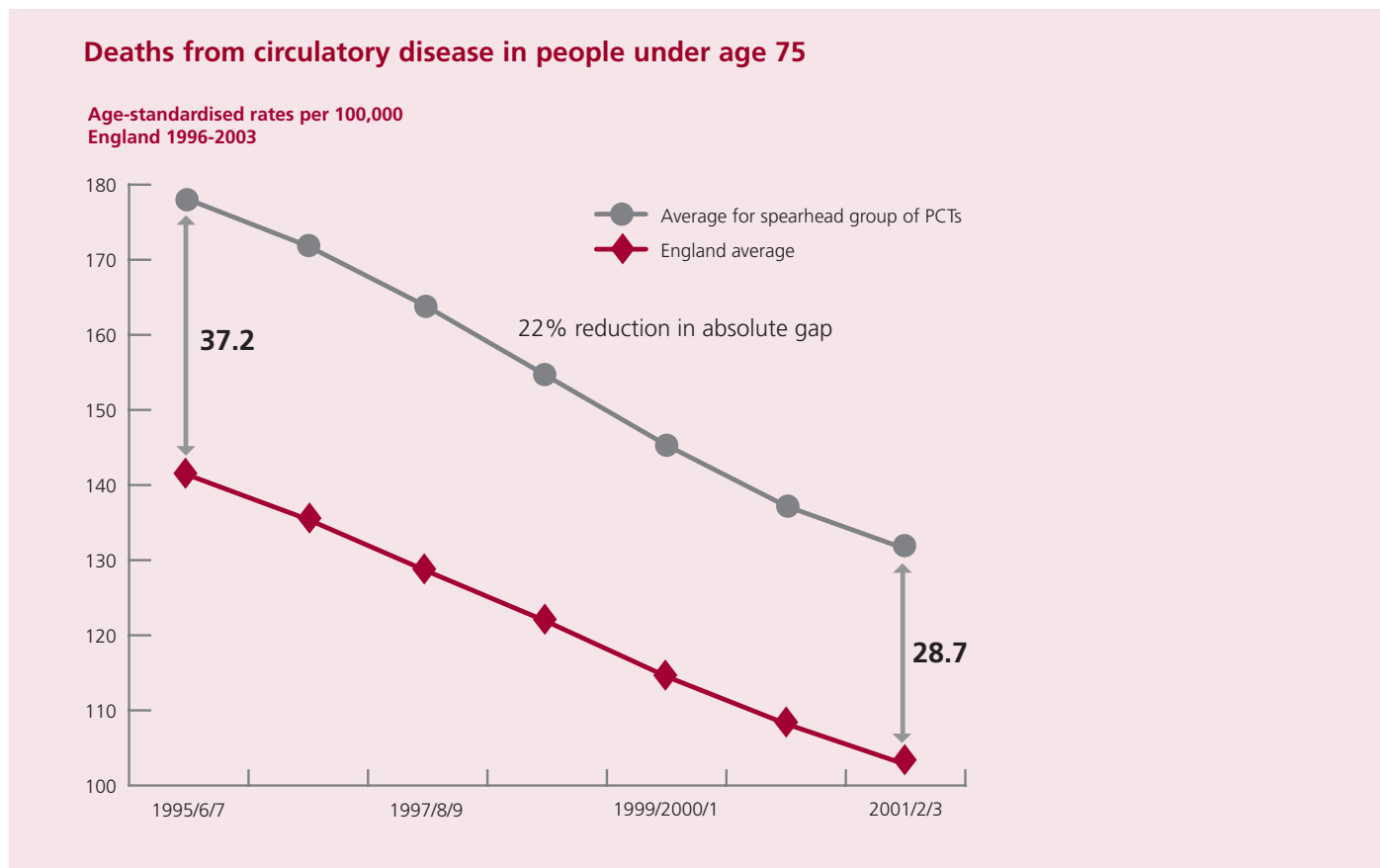
ICD9 data for 1993 to 1998 and 2000 have been adjusted to be comparable with ICD10 data for 1999 and 2001 onwards.

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

## Mending the gap

Inequalities in the death rate from heart disease, stroke and related diseases among the under 75s has been narrowing for the past six years, and with the new impetus of the Public Health White Paper we are currently on track to meet a 40% reduction in the gap by 2010.

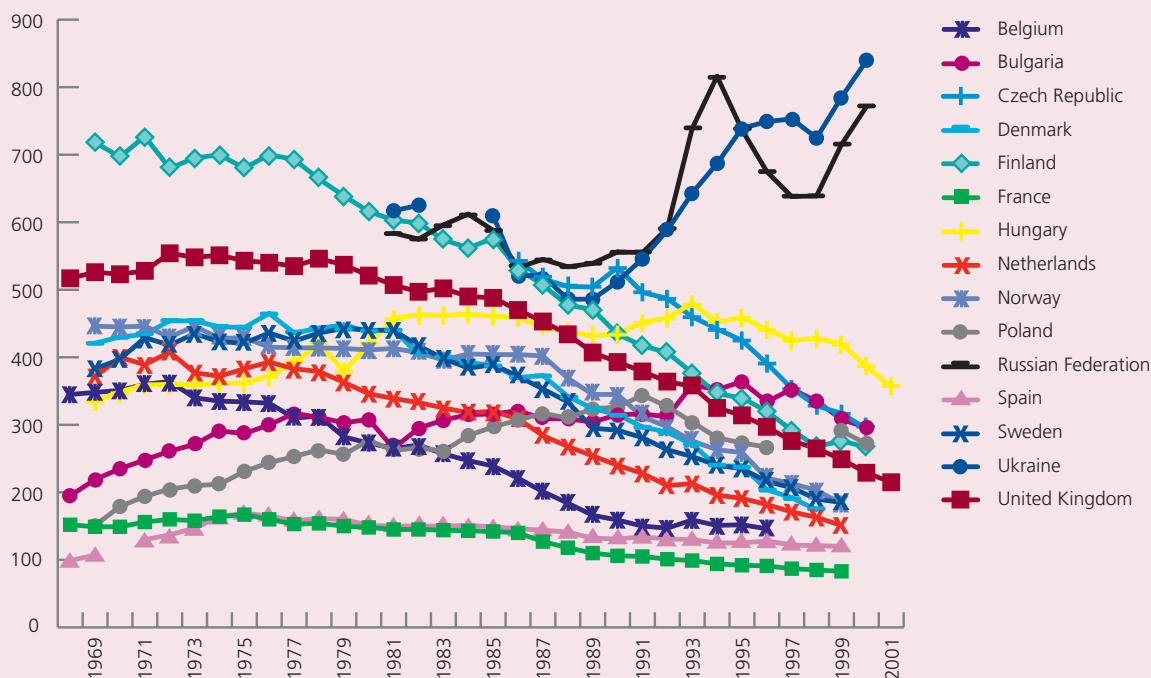
Over the past six years, the gap between the worst hit areas in the country and the rest of the country has been narrowing, from 37.2 excess deaths per 100,000 population in 1996 to 1997, to 28.7 in 2001 to 2003. This translates as a 22% reduction in the absolute gap as demonstrated in the graph below.



In recent years we have also seen a reduction of the gap in death rates from CHD between this country and others in Europe. While we continue to have high rates of disease, we are rapidly catching up with other countries and are much closer to the middle of the pack.

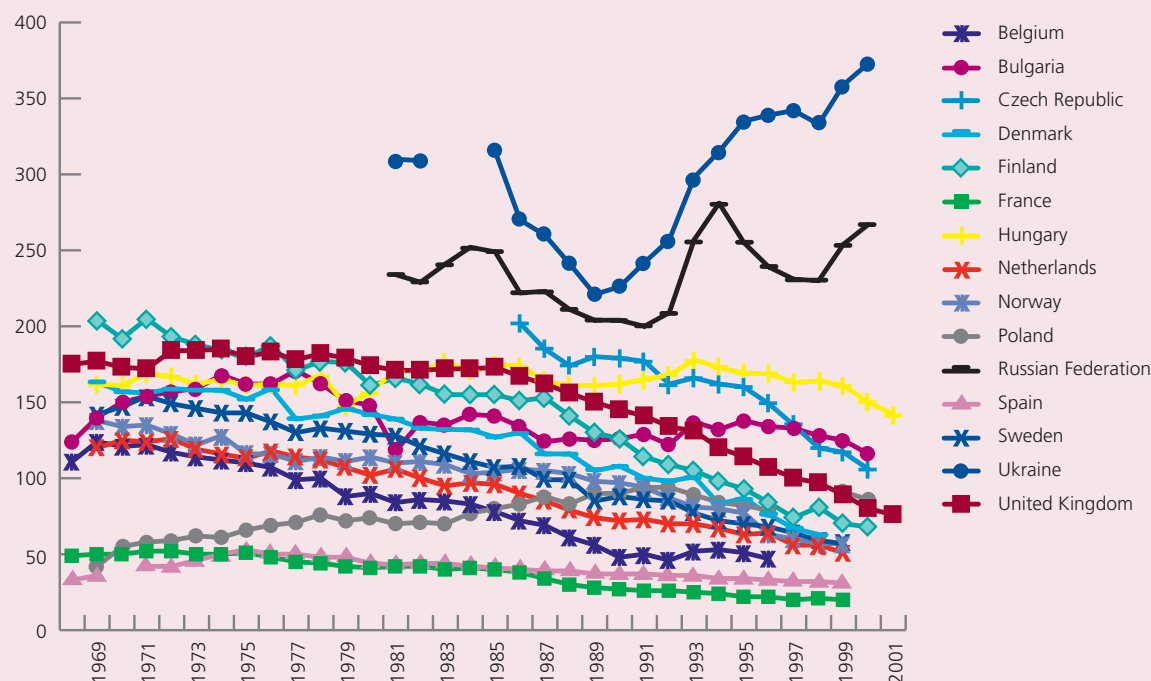
### Death rates from CHD, men aged 35-74, 1968-2001, selected countries

Age-standardised death rates from CHD by country, men aged 35-74, 1968-2001, Europe



### Death rates from CHD, women aged 35-74, 1968-2001, selected countries

Age-standardised death rates from CHD by country, women, aged 35-74, 1968-2001, Europe



# 1

## A healthier population – preventing heart disease

Coronary heart disease (CHD) is a largely preventable disease. The key risk factors for CHD include smoking, obesity, physically inactive lifestyles, poor diet, excess salt, alcohol, diabetes and raised blood pressure. The CHD NSF aims to help reduce these risks.

### **The Public Health White Paper – *Choosing Health: making healthy choices easier***

**“The Government will provide information and practical support to get people motivated and improve emotional wellbeing and access to services so that healthier choices are easier to make.**

**“It is a fact of life that it is easier for some people to make healthier choices than others. Existing health inequalities show that opting for a healthy lifestyle is easier for some people than others. Our aim must be for everyone to achieve greater health and mental wellbeing by making healthier choices.”**

**John Reid – Health Secretary – *Choosing Health* November 2004**

The Public Health White Paper *Choosing Health: making healthy choices easier*, published in November 2004, sets out the Government’s commitment to provide more of the opportunities, support and information people want to enable them to choose a healthier lifestyle. It identifies a number of actions and commitments on addressing health inequalities, through tackling smoking, improving nutrition and increasing physical activity. These will have a direct impact on reducing the risk of CHD and a number of other major diseases including cancer, diabetes and stroke.

## Tackling inequalities in public health: Spearhead Group

The Public Health White Paper sets out the importance of ensuring that as the country strives to improve its health, priority must be given to tackling health inequalities so that all groups in society benefit from improvements in public health.

A new national target has been set to reduce inequalities in life expectancy and to narrow the gap between the population as a whole and the fifth of areas with the worst health and deprivation indicators.

We know that there are significant differences in people's health depending on the area in which they live. A Spearhead Group of 70 Local Authorities and 88 Primary Care Trusts has been established consisting of the Local Authority areas that are in the bottom fifth nationally for three or more of the following five factors:

- Male life expectancy at birth
- Female life expectancy at birth
- Cancer mortality rate in under 75s
- Cardio Vascular Disease mortality rate in under 75s
- Index of Multiple Deprivation 2004 (Local Authority Summary), average score

The spearhead Primary Care Trusts (PCTs), will be the first to get funding for health trainers, improved stop smoking services and school nurses.

Achievement of the targets will be assessed on the outcomes for this group in 2010.

## Reducing key risk factors for CHD

### Smoking

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Approximately 20% of CHD related deaths in men and 17% of CHD cases in women are related to smoking.

A comprehensive six-point tobacco control programme of action is now in place. Each strand has a measurable impact on reducing smoking prevalence.

#### 1. Reduce exposure to secondhand smoke

The Office of National Statistics reported that in 2003, 50% of workplaces are completely free from tobacco smoke, as compared with 40% in 1996.

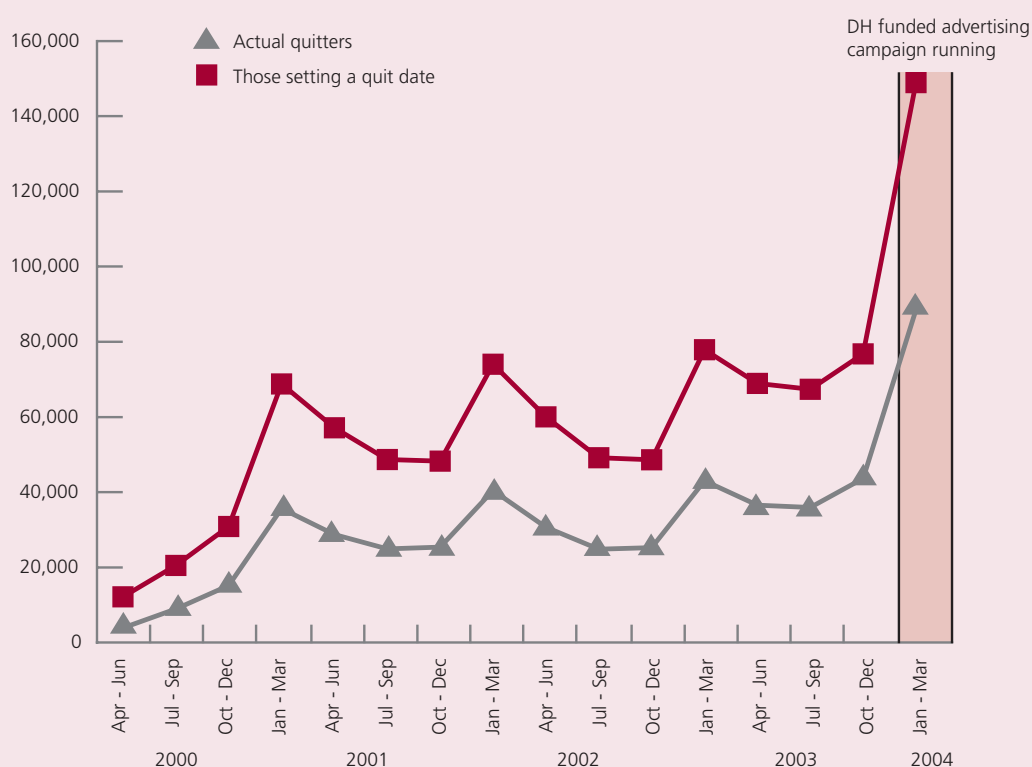
The Public Health White Paper announced that by the end of 2006 all Government departments and the NHS will be smoke free. And in total 88% of people's workplaces either restrict smoking to specific areas or are completely smoke-free.

## 2. Media and education campaigns



£39 million was allocated to a strengthened information and education media campaign with all year media presence. In 2004 the government-funded anti-smoking campaigns, run by Cancer Research UK and the British Heart Foundation, became the main reason why smokers said they tried to quit.

Graph showing impact of ads on numbers of quitters



## 3. Reducing availability and supply of tobacco

In recent years there had been an increase in the availability of cheaper, illegally smuggled cigarettes. The Government is committed to reducing the number of smuggled cigarettes entering this country. Investment of over £200 million helped fund almost 1,000 extra customs officers and a national network of x-ray scanners to tackle cigarette and tobacco smuggling.

Tobacco smuggling undermines the Government's tobacco control strategy as well as stimulating widespread criminality. Smuggling brings in large volumes of cheap, often counterfeit, cigarettes, making smoking more accessible to young people and those on low incomes.

#### 4. NHS Stop Smoking Services

NHS Stop Smoking Services are available across the country which provide support and advice to people who want to stop smoking. Stop smoking aids such as nicotine replacement therapy (NRT) and Zyban are available on prescription.

In the last full year (April 2003 – March 2004) this world-leading service helped around 361,200 people to set a quit date. This compares with 124,100 people in 2002/03 – an increase of 65%.

At the four week follow-up around 204,900 (57%) of those setting a quit date had successfully quit.

The latest results from the services for April – September 2004 show:

- Around 201,500 people set a quit date.
- At the four week follow-up around 107,800 (53%) of those setting a quit date had successfully quit.

Quit rates vary between SHAs and PCTs. Some of the most successful PCTs are in deprived areas. The Department of Health is working with these successful services to spread good practice.

#### Case study: Osman Suleyman (33)



Osman smoked his last cigarette in October 2004 having smoked since the age of 20. He had started because peer pressure had got the better of him and the main reason for giving up was his health. Osman had suffered from numerous chest infections and decided enough was enough. Osman also detested the way that cigarettes were controlling his life.

Osman commented: 'I hated the fact that cigarettes governed me – nobody likes to feel like that. I feel a lot freer now I've quit.'

To beat his cravings Osman used a three month programme of patches and he believes that they really helped him in quitting. However, he believes that the main factor in him giving up was his local NHS Stop Smoking Service. Osman attended his local service in St Michaels, Enfield where he became part of the weekly group sessions.

Osman said: 'I would go to the sessions every Tuesday night after work. The advisors were all very informative and friendly and they did things such as check our Carbon Monoxide levels to show we were progressing. The sessions gave me something to work towards and I found the 'quit date' idea where you give up 3 weeks into your sessions as opposed to straight away really helped.'

Osman works for local government and since quitting has noticed he is much more productive at work. Osman's message to people trying to quit would be:

'Like any problem, smoking is best dealt with head on – don't allow cigarettes to control you.'

## 5. Reducing tobacco promotion

Regulations to end newspaper, billboard and magazine advertising, in pack promotion direct marketing and most sponsorship came into force in February 2003.

## 6. Reducing availability and supply of tobacco

Bigger and more direct warnings appeared on cigarette packets from September 2003, and from September 2004, were on all tobacco packs. From September 2003 misleading descriptors such as “light”, “mild” and “low tar” were removed from cigarette packets and from other tobacco products from September 2004.

The UK ratified the WHO Framework Convention on Tobacco Control (FCTC) on 16 December 2004. Over 40 countries had ratified the treaty, enabling it to come into force on 27 February 2005.

The FCTC is the first-ever global health treaty. It is a major step forward in the worldwide battle against the death and disease caused by the tobacco epidemic. It provides the basic tools for countries to enact comprehensive tobacco control legislation.

Figures from the General Household Survey (ONS, Dec 2004) show that there has been a reduction of 400,000 smokers within the last year. This steady decline means that the proportion of the population who smoke has fallen from 28% in 1998 to 25% in 2003. There are around 1.2 million fewer smokers in England since the *Smoking Kills* White Paper published in 1998.

These are the lowest smoking rates in England on record and indicate that the Government is on track to meet the target of 21% smoking prevalence in 2010.

Future work outlined in the Public Health White Paper includes:

- proposals that all enclosed public places and workplaces (other than licensed premises) will be smoke-free;
- all pubs and bars preparing and serving food will be smoke-free;
- smoking in the bar area will be prohibited everywhere;
- proposals to put graphic and hard-hitting picture warnings on cigarette packets;
- further restrictions on tobacco advertising;
- tough action on shops that sell cigarettes to children;
- the NHS improving the way it helps people to stop smoking and stay stopped; and
- further reductions in tobacco smuggling.

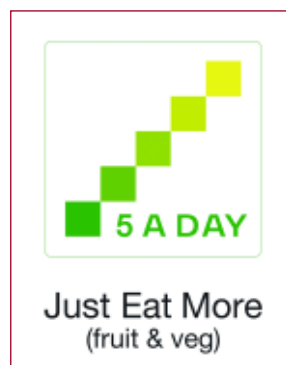
## Diet and Nutrition

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The incidence of CHD is highest amongst people who are obese - those with a Body Mass Index (BMI) over thirty. Currently 22% of men and 23% of women in England are obese and the figures continue to rise.

Eating a healthy diet can play a fundamental role in reducing the risk of developing coronary heart disease. It is estimated that eating at least five portions of a variety of fruit and vegetables a day could lead to a reduction of up to 20% in overall deaths from chronic diseases such as heart disease, stroke and some cancers.

Action already underway to encourage and help people to eat a healthy diet includes:



In 66 Primary Care Trusts throughout the country 5 A DAY Community Initiatives have been established to make it easier for families on low incomes to access fruit and vegetables. This programme is now reaching over six million people.

The 5 A DAY logo was launched in March 2003. Over 400 organisations are licensed to use it and it now appears on over 700 fruit and vegetable products in shops and restaurants.

As part of the government funded School Fruit and Vegetable Scheme almost two million four to six-year-olds in over 15,600 schools throughout England are receiving a free piece of fruit or vegetable every school day.

£2.5 million has been invested in the Food in Schools Programme, a joint venture between the Department of Health and the Department for Education and Skills. Eight regional projects have tested strategies for improving the nutrition of children across the school day. The results of all eight pilot projects will be brought together in a 'whole school approach' and made available to schools across England in spring 2005 to assist them in providing a wider range of healthier foods for pupils.

The Department of Health and the Food Standards Agency (FSA) are working with stakeholders and the food industry to reduce salt levels in processed foods. In September 2004 the FSA, supported by the Department of Health, launched a campaign to increase awareness of the risks of eating too much salt.



The reform of the Welfare Food Scheme aims to improve access to a wider range of healthy foods and to provide new mothers with improved support around breast feeding. From 2005 the new Healthy Start scheme will provide families on benefits with fixed value vouchers which can be exchanged in a wide range of retail outlets for fresh fruit and vegetables, cow's milk and infant formula.

Further work outlined in the Public Health White Paper includes:

- extending the criteria for use of the 5 A DAY logo to include processed foods and defining portion sizes for children
- further funding for community 5 A DAY initiatives, following evaluation of the existing initiatives
- possible extension of the School Fruit and Vegetable Scheme to LEA-maintained nurseries
- new Food in Schools materials and resources to help schools develop a whole school approach to healthy eating
- the Government is working with Ofcom, the food industry and other stakeholders to strengthen the rules and voluntary codes covering advertising and promotion of foods to children that are high in salt, fat and sugar on broadcast and non-broadcast media.

## Physical Activity

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Regular physical activity reduces the risk of cardiovascular disease mortality in general and of coronary heart disease mortality in particular. Physically inactive people have about double the risk of CHD.

Alongside the main delivery plan for the Public Health White Paper the Department of Health will publish an action plan for physical activity. This will set out cross-government commitments to increase mass participation in physical activity and sport in England.

Action already underway to encourage people to become more physically active includes:

Ten Local Exercise Action Pilots (LEAP), have gone live across England supported by £2.6 million funding. Pilots, based in Neighbourhood Renewal Areas, are evaluating different PCT led community approaches to increasing levels of and access to physical activity. These will make a significant contribution to the evidence base on what works.

The Department of Health has co-funded, with the Countryside Agency and the British Heart Foundation, a pedometer loan pilot scheme. Ten thousand pedometers have been given to 110 PCTs in areas of high deprivation as a motivational tool to encourage increased walking. As a result of evaluation completed in 2004 we will work with our partners to extend this approach to PCTs in all areas by the end of 2005.

There are over 800 GP exercise referral schemes prescribing physical activity to improve health and wellbeing.

Further work in the Public Health White Paper includes:

- work with the sports and recreational activity sectors to deliver positive, innovative messages about healthy lifestyles;
- funding to support local, evidence-based physical activity interventions, linked where appropriate to local health trainers and developing obesity care services;
- pilots to promote health and well-being through the workplace, including innovative approaches to support active living;
- from April 2005 a Healthy School will include time and facilities for physical activity and sport both within and beyond the curriculum;
- all schools in England should have active travel plans by 2010. The Department of Health will be supporting the Travelling to School initiative by funding school travel advisers and providing small grants for items such as secure cycle parking and lockers;
- work with the road safety and cycling organisations to implement a new National Standard for cycle training, which aims to ensure that children have the skills to cycle safely on the road; and
- an aim that 75% of schools to be part of a schools sports partnership from September 2005 and 100% from September 2006.

## Preventing CHD in high-risk patients and preventing further problems for people who have CHD

The CHD NSF makes clear the importance of identifying patients who already have heart disease and those who are at high risk of heart disease so they can be monitored and given additional support.

The NSF Standards on this have been followed up in the detailed Quality Indicators for the new GMS contract, which came into effect in April 2004. The contract explicitly rewards GP practices for maintaining registers of patients with CHD and those identified as being at high risk of CHD.

Disease registers are the foundation for better prevention and faster, better and more appropriate treatment for those patients who need it. They allow patients to be carefully monitored and regularly reviewed. For instance, checking and controlling blood pressure and cholesterol levels is vital in reducing the risk of CHD in patients at high risk, preventing the disease from worsening in patients who have CHD and helping those patients who are recovering from heart problems.

These registers also help GP practices to implement better systems, predict likely workloads and plan ahead.

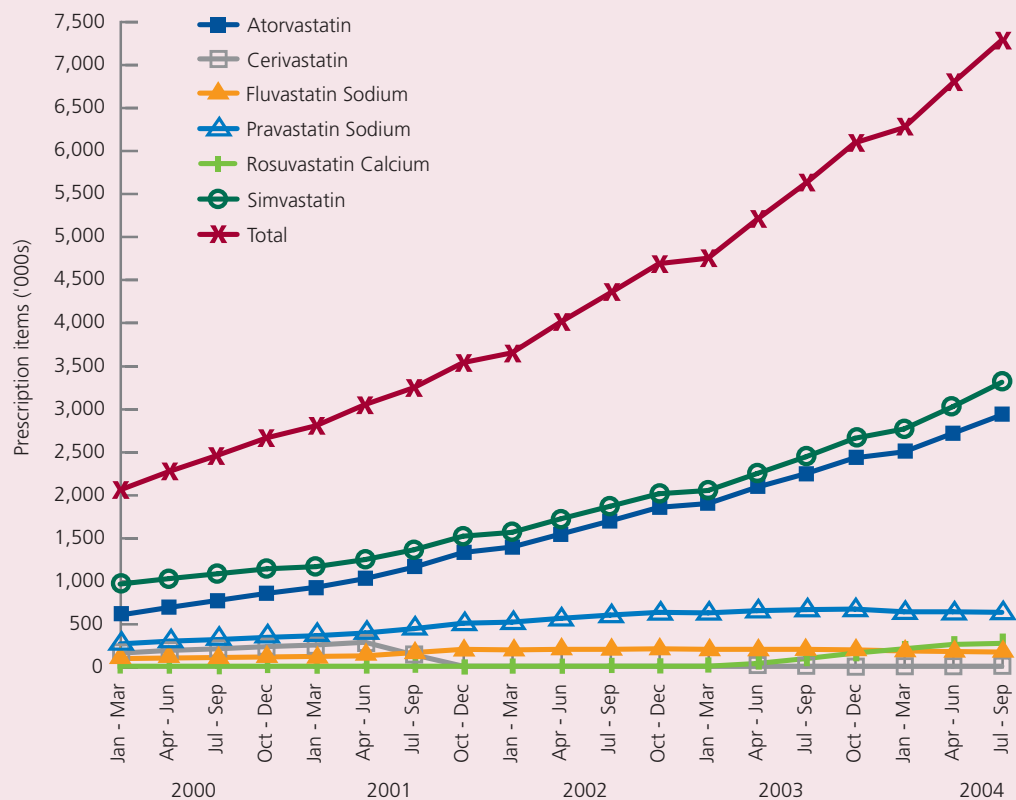
### Cholesterol

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In addition to improvements in diet, cholesterol levels can be lowered by taking drugs called statins. The growth in the provision of this effective treatment is one of the most important markers of progress on the NSF. Prescribing data confirm that statin prescriptions are rising by 30% a year. Spending on statins is expected to rise to £750 million for the year 2004/05.

We now estimate that there are 2.5 million people on statin therapy in England and that this is saving up to 9,000 lives a year, as well as reducing the number of heart attacks.

### Total number of statins prescription items prescribed and dispensed in the community, in England, since January 2000



### Statins over the counter

The CHD NSF recommends that statins should be prescribed to anyone at high risk of CHD, which is defined as anyone with a 30% or greater ten year risk of a cardiac event. However, there is evidence that they may also benefit people who are at a moderate risk.

The Medicines and Healthcare products Regulatory Agency (MHRA) ran a consultation on whether statins should be made available over the counter to people at moderate risk of CHD, and the conclusion was in favour of that move.

In July 2004, low doses of simvastatin, became available without prescription to people whose risk profile indicated a moderate risk. These people now have the choice of buying the drug for themselves in order to reduce their own risk. Anyone whose risk score is higher is referred to their GP for more detailed investigation.

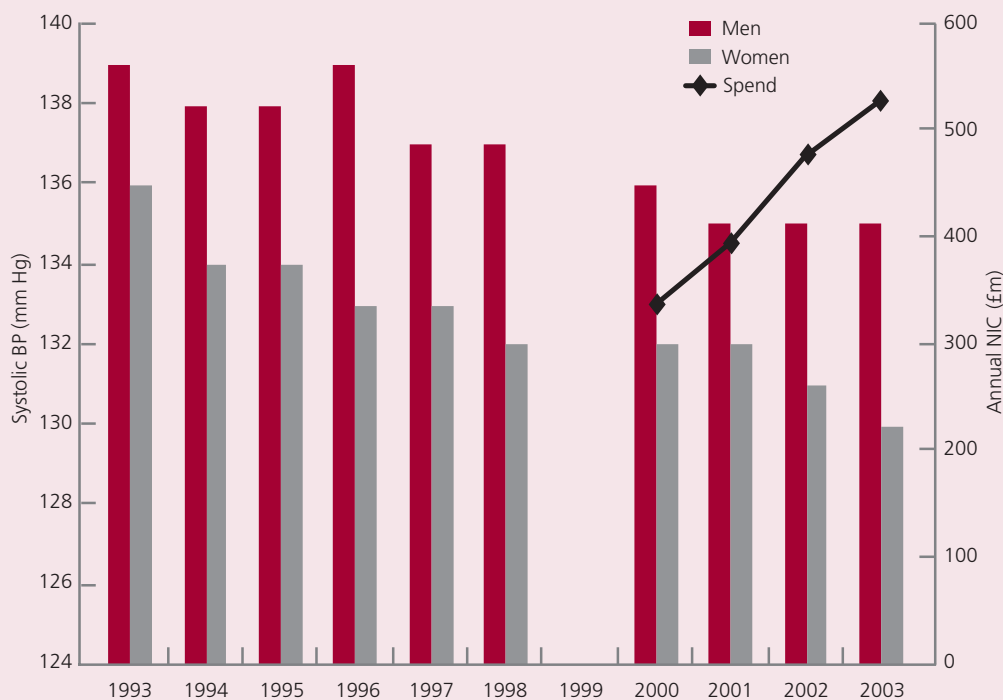
## Blood Pressure

Raised blood pressure is a key risk factor for heart disease. The CHD NSF identified it as an area for particular attention. Inclusion in the new GMS contract of regular blood pressure monitoring in patients with CHD and those at high risk is already producing positive results. Latest information from the Health Survey for England for 2003 shows encouraging progress, both in coverage of treatment and in successful control.

The prevalence of untreated high blood pressure in men came down from 32.2% in 1998 to 24.3% in 2003. In women the figures were down from 22.5% to 17.5%.

This graph demonstrates how as spending on drug treatments for high blood pressure has increased, so the average blood pressure of the population has decreased. Changes in lifestyle have also contributed to this trend.

### Trends in blood pressure and its treatment

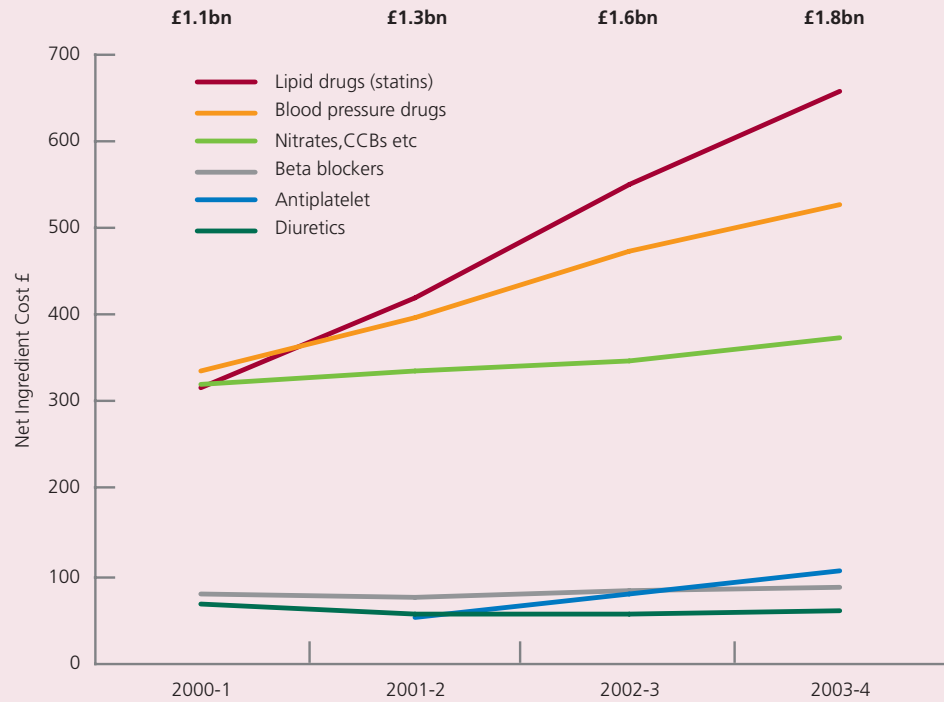


3% reduction in prevalence over 5 years  
Health survey for England

In addition we know that patients receive more regular reviews and prescribing rates are higher in those areas of greatest need, which map onto areas of deprivation. This concentration of effort will make further inroads into tackling health inequalities.

This graph shows trends in all cardiovascular prescribing from 2000.

### Prescribing trends since 2000



# 2

## Improving access and choice

Waiting for diagnosis and treatment at any point in the patient journey can cause stress and anxiety for patients and their families. *The NHS Improvement Plan* sets out a commitment that by 2008 no patient will wait longer than 18 weeks from GP referral to hospital treatment.

In the past many patients with CHD faced long waits. The CHD NSF is tackling this by re-designing services and investing in staff, buildings and equipment. As a result there has been a dramatic reduction in waiting times for both diagnosis and treatment, saving patients months of unnecessary worry.

### **Faster treatment for heart attack patients**

For people who do have a heart attack, prompt access to the right treatment can mean the difference between living and dying. The CHD NSF states that access to the correct care in the first minutes and hours of the onset of symptoms is crucial.

We are increasing the numbers of people who are diagnosed before reaching hospital and ensuring those patients receive their first treatment as quickly as possible. As a result thousands of lives are being saved and the long-term outcomes are improving for huge numbers of patients.

### **Defibrillators in public places**

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681 Automated External Defibrillators (AEDs) were placed in 110 public places around the country in the first phase of the National Defibrillator Programme. Sites include railway stations, airports and one shopping centre.

More than 6,050 people have received training in Basic Life Support skills and use of an AED. Evidence to date suggests that at least 56 lives have been saved as a result of the programme.

Responsibility for AEDs has now passed to the NHS. As of February 2005 Ambulance Trusts have been responsible for the training (and re-training) of volunteers and for maintaining the equipment in the sites where the AEDs have been installed.

A further 2,300 AEDs were procured in September 2004 with funding awarded to the British Heart Foundation by the Big Lottery Fund and these are now being installed by Ambulance Trusts.



Sir Ranulph Fiennes with fire fighters Joe and Martin – two of the responders who saved his life.

### Case study: Platform Thirteen – lucky for some



In February 2004 Terry and Sylvia Abbotts were returning to Stoke-on-Trent after attending a live broadcast concert at the BBC's Maida Vale studios. Walking down platform 13 at Euston Station to catch the 11.55 Virgin Express, all seemed fine, but as the whistle blew Terry fell to the floor with a heart attack. A fellow passenger quickly got him into the recovery position and the guards call over the train's tannoy system led to a young lady doctor quickly arriving on the scene.

Three members of the Euston station team arrived carrying a defibrillator unit and took immediate action to get Terry's heart beating again, and save Terry's life. A short ambulance ride to University College Hospital and then an emergency transfer to the Heart Hospital on Westmorland Street resulted in a triple bypass operation. It was a week later that Terry and Sylvia Abbotts completed their journey home.

## Thrombolysis

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Thrombolytic drugs – also known as clot busting drugs – help reverse the effects of heart attack by opening the blocked coronary artery. This enables return of the blood supply to the affected part of the heart.

The CHD NSF states that people thought to be suffering from a heart attack should be given thrombolysis within 60 minutes of calling for professional help – this is known as the ‘call to needle’ time.

The proportion of people now treated within 60 minutes of calling for help is 54% compared to about 24% before the NSF.

At the end of December 2004, 24 out of 31 ambulance trusts had paramedics trained to give thrombolysis. To date, 1,659 patients have received thrombolysis by paramedics of which 1,310 have been in 2004. About 5% of thrombolysis is now given by paramedics and this figure is continuing to rise.

### Case study: Pre-hospital thrombolysis

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Lincolnshire Ambulance Service and the Pilgrim Hospital (part of the United Lincolnshire Hospitals NHS Trust) have achieved impressive results by working together to reduce call to needle times. They were recognised in February 2005 with an award for best practice in integrated cardiac care. The rural nature of the area gave them a logistical challenge, but they have made real progress to combat this by working together to develop a whole systems approach to service improvement.

Previous performance up to August 2001 meant that no patients were being treated within the 60 minute call to needle time.

Collaboration between the ambulance service and the hospital team has shown that patients can be treated earlier, and more lives can be saved. Paramedics and nurses were trained to administer thrombolysis at the point of diagnosis. This practice enabled more patients to be treated within the 60 minute call to needle time, regardless of where that diagnosis was made.

Paramedic confidence was recognised as an important issue and was addressed by the appointment of a cardiac nurse specialist to the ambulance service. His role was to provide training to paramedics and technicians in thrombolysis and 12 lead ECD transmission. This has enabled all paramedics to be trained in administering pre-hospital thrombolysis.

It was also recognised that paramedics needed additional support during their early thrombolysis interventions. To address this Lincolnshire Integrated Voluntary Emergency Service provided nurses, paramedics and doctors experienced in this field who were able to offer clinical supervision.

This collaboration across traditional boundaries – between pre-hospital and hospital teams – shows how quality improvements can be made. It now means that 50% of patients receive thrombolysis within the 60 minute call to needle time.

A large part of the improvement has been due to the excellent progress made in speeding up treatment after arrival at hospital. In 2004 over 80% of patients were treated within 30 minutes of arriving at hospital – this is known as the ‘door to needle’ time.

The challenge now is to improve ‘call to needle’ time for patients who live further away from hospitals through the continued roll out of pre-hospital thrombolysis administered by paramedics.

### **Case study: Shropshire and Staffordshire Strategic Health Authority**

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In 2002 thrombolysis was identified as an area of concern that required improvement in the Authority’s Franchise Plan.

A number of projects were developed by the Coronary Heart Disease (CHD) Collaborative and cardiac network with frontline staff across the two counties. These included improving patient hand-over, data management and patient follow through. The result is a considerable improvement in access to thrombolysis across Shropshire and Staffordshire.

At Mid Staffordshire Hospital a multi-professional team of cardiologists, nurses and ambulance staff, led by Dr Paul Woodmansey, re-designed the thrombolysis service to improve access, education and communication between all staff. Additionally, Staffordshire Ambulance Service implemented a highly successful out of hospital thrombolysis service, delivered by specially trained paramedics.

Dr Woodmansey said: “This collaborative style of working has been a key factor in the marked improvement in call to needle time at Stafford. Through education, improved awareness and better communication across the trust and with ambulance colleagues, patients in Stafford now have faster access to life saving services.”

At Queens Hospital, Burton, the process and ways of working in the Emergency Department (ED) have been redesigned leading to a significant improvement in door and call to needle times. This includes:

- developing the role of chest pain / resuscitation nurses;
- providing formal and informal multi-disciplinary education through the cardiac specialist nurse;
- the installation of new cardiac monitoring equipment to enable more appropriate observation and assessment in the ED; and
- increasing the liaison between the ED and Coronary Care Unit for information, support and advice.

Improvements have also been made in data quality and performance. The Information Support Officer thoroughly collects and verifies MINAP data and the specialist cardiac nurse feeds this back to clinicians. Data is also fed back to feeder ambulance services to further aid service improvement and support seamless care for patients.

## Primary Angioplasty

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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 angioplasty as the main or first treatment for patients suffering from heart attack.

Last year, the Government made £1 million available to pilot ways of providing angioplasty as a main or first treatment. The National Infarct Angioplasty Project will test different models of providing this treatment in different parts of the country and help assess the practicality of introducing this way of treating heart attacks more widely.

The following will be pilot sites:

- West Yorkshire Primary PCI Service
- West London Primary Angioplasty Service
- Primary PCI for Greater Manchester
- Barts and the London Direct AMI service
- South Tees Primary Angioplasty Project
- Royal Devon and Exeter Primary Angioplasty Project
- South East London Primary Angioplasty Pilot

The study will concentrate on the practicalities of developing a primary angioplasty service looking at different service models in different parts of the country.

There have been numerous studies addressing the relative benefits of primary angioplasty as against thrombolysis as a treatment for heart attack. Whilst primary angioplasty can re-establish coronary flow in more cases than thrombolysis and can still be beneficial for up to 12 hours after onset of symptoms, it cannot always be delivered with the necessary speed.

The key to improving outcomes after heart attack is to re-establish coronary artery flow as quickly as possible and limit damage to the heart muscle. Together, thrombolysis and primary angioplasty both have a part to play in improving outcomes for people suffering from heart attack.

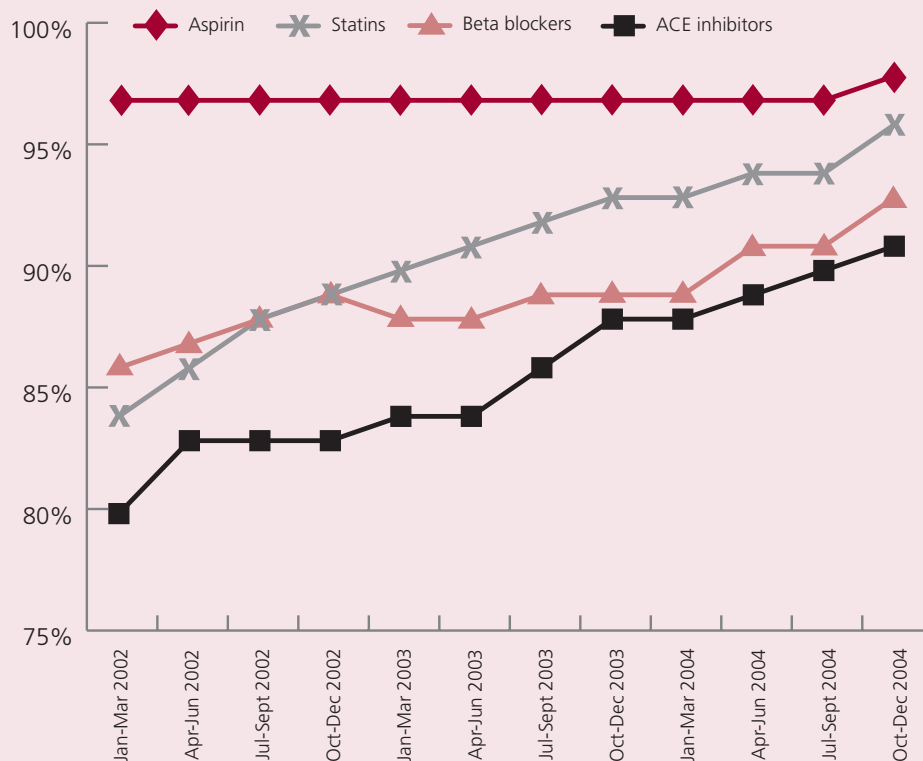
The NHS Service Delivery and Organisation Research and Development Programme will be commissioning the evaluation of the primary angioplasty study.

## Use of effective medicines

The CHD NSF set out guidelines to ensure that the NHS improved the use of effective medicines after heart attack so that 80-90% of patients discharged from hospital should be given drugs such as aspirin, beta blockers or statins to help prevent another heart attack.

This graph, using data from MINAP, shows that more than 90% of CHD patients discharged from hospital leave with the appropriate drugs to help control their condition.

### Proportion of patients discharged on medication 2002-04

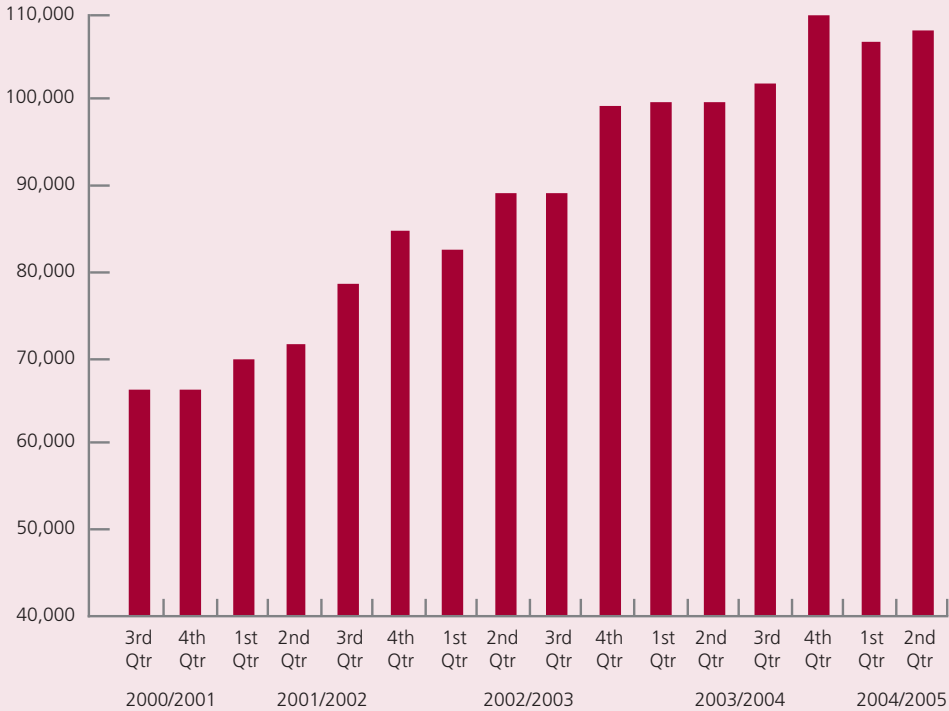


### Faster diagnosis of heart conditions

The CHD NSF states that people with symptoms of angina or suspected angina should receive appropriate investigation and treatment to relieve their pain and reduce their risk of coronary events. Speedy investigation is also important for the significant proportion of patients who do not have heart disease, so that they are saved months of unnecessary worry and anxiety.

Numbers of patients being referred by their GPs with symptoms which could be CHD have almost doubled since the publication of the CHD NSF, as shown in the graph below:

**GP referrals to cardiology out-patients each quarter**



**Rapid Access Chest Pain Clinics**

Rapid Access Chest Pain Clinics (RACPCs) are a key example of how CHD services have been reorganised to speed up the patient journey whilst providing a service that is as convenient and manageable as possible for the patient.

These clinics were established across the country between 2000 and 2003. They provide a one-stop service, so that patients undergo the basic clinical assessment and investigation necessary to confirm or exclude coronary heart disease, in one visit.

Patients are now being given a diagnosis or the “all clear” in two weeks, instead of the months they used to have to wait. In March 2001, 75% of patients were seen at a RACPC within 14 days of referral. By the end of 2004, 94.5% of patients were seen at a RACPC within 14 days of referral.

## Case study: re-organising services

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Around 240 patients with stable angina, symptoms which can be managed with drugs and lifestyle changes, are benefitting from better organised services at a Berkshire hospital.

A team of staff including project manager Adrienne Webb, cardiac nurse specialist Katie Summers, diabetes nurse specialist Grace Vanterpool and Slough PCT's Jacqui Wright worked together to agree and pilot an "Angina Plan" clinic in the Slough PCT area.

The project team worked together to ensure that better systems were in place to link diagnosis, rehabilitation, and measures to stop the disease worsening and minimise the risk of further coronary episodes. They produced:

- referral protocols
- referral criteria
- patient diary to measure effectiveness of the plan
- angina Plan information leaflet
- discharge proforma
- patient evaluation sheet to record satisfaction and lifestyle changes

After five weeks at the Angina Plan clinic, patients were reporting reductions in their symptoms of between 25% to 50%. All said they are more active.

"One previously housebound patient was given the angina plan relaxation and chest pain advice tapes," explained Adrienne.

"She agreed to listen to one song every day and to do some gentle dancing to the tune. This patient is now dancing to three songs per day and is able to walk to the shops and to the temple. She has even also booked a holiday.

"We're really proud of this work because of the real benefits it is bringing to patients. This gives me a real sense of achievement and makes all the hard work so worthwhile.

"We have used other Collaborative programme's experience to help guide us to what needs to be done and worked well across the primary and secondary care boundaries to achieve the results."

"And according to their individual needs, patients and their partners are educated on medication, lifestyle, regular review and recognising when further intervention may be needed."

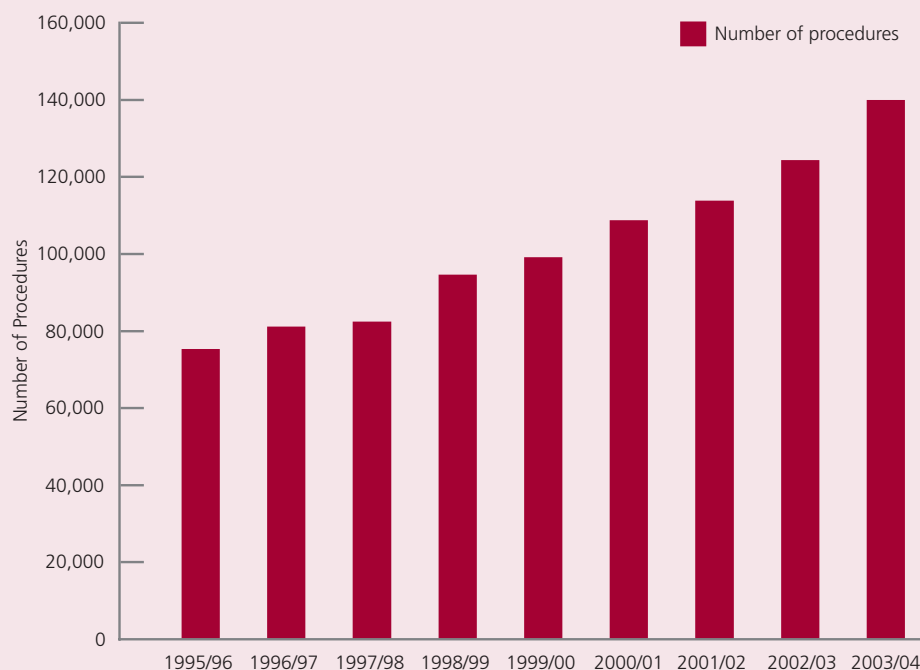
## Angiography

Angiography is a diagnostic procedure in which a fine catheter is inserted via a blood vessel to inject dye into the coronary arteries. An x-ray is then taken of the heart and the dye highlights the size and location of any abnormalities or blockages. This image is then used to help clinicians decide which course of treatment is appropriate for the patient.

In 1997 it was not uncommon for patients to wait well over a year for angiography. By December 2005 no one should wait more than six months for angiography, and by the end of 2008 angiography will have to be completed in time to allow a maximum 18 week wait from GP referral to treatment.

Whilst waiting times for angiography are rapidly decreasing, the number of diagnostic angiography procedures has increased by over 40% since the CHD NSF was published.

### Number of angiography procedures



To support this growth in demand, combined funding from the Big Lottery Fund and the Department of Health of £125 million is being used to build and equip 90 new or replacement catheterisation laboratories in England. This will result in a more than 50% increase in capacity (see page 53 in Chapter 4).

## Managing new demand for improved diagnosis

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At the time the National Service Framework was published a new diagnostic test, called troponin testing, became available for people with suspected heart problems. The increased investment in cardiac services over the past five years means that the NHS has been able to introduce this rapidly. Before the test, people with serious and life-threatening heart disease could go undetected and these patients were often sent home without any further follow up or appropriate treatment.

As the test has been introduced, increasingly the NHS has radically improved its ability to respond effectively to the care of patients with these conditions. Instead of being sent home, they are kept in hospital where expert monitoring and care is available and put on a list for urgent diagnostic angiography and treatment, if necessary. In some parts of the country, this led to patients waiting for a week or more in their local hospital for transfer to a specialist hospital where tests and treatment could be carried out.

Over the past twelve months there has been focused effort to ensure that this new and growing group of patients are seen quickly, improving their care and making better use of the hospital beds in their “home” hospital. The £125 million investment programme in catheterisation laboratories has been putting in place the buildings and equipment needed to meet this new demand, and the CHD Collaborative have been successfully supporting local services in reorganising their systems for ensuring prompt care for these patients.

### Case study: reducing waiting time

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Southampton University Hospitals NHS Trust and the CHD Collaborative have reduced waits from around up to five weeks to less than a week by launching a six bedded regional transfer unit (RTU).

The RTU at Southampton General Hospital provides fast access to specialist services for patients who are referred from seven district general hospitals across central southern England.

Clinical director for Southampton's Cardiothoracic services Dr Tony Salmon said: "Before we opened this unit, around 60 patients would be in district general hospital beds on any given day while they waited to come to Southampton.

"Now patients who need our specialist skills get here much faster, which is obviously better for them, and the district hospitals are able to bring more people in as their beds are freed up."

"The £50,000 investment cost of setting up the Regional Transfer Unit was met by the trust. Estimates suggest it will save well in excess of one and a half million across the network in bed days saved."

Officially opened in November 2004, the unit aims to take in 20 patients a week for detailed diagnostic tests and, where appropriate, treatments including angioplasty and stent at Southampton's cath lab. Over 800 patients are expected to use the unit by September 2005.

CHD Collaborative project manager Sarah Scrase said: "Historically the average length of stay for patients once transferred to Southampton was 5.05 days.

"Now the patient stays on average no longer than 24 hours."

She added: "Hampshire Ambulance Service NHS Trust has also worked closely with the hospital to develop a patient transfer service tailored to local requirements. This has been critical to the overall success of the project.

Six beds at the Wessex Cardiothoracic Unit have been set aside for the transfers. Doctors there use a new referral system that allows them to quickly identify which patients are most suited and may benefit most from the RTU's services.

At the District General Hospitals, staff have to complete a referral form before the patients are accepted. The new form ensures that all patients have been checked for clinical suitability, they are ready for transfer and properly informed about what to expect once transferred.

Before arrival, transferred patients are allocated a catheter lab slot either on the afternoon of the transfer or the next morning. All patients leave the unit one day after their procedure. Most are discharged home although a few are transferred back to the DGHs.

## Shorter waits for surgery

In 1996 some patients in England waited over two years for heart surgery – from April 2005 waits over three months should be a thing of the past.

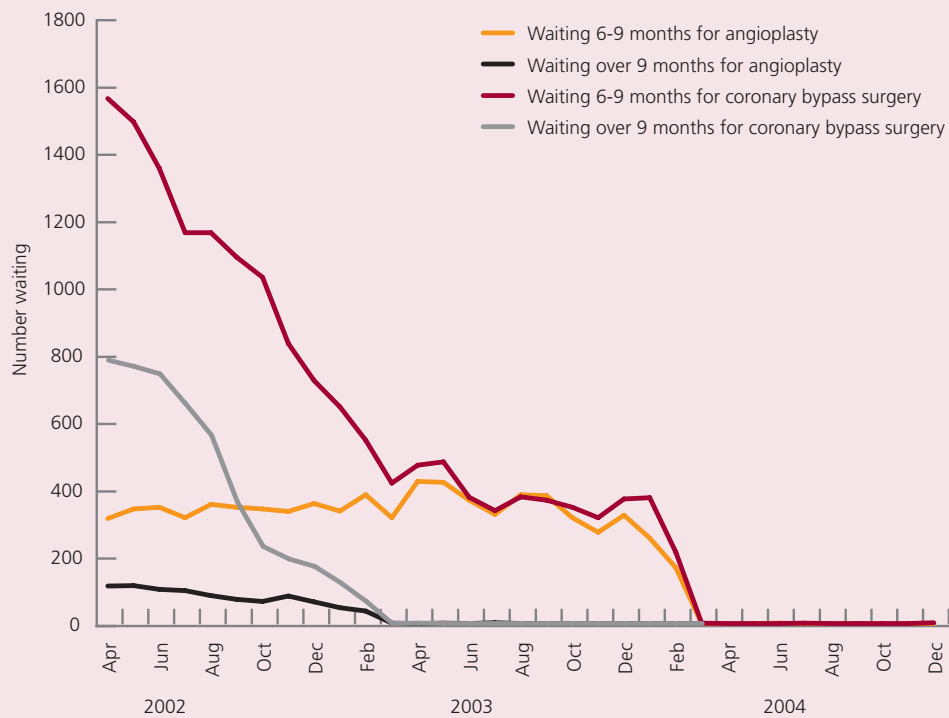
Many people live with 'stable angina' and manage their conditions with drugs and changes to their lifestyles. For others, following diagnostic angiography, a cardiologist or heart surgeon may advise either angioplasty or heart bypass surgery.

Both of these procedures are called 'coronary revascularisation'. They can relieve the angina symptoms more effectively and, for some people, can prolong life.

In the past, the overall rate of coronary revascularisation in this country was low. The CHD NSF aims to tackle this by re-designing services, and investing in staff, buildings and equipment.

The next graph shows the dramatic fall in waiting times for coronary revascularisation. This fall is despite the significant growth in the number of operations carried out.

**Graph showing the number of people waiting for 12 and 6 months**  
Trend in number of people waiting for heart treatment

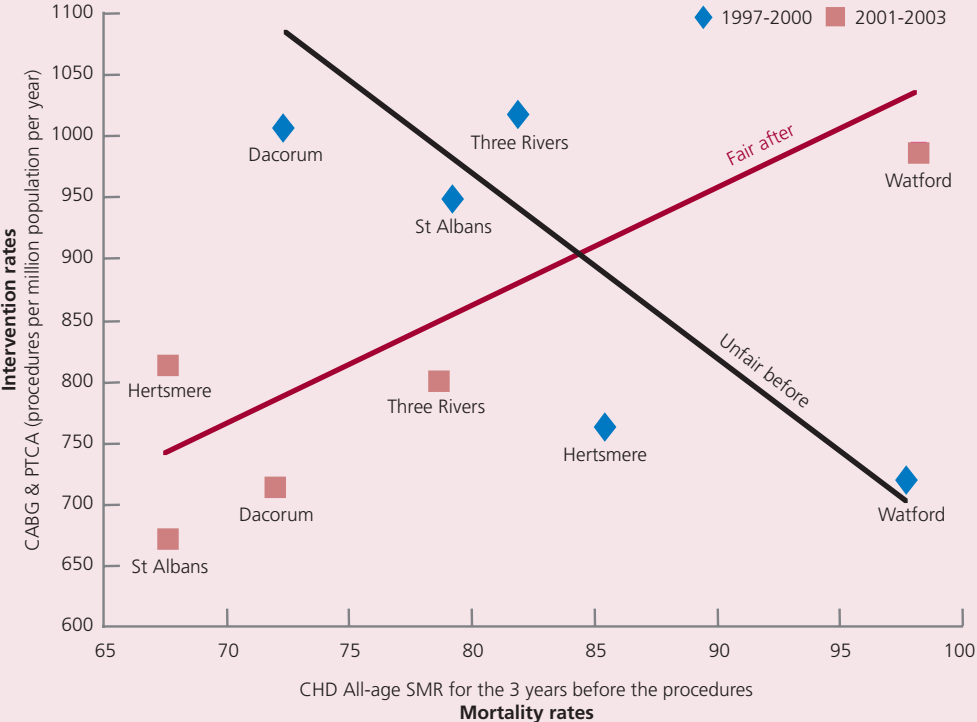


A number of factors are contributing to falling waiting times:

- more staff – more heart surgeons, more cardiologists and more nurses;
- new facilities – investment in new and expanded hospitals, specialist catheterisation labs, and new equipment;
- greater efficiency – better management of staff and resources to make the most of capacity; and
- patient choice initiative – allowing patients to go to wherever they can be treated soonest.

We also know that the increase in the number of coronary revascularisation procedures being carried out is being properly targeted. The graph below shows how the re-allocation of revenue within a community can improve equity of access to revascularisation.

**The improvement in West Hertfordshire coronary revascularisation equity before and after introducing the CHD NSF**



Source: Doctor Iain Buchan, University of Manchester, all denominators are based on Census 2001 projections

## CHD Choice – leading the way

Cardiac services are leading the way in offering patients a choice of where to have their operation.

CHD Choice began in July 2002 when any patient waiting over six months for a heart bypass, angioplasty or heart valve operation was offered the choice of treatment at an alternative hospital to that at which they had been waiting.

About 50% of those patients offered a choice, went for treatment at an alternative hospital.

From April 2005, patients referred for heart bypass and coronary angioplasty operations should be offered a choice of two hospitals for that treatment. They will be offered a choice at the time they are referred for treatment. By December 2005, this will extend to a choice of 4-5 hospitals.

In December 2003 the Picker Institute carried out a survey of patients' experience of CHD Choice. Comments included:

**"I received all the necessary information to make the decision and I underwent triple bypass surgery in August 2003. The whole experience was totally positive in that the standards of general arrangements – medical, patient, nursing, dietary, physio and aftercare – were all of the highest professional, personal and caring standards."**

**"After speaking to my Patient Care Advisor (PCA), he gave me all the information about alternative hospitals. I put my full trust in his advice. I was in and operated on within 21 days. Everything was perfect. The PCA and the hospital kept family and friends fully informed at all times and always treated them with respect and courtesy, for which we were very grateful."**

**"The PCA influenced my decisions through providing me with the necessary information which enabled me to make an informed choice of where to have my treatment given the things that were important to me and my circumstances."**

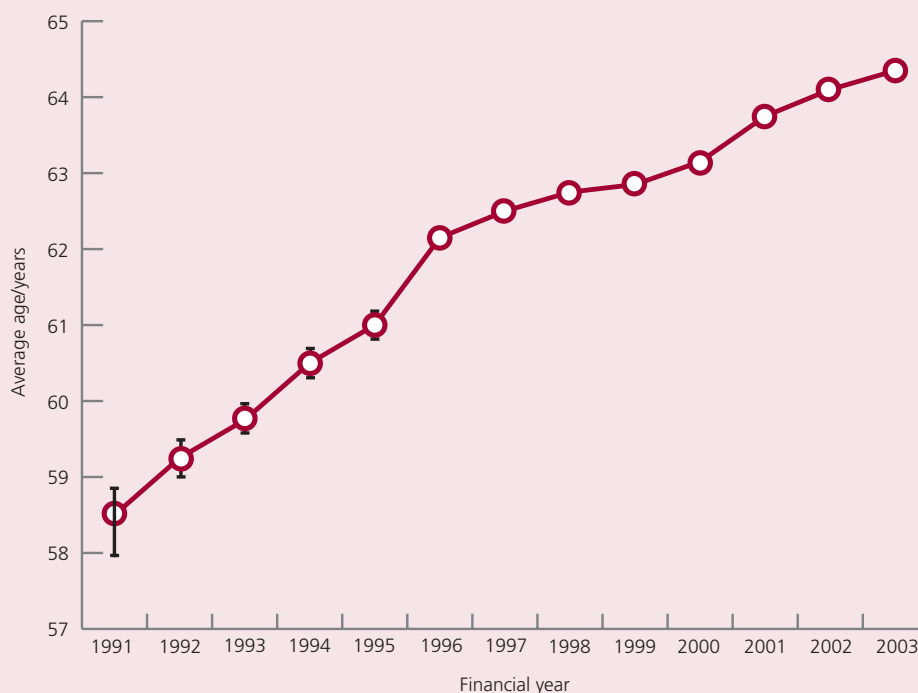
## Better Treatment

With more revenue, more staff, new buildings, more equipment and advances in clinical practice, the NHS is not only increasing the number of operations carried out and reducing waiting times for patients. Critically, it is also ensuring better health outcomes for patients treated.

The graph below shows that over the last ten years the proportion of patients over 75 who had heart bypass surgery has increased from 2.2% to 10%, and almost 30% of patients are over 75 which represents a doubling over the last decade.

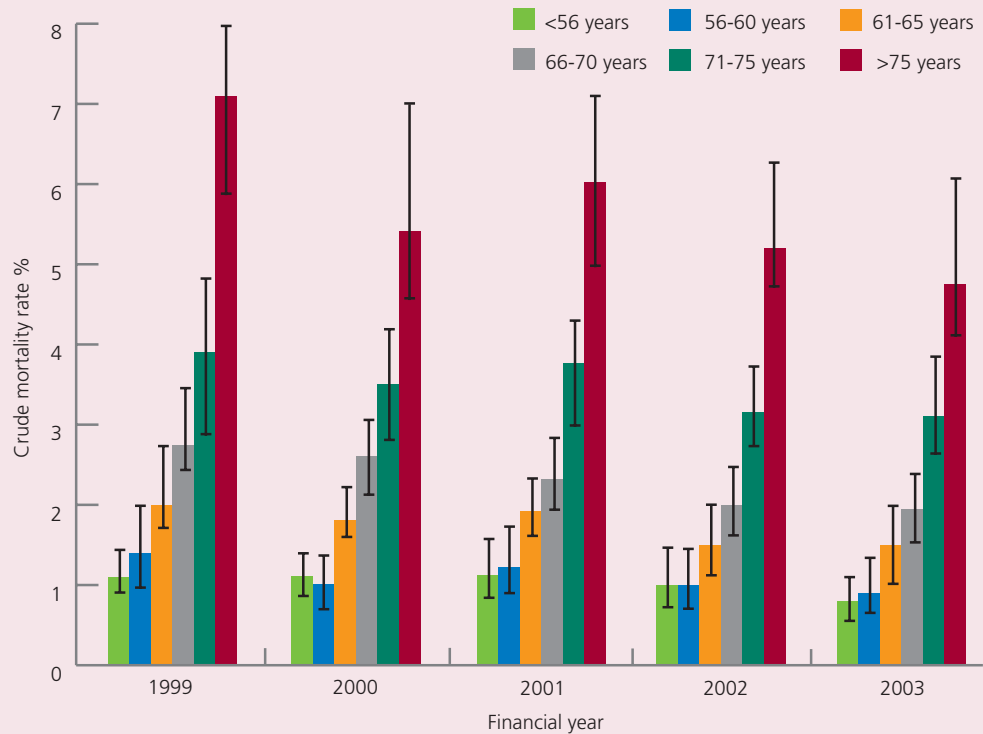
The current trend is that the average age of coronary surgery patients is increasing at the rate of two years every five years. Although this trend is steady and sustained, there are still differences between centres; the breadth of this difference was five years in 2003 as shown in a later graph.

**Isolated CABG: average age; bars denote standard error (n=144,333)**



Although older patients have a higher post-operative mortality rate, outcomes have improved for all age groups over the last five years, most noticeably in the oldest age groups.

### Isolated CABG: Crude mortality by age category (n=106,797)



In international terms, surgery in England continues to compare well with other countries. The average mortality in England for 2001 to 2003 was 1.8%, compared to 2.3% in the United States.

Heart surgeons have led the way in a new openness about the way they work and the outcomes of their work. For some years now the Society of Cardiothoracic Surgeons of Great Britain and Ireland have published information on surgical outcomes by individual hospital.

In September 2004 they took a further step forward in publishing information about the quality of care and outcomes provided by each individual surgeon. As the data underpinning this information is not yet adjusted for how risky the patients they treated were, it is important that it is regarded with caution and that other factors, such as the quality of post surgical care and other members of the clinical team is taken into account.

The Society continues to work with the Department of Health and the Healthcare Commission to collect and analyse risk adjusted data which will allow more meaningful information to be published to provide information to patients and the public.

## Rehabilitation

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After admission to hospital, because of a heart attack or for coronary revascularisation, many patients need to be helped to understand their illness and its treatment. They may need assistance to make lifestyle changes that will enable them to regain their confidence and so return to as full and as normal a life as possible.

The CHD NSF set standards to improve cardiac rehabilitation, requiring trusts to ensure that heart patients are invited, before they leave hospital, to participate in secondary prevention and cardiac rehabilitation programmes.

The CHD Collaborative is working in a number of areas to ensure patients are properly supported once they arrive home after heart surgery. High standard rehabilitation services are not yet consistently available throughout the country and further effort will be needed over the next five years to address this. By using the work already undertaken by the Collaborative, improving rehabilitation services for heart patients will be a major focus of the next phase of the implementation of the CHD NSF.

## Case study: rehabilitation in North West London

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More cardiac patients in North West London are being exposed to the benefits of rehabilitation thanks to a flexible programme which is tailored to their needs.

The 'Flexi Heart Plan' allows 1,200 patients a year to choose between individual or group sessions, at home or in hospital and at a time which is convenient to them.

The team set up a central clearing system so that all patients who need cardiac rehabilitation are referred from tertiary and secondary care. The system also identifies high-risk patients, which are referred to a hospital-based exercise programme, but can take up all other aspects of the plan.

The process begins when the PCT cardiac nurse team invite patients to attend 'lifestyle days' at venues in their local communities. After assessment, they are offered a mentored personalised programme of care through a designated cardiac nurse.

Menu options include a 'healthy heart' course, a home or hospital based exercise programme, chair-based exercise for the less mobile, heart failure and Asian workshops, counselling, support and an interactive manual.

The nurse team organise talks on subjects requested by patients or carers and there is opportunity to browse through stalls offering a range of literature. PCTs also offer home exercise videos, exercise tools such as pedometers and stretchy bands. In Harrow a British Association Cardiac Rehabilitation exercise trainer is available to visit patients at home and arrange an exercise plan.

Through regular telephone and one-to-one contact, all patients are mentored for at least six months and home visits offered where patients are unable to attend starter days.

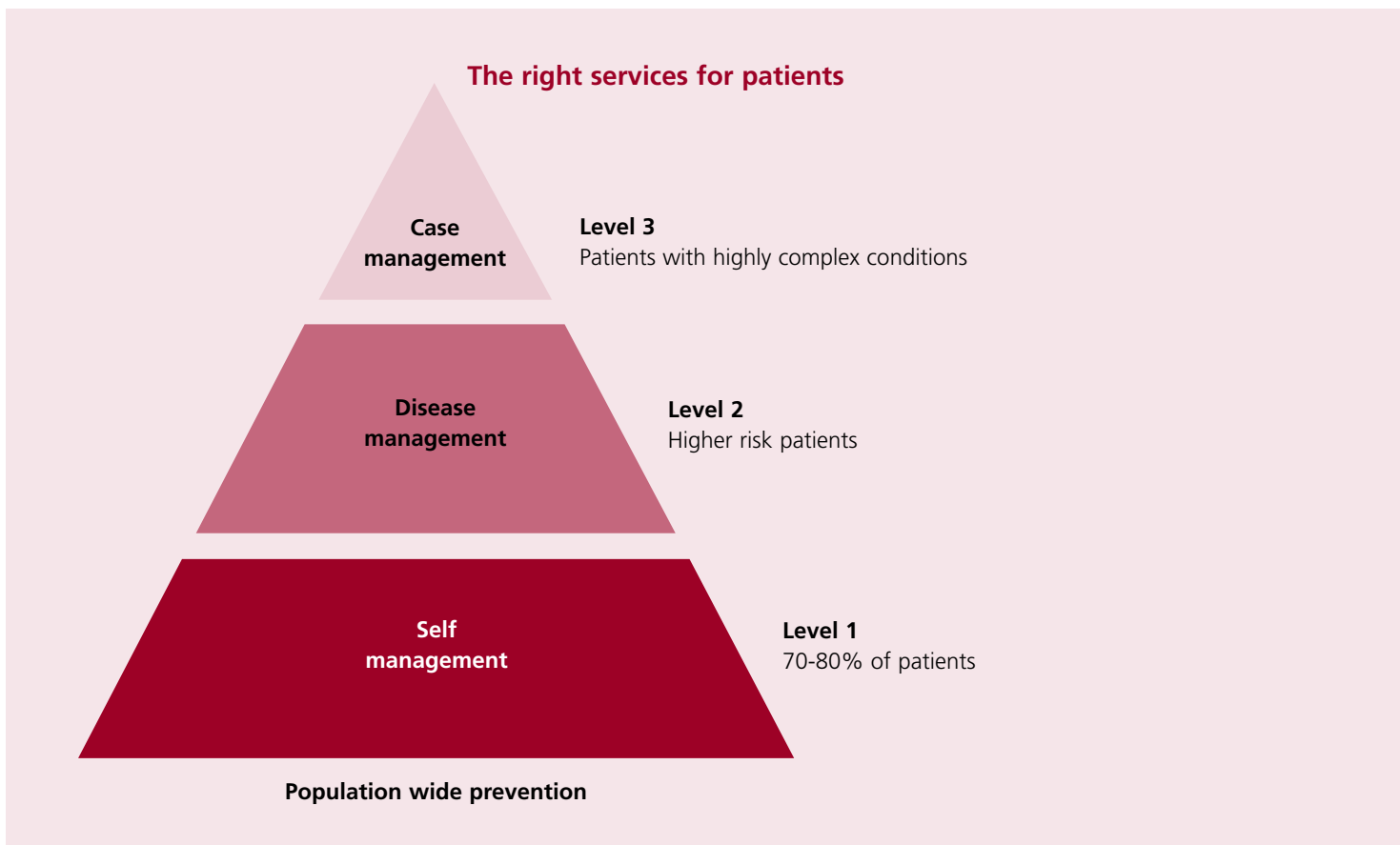
# 3

## Delivering high quality managed care for people living with heart disease

**The NHS needs to provide a much better service for patients with long term conditions and provide high-quality personalised care to meet their needs.**

**The NHS Improvement Plan June 2004**

The *NHS Improvement Plan* identifies the need for personalised support for patients with long-term conditions. It says that while patients will need individually tailored care, they can broadly be divided into three groups requiring different levels of support.



## Heart failure

One of the most common long-term conditions is heart failure. Heart failure is caused by a reduction in the heart's ability to pump blood around the body. There is no cure for heart failure and it can impact severely on people's quality of life. Many patients with heart failure will also suffer from other long term conditions such as diabetes. However, proper diagnosis and community-based care, set out in the CHD NSF, can help people to live longer and achieve a better quality of life.

The model detailed in the *NHS Improvement Plan*, for providing the right services at the right time for people with long-term conditions is already being applied to services and care for people living with heart failure.

The emphasis is on providing specialised help to those in the greatest need, with the aim of helping them to manage their condition more confidently and to minimise the number of unplanned hospital admissions. Many patients will need all three levels of support at different times.

The British Heart Foundation heart failure nurses have been successfully using this approach with heart failure patients. Patients are being helped to understand their condition, its symptoms and to be confident in recognising the signs which mean they need to call for help before they reach crisis.

The CHD NSF Standards on heart failure were strengthened by publication of a clinical guideline on heart failure by the National Institute of Clinical Excellence (July 2003), and by the new GMS contract. The GMS rewards GPs for maintaining registers of heart failure patients and emphasises the need for a confirmed diagnosis, as well as appropriate management. In addition, the NHS is setting local targets to reduce emergency admissions for heart failure.

**The British Heart Foundation (BHF) funded a pilot of 16 specialist heart failure nurses based at six different sites across the UK. The nurses provided community-based care to heart failure patients. The pilot ran from April 2002 and the evaluation was published in April 2004. It found that the nurses were both effective in preventing avoidable hospital admissions and very popular with both patients and carers. This sort of community-based approach is very similar to that being adopted for work on long-term conditions more generally.**

**Since the pilot, the BHF, with the help of a £9.4 million Big Lottery Fund award, has gone on to fund a further 81 heart failure nurses, and is in the process of 'adopting' a further 35. The BHF also funds nearly 100 other specialist heart nurses in other areas of heart disease care, and plans to continue to expand the nurse project over coming years.**

## **b-type natriuretic peptide (BNP) testing**

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Accurate diagnosis is key to the proper management of heart failure. However, this in itself presents problems. Symptoms and signs which make a doctor suspect heart failure are fairly insensitive and non specific. For example, only a small proportion (10-25%) of patients presenting with shortness of breath have heart failure.

The definitive test for heart failure is echocardiography, but it is not yet feasible to apply this to all patients whose symptoms might indicate heart failure. However there are other tests available – ECG and/or BNP – which, while they cannot confirm heart failure, can rule it out.

The NICE guidelines on managing heart failure found the use of BNP to rule out heart failure meant that a higher proportion of those patients being referred on for an echocardiogram were actually experiencing heart failure. This meant patients received follow-up treatments faster and also led to more efficient use of echocardiography services.

*Developing Services for Heart Failure* (Department of Health, 2003) set out a model for BNP use which demonstrated that it could be a very effective and cost-effective tool in diagnosing heart failure. Work is currently underway to refine the model.

## Palliative care

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The CHD NSF states that good symptom control, psychological support and open communication about disease outcomes should be offered to all patients suffering from heart failure; and that when the underlying aim of treatment is to control symptoms, a palliative approach with help from palliative care specialists can improve a patient's quality of life.

Palliative care services have largely been developed for cancer patients, but there is general recognition that the same principles apply to any terminal condition. The NICE guideline on palliative care, while discussing the specifics of care for cancer patients, is clear that much of their guidance is generic and applies to conditions such as heart failure.

Work is now underway to apply the existing models for providing appropriate and high quality palliative care – the Macmillan Gold Standards Framework and the Liverpool Care Pathway – to cardiac patients. This work will benefit from the £12 million allocated by the Government to fund training programmes to spread palliative care skills and principles.

**A pilot project in Kirkby has involved the hospital heart failure nurse practitioners and the cardiologist in identifying 'patients with end stage heart failure.' These patients are referred to and assessed by the community cardiac nurse and district nurses. The patients are then placed on the Gold Standards Framework register and so get access to the co-ordinated care and facilities.**

**A patient in Hull told of his frustration after he was discharged from hospital because his GP did not receive information about his treatment. As a result of a Discovery Interview, clinical staff created a hand held potted history sheet, which is held in an easy to carry credit card sized wallet.**

## New NSF Chapter for Arrhythmias and Sudden Cardiac Death

The NSF published in March 2000 concentrated primarily on disease in the arteries. The Government is now widening the scope of the original NSF with a new chapter on arrhythmias and sudden cardiac death. It provides new models of care and markers of quality to support further improvement of services in these areas.

Arrhythmias, or irregular heartbeats, range in their severity – from a minor inconvenience or discomfort to a potentially fatal problem. The symptoms a person may experience include palpitations, dizziness or blackouts. They are very common, particularly among older people. They can have a profound effect on the quality of life of the people who suffer from them.

The new chapter also gives special attention to sudden unexplained cardiac death. Where there is little or no warning of death in a young person, each family story is a tragedy. This document aims to prevent some of these tragedies and ensure that there is appropriate support for the families for people who die unexpectedly.

The quality requirements are:

- 1. Patient Support:** People with arrhythmias receive timely and high quality support and information, based on an assessment of their needs.
- 2. Diagnosis and Treatment:** People presenting with arrhythmias, in both emergency and elective settings, receive timely assessment by an appropriate clinician to ensure accurate diagnosis and effective treatment and rehabilitation.
- 3. Sudden Cardiac Death:** When sudden death occurs, NHS services have systems in place to identify family members at risk and provide personally tailored, sensitive and expert support, diagnosis, treatment, information and advice to close relatives.

## Case study: CRY



**Laura John (14) from Southampton took on the prestigious role as official 'coin tosser' for the Men's Singles Final at the Wimbledon Tennis Championships 2004 – representing the national charity, Cardiac Risk in the Young (CRY).**

Just a few years ago, Laura was warned that

she would never be able to take part in sporting activities, such as tennis, due to a potentially fatal hereditary heart defect. However, Laura and her older sister, Danielle (17) have both been fitted with life-saving cardiac implants and – with support from CRY – can now lead an active life, like that of their friends and other teenagers.

The girls' Dad Dave, died suddenly at the age of 32 from sudden arrhythmia death syndrome (SADS). After screening at Southampton General Hospital they were both identified as being at risk of serious arrhythmia. They had to make drastic changes to their lifestyle including stopping all sporting activities. In 2000 they were fitted with the implants, that send a life-saving electric shock to the heart when an irregular heart beat is detected.

# 4

## Making it happen

### National target, local action

*The NHS Improvement Plan* (July 2004) and the supporting document National Standards, Local Action make clear that the Government is committed to reducing the number of targets it sets for the NHS and for minimising the burden of data collection. There will be few national targets and greater scope for local organisations to tackle local priorities.

### Fewer national targets

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CHD remains a top priority and there is a high level Public Service Agreement (PSA) target specifically for CHD for the period 2005/06 – 2007/08:

*To reduce the death rate from coronary heart disease, stroke and related diseases in people under 75 by at least 40% by 2010, with at least a 40% reduction in the inequalities gap between the fifth of areas with the worst health and deprivation indicators and the population as a whole.*

In addition, the Department's PSA target for long-term conditions encompasses services for people living with CHD – especially heart failure.

*To improve health outcomes for people with long-term conditions by offering a personalised care plan for vulnerable people most at risk and to reduce emergency bed-days by 5% by 2008, through improved care in primary care and community settings for people with long-term conditions.*

*National Standards, Local Action* sets out a range of existing commitments detailed in the 2003-06 planning. For heart disease these are:

- In primary care, update practice-based registers so that patients with CHD and diabetes continue to receive appropriate advice and treatment in line with NSF standards and, by March 2006, ensure practice-based registers and systematic treatment regimes, including appropriate advice on diet, physical activity and smoking, also cover the majority of patients at high risk of CHD, particularly those with hypertension, diabetes and a BMI greater than 30.
- Deliver a ten percentage point increase per year in the proportion of people suffering from a heart attack who receive thrombolysis within 60 minutes of calling for professional help.

### Local priorities

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Although CHD is a national priority for which national targets and commitments have been set, different localities will face different additional priorities relating to local demographic patterns and other factors. It is important that localities should have the freedom to set themselves challenging local targets to address local needs. To assist localities in setting local targets and measures, a set of *Better Metrics* has been developed and these include a range of potential indicators for heart disease and stroke.

### Planning for delivery

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The next planning round, for 2005-08, will build on the achievements already made and focus on improving management of risk factors for heart disease in order to reduce mortality further and narrow health inequalities. The indicators are:

- **Reducing mortality** – Mortality rate from heart disease and stroke and related diseases in people aged under 75
- **Better identification of people who are at high risk of developing heart disease** – Numbers of GP practices with PCT-validated registers of patients without symptoms of cardiovascular disease but who have an absolute risk of CHD events greater than 30% over the next 10 years
- **Improved treatment and prevention of high blood pressure** – Percentage of patients with CHD whose last blood pressure reading (measured within the last 15 months) is 150/90 or less.
- **Improved treatment and prevention of high cholesterol levels** – Percentage of patients with CHD whose last measured cholesterol (measured within the last 15 months) is 5mmol/l or less.

SHAs will use these LDP lines to work out what progress they need to make on these areas to help meet the national PSA, including the inequalities component, and then to track progress against trajectory, revising local plans and activity as necessary against performance.

## Incentives

The new NHS and social care system will be incentivised to deliver better services for patients. Developments are now being made across three broad areas:

- independent performance assessment by the Healthcare Commission and CSCI
- a new system of financial incentives
- the development of commissioning.

## Independent assessment

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The Healthcare Commission is currently developing assessment criteria which it will use to determine whether core standards have been met and to judge progress against developmental standards. Consultation on these assessment criteria, some of which will be directly relevant to CHD, was completed in February 2005. The health care commission will publish the 2005/06 assessment framework early in the new financial year and will follow this up with more details assessment criteria.

The performance of PCTs, Acute Trusts, Mental Health Trusts, Learning Disability Trusts and NHS Foundation Trusts for the year 2005/06 and beyond will be assessed on this new basis.

## Financial incentives

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A new tariff-based financial system, Payment by Results, is being introduced across the NHS. Payment by results will support patient choice by enabling funds to follow individual patient choices for treatment. By 2008, patients referred by their GP will be able to choose any provider able to meet NHS standards and to deliver care at tariff.

## Commissioning

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The importance of PCTs making full use of commissioning levers is emphasised in National standards, local action. Some aspects of cardiac care are appropriately commissioned by individual PCTs. Other aspects will be most effectively commissioned by PCTs working together through CHD networks.

## Continued investment in the infrastructure

### Investment in buildings, equipment and technology

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Heart patients will continue to benefit from the increased investment to the NHS as a whole.

£600 million is being invested directly to improve and expand England's cardiac facilities and patient care environment.

Patients are now using new facilities at Papworth, South Tees and Central Manchester. In October 2004 a new £60 million state of the art heart and lung centre was opened in Wolverhampton significantly expanding the capacity for local residents.

The New Cross Hospital, Royal Wolverhampton Hospitals NHS Trust which opened on 3 October 2004



The Cardiothoracic Centre at Broadgreen in Liverpool will open the doors to its new wing in the summer of 2005, providing a much needed increase in capacity for residents of the North West of England and North Wales.

The Cardiothoracic Centre, Liverpool NHS Trust



The cardiothoracic centre at Basildon & Thurrock University Hospitals Trust, NHS Foundation Trust



A number of other large new units are planned in Oxford, Bristol, Blackpool and Essex, with the new cardiothoracic centre opening in Basildon in September 2006. This will offer Essex residents improved local access to diagnostics, surgery and angioplasty.

Leicester will open the doors to its new and modernised services in September 2005.



In Kent, Leeds and Manchester funding has been provided for new and upgraded cardiac centres. These developments all include the establishment of local networks of district general hospital angiography and angioplasty services offering more local care for local residents whilst working alongside the specialist services offered through tertiary centres.



The Department of Health is proud of the developments funded at Sheffield, Southampton, Plymouth, Dorset and Somerset, Newcastle and Hull.

Nottingham City Hospital is well on track with its new cardiothoracic centre and will offer patients care in a more modern and vibrant environment from July 2005.

Cardiothoracic unit at Nottingham City Hospital Trust



The capital treasury modernisation fund for cancer imaging equipment has had a very real impact on cardiac imaging too. Of the 75 wave one to six sites receiving new MRI machines, 23 with have cardiac capability providing an opportunity for enhanced imaging and diagnostics. In the longer term another 30 sites will take delivery of their new MRI equipment with many of these enabling improved cardiac care support.

In order to improve diagnostic facilities, the Department of Health and the New Opportunities Fund (now known as the Big Lottery Fund) have invested £125 million to build 90 new or replacement cardiac angiography laboratories. The last of these is anticipated to be delivered by November 2005. By the end of the year it is expected that the number of cath labs in the NHS will have increased by over 50% since 2002.

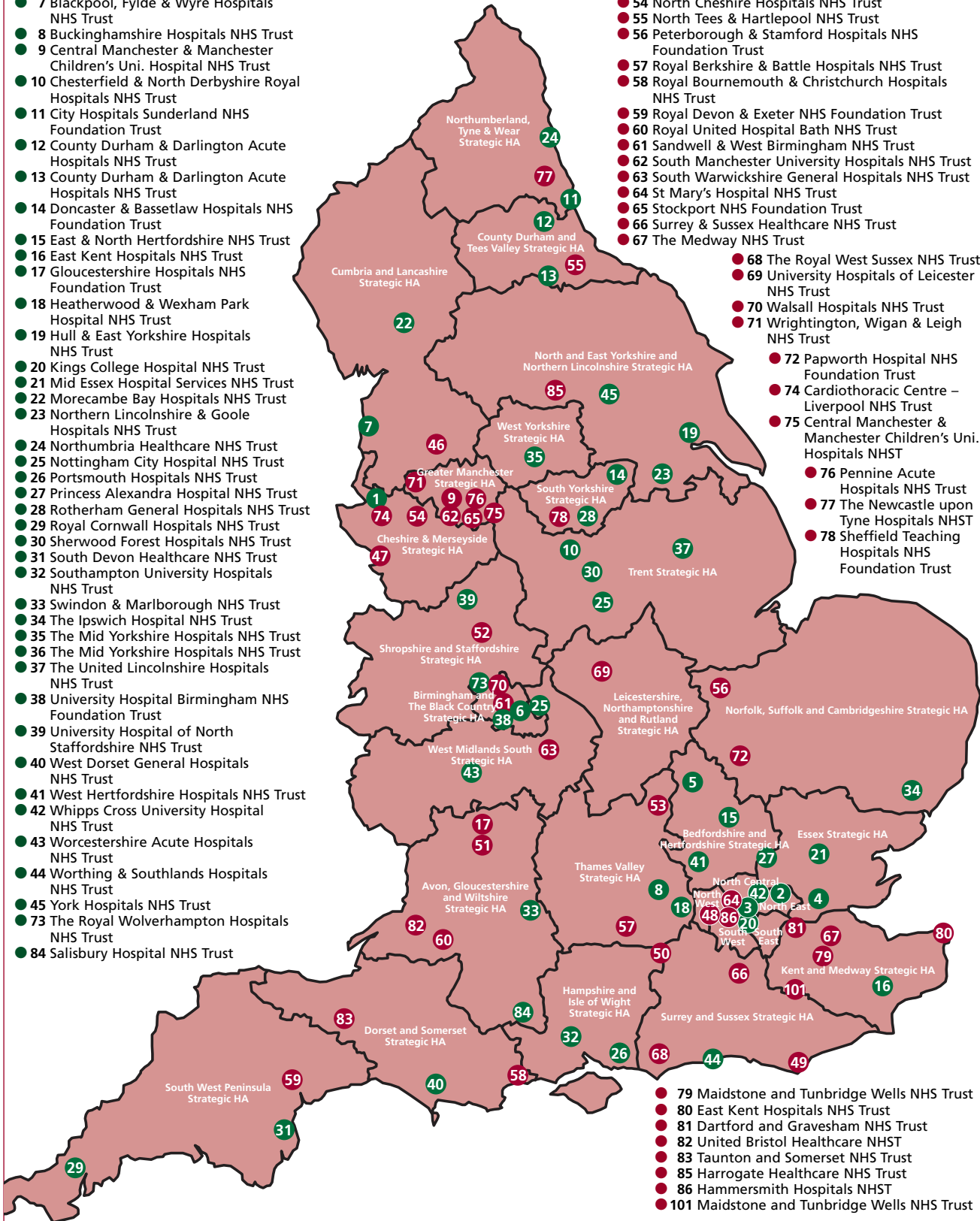
# NHS New Catheter Lab Services 2002-2007

## New Cath labs opened since 2002

- 1 Aintree Hospitals NHS Trust
- 2 Barking, Havering & Redbridge Hospitals NHS Trust
- 3 Bart's & The London NHS Trust
- 4 Basildon & Thurrock University Hospital NHS Foundation Trust
- 5 Bedford Hospital NHS Trust
- 6 Birmingham Heartlands & Solihull NHS Trust
- 7 Blackpool, Fylde & Wyre Hospitals NHS Trust
- 8 Buckinghamshire Hospitals NHS Trust
- 9 Central Manchester & Manchester Children's Uni. Hospital NHS Trust
- 10 Chesterfield & North Derbyshire Royal Hospitals NHS Trust
- 11 City Hospitals Sunderland NHS Foundation Trust
- 12 County Durham & Darlington Acute Hospitals NHS Trust
- 13 County Durham & Darlington Acute Hospitals NHS Trust
- 14 Doncaster & Bassetlaw Hospitals NHS Foundation Trust
- 15 East & North Hertfordshire NHS Trust
- 16 East Kent Hospitals NHS Trust
- 17 Gloucestershire Hospitals NHS Foundation Trust
- 18 Heatherwood & Wexham Park Hospital NHS Trust
- 19 Hull & East Yorkshire Hospitals NHS Trust
- 20 Kings College Hospital NHS Trust
- 21 Mid Essex Hospital Services NHS Trust
- 22 Morecambe Bay Hospitals NHS Trust
- 23 Northern Lincolnshire & Goole Hospitals NHS Trust
- 24 Northumbria Healthcare NHS Trust
- 25 Nottingham City Hospital NHS Trust
- 26 Portsmouth Hospitals NHS Trust
- 27 Princess Alexandra Hospital NHS Trust
- 28 Rotherham General Hospitals NHS Trust
- 29 Royal Cornwall Hospitals NHS Trust
- 30 Sherwood Forest Hospitals NHS Trust
- 31 South Devon Healthcare NHS Trust
- 32 Southampton University Hospitals NHS Trust
- 33 Swindon & Marlborough NHS Trust
- 34 The Ipswich Hospital NHS Trust
- 35 The Mid Yorkshire Hospitals NHS Trust
- 36 The Mid Yorkshire Hospitals NHS Trust
- 37 The United Lincolnshire Hospitals NHS Trust
- 38 University Hospital Birmingham NHS Foundation Trust
- 39 University Hospital of North Staffordshire NHS Trust
- 40 West Dorset General Hospitals NHS Trust
- 41 West Hertfordshire Hospitals NHS Trust
- 42 Whipps Cross University Hospital NHS Trust
- 43 Worcestershire Acute Hospitals NHS Trust
- 44 Worthing & Southlands Hospitals NHS Trust
- 45 York Hospitals NHS Trust
- 73 The Royal Wolverhampton Hospitals NHS Trust
- 84 Salisbury Hospital NHS Trust

## Cath labs to open within 2 years

- 46 Blackburn Hyndburn & Ribble Valley Healthcare NHS Trust
- 47 Countess of Chester Hospital NHS Foundation Trust
- 48 Ealing Hospital NHS Trust
- 49 East Sussex Hospitals Foundation Trust
- 50 Frimley Park Hospital NHS Trust
- 51 Gloucestershire Hospitals NHS Foundation Trust
- 52 Mid Staffordshire General Hospital NHS Trust
- 53 Milton Keynes General Hospital NHS Trust
- 54 North Cheshire Hospitals NHS Trust
- 55 North Tees & Hartlepool NHS Trust
- 56 Peterborough & Stamford Hospitals NHS Foundation Trust
- 57 Royal Berkshire & Battle Hospitals NHS Trust
- 58 Royal Bournemouth & Christchurch Hospitals NHS Trust
- 59 Royal Devon & Exeter NHS Foundation Trust
- 60 Royal United Hospital Bath NHS Trust
- 61 Sandwell & West Birmingham NHS Trust
- 62 South Manchester University Hospitals NHS Trust
- 63 South Warwickshire General Hospitals NHS Trust
- 64 St Mary's Hospital NHS Trust
- 65 Stockport NHS Foundation Trust
- 66 Surrey & Sussex Healthcare NHS Trust
- 67 The Medway NHS Trust
- 68 The Royal West Sussex NHS Trust
- 69 University Hospitals of Leicester NHS Trust
- 70 Walsall Hospitals NHS Trust
- 71 Wrightington, Wigan & Leigh NHS Trust
- 72 Papworth Hospital NHS Foundation Trust
- 74 Cardiothoracic Centre – Liverpool NHS Trust
- 75 Central Manchester & Manchester Children's Uni. Hospitals NHST
- 76 Pennine Acute Hospitals NHS Trust
- 77 The Newcastle upon Tyne Hospitals NHST
- 78 Sheffield Teaching Hospitals NHS Foundation Trust
- 79 Maidstone and Tunbridge Wells NHS Trust
- 80 East Kent Hospitals NHS Trust
- 81 Dartford and Gravesham NHS Trust
- 82 United Bristol Healthcare NHST
- 83 Taunton and Somerset NHS Trust
- 85 Harrogate Healthcare NHS Trust
- 86 Hammersmith Hospitals NHST
- 101 Maidstone and Tunbridge Wells NHS Trust



## **Investment in information technology**

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The National Programme for IT is bringing modern computer systems into the NHS to improve patient care and services. Over the next ten years it will connect over 30,000 GPs in England to almost 300 hospitals and give patients access to their personal health and care information, transforming the way the NHS works. Information will move around more quickly with health care records, appointments, prescription information, and up-to-date research into illnesses and treatments accessible to patients and health professionals whenever they need it.

## **More staff working differently**

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The demands on the cardiac workforce have increased greatly since the CHD NSF was published. The size of the workforce has expanded accordingly and will continue to grow further still.

The new investment in cath labs has led to large increases in the number of coronary angioplasty procedures performed. The number of GP referrals to cardiac outpatients has increased and will continue to increase demand on these services.

The CHD Collaborative has been providing support and encouraging staff to work differently.

## **Cardiologists and surgeons**

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The NHS Plan included targets for cardiologists for March 2004. These targets were exceeded and in June 2004 there were 694 cardiologists. At the same time the number of surgeons has also increased from 182 to 240.

## **Changing ways of working**

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The Changing Workforce Team, part of the Modernisation Agency, has been working on a project to look at different ways of working in cardiac catheter labs. This has involved training generic cardiac catheter lab staff, who may be one of cardiac radiographer, cardiac physiologist or cardiac nurse, or none of these. The training aims to extend people's skills so that they can take on other roles and therefore increase efficiency as it may be that fewer staff are needed.

## Case study: Greater Manchester Cardiac Network

### New approaches to recruit and develop the right people

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Along with its plans to increase the number of catheter labs from seven to tens, the Greater Manchester Cardiac Network also had to increase its cardiac workforce. They realised they had to rapidly recruit and train a significant number of new people in order to avoid delaying the opening of their new sites.

Greater Manchester – in common with most parts of the country – had a lack of trained cardiology physiologists. National adverts failed to produce a response, and it was obvious they had to develop a number of solutions to the problem.

#### Fast track training for cardiology physiologists

It was decided to target job advertisements at Sports Science graduates. These were an untapped pool of talent with much of the underpinning knowledge already required, and with a proven track record. These new students were put on to the second year of the HNC at the Manchester Metropolitan University, giving the centres the ability to produce competent cath lab cardiology physiologists in less than 2 years.

#### Tertiary centre training of new catheter lab staff

Existing staff, including nurses, radiographers, managers and the physiologists at the new cath lab sites, Wigan and Stockport Acute Trust expressed an interest to work in the labs. In order to train these staff, their tertiary centre colleagues agreed to undertake a training programme for each of the new centres. This has worked well, and as a consequence developed standardisation of practice across the network, enabling a buddy system for support and guidance and cross centre working.

#### Overseas recruitment of nurses

Unlike the physiologists, it was clear there would not be enough trained nurses to staff the new labs. As a result the network funded a recruitment visit to India to locate new nurses. The visit was a “first” because they hadn’t previously allowed staff from outside their organisation to recruit on their behalf, and agreed a set of protocols and standards. The nurses have all now settled in well and are looking forward to working in the new labs. One of the nurses recruited has also now started to work as a generic worker, learning the cardiac physiologist part of the job.

#### Cath lab training programme

It was agreed by multi-disciplinary staff across the whole North West region that a service-driven training programme was needed. The network worked closely with the Critical Care Skills Lab based at Trafford Acute to develop a programme, and nurses, technicians and radiographers from trusts across the region have been involved to both produce and also deliver the training. The programme uses the same tools (a combination of workshops and workbooks) to provide a consistent approach across the North West. Learners are now assessed within practice using clinical competencies based on the novice to expert taxonomy.

### **The future**

As a result of involving a wide range of people with the support of their Trusts the new labs will open on time and be fully staffed. The teamworking involved has established a culture of openness and sharing across not only Manchester but also the North West region. The approach is now being adopted to develop future training in pacing, imaging and acute coronary syndrome.

### **Primary care workforce**

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There is a shift towards using the primary care setting to a greater degree for healthcare. This has workforce implications. The new GP contract has increased patient identification and onward referral of patients to hospital, especially those with suspected heart failure and angina. Training courses for practitioners with special interests have been developed.

### **Practitioners with a special interest: Post Graduate Diploma in Cardiology**

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A university accredited diploma has been developed in Bradford for GPs and other practitioners with a special interest in cardiology. It came about through recognition of a national and local need for practical, standardised training in this area. It also provides formal accreditation to endorse GPs informal cardiology skills.

An enthusiastic Bradford-based NHS partnership, including consultants and GPs with special interests, brought together the clinical course structure. Support and involvement came from the Royal College of General Practitioners, the Royal College of Physicians and the Primary Care Cardiovascular Society for the development and the University of Bradford agreed to accredit the awards of Diploma and Certificate for the course from December 2003.

The part time diploma takes a minimum of 18 months to complete. It focuses on the attainment of clinical competence through three six month clinical placements in the local hospital, under the supervision of a local cardiologist (mentor). Headline teaching and additional assessment, in clinically relevant methods (case study and critical appraisal), are undertaken centrally in Bradford for two days between modules. Service improvement is also studied locally throughout the 18 month period.

The model has proved successful in emphasising clinical competence and knowledge within a local collaborative approach, and has enabled peer learning. So far, eight Post Graduate Diploma awards are to be made to GPs with special interests from around the country, and 15 other students – including five nurse specialists – are currently studying.

Students say:

**The course was very practical and very relevant to general practice cardiology. It's helped to rubber-stamp what I've been doing for many years. It gives GPs with special interests some standing in the secondary care arena – it helps to have Post Graduate training.**

**Dr Ahmet Fuat**

**Now, I've got much more confidence, in who I am as a GP with a special interest and in what I'm doing. I think that's through talking to others on the course and comparing what I'm doing with them. Normally, we work in isolation.**

**Dr Kathryn Griffith**

**In terms of my professional development it's boosted my confidence and developed a wide range of new skills...**

**Dr Rosie Heath**

Continuous refinement of the course since its inception has led to a successful model now being reproduced in gynaecology, diabetes and urology.

For further information email: [psi@bradford.nhs.uk](mailto:psi@bradford.nhs.uk)

## **Working across organisational boundaries**

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Clinical networks are playing an increasingly important part of the NHS, bringing local clinicians and managers together to improve care for patients at all stages of their treatment.

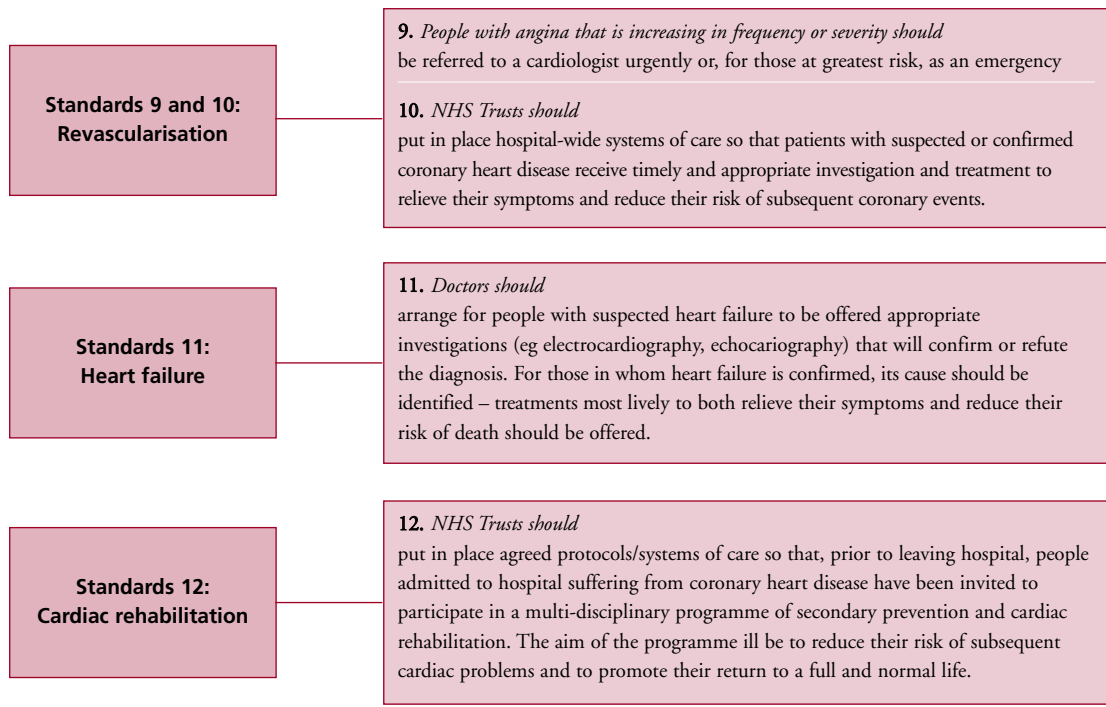
Bringing together PCTs, trusts, ambulance services and tertiary centres, enables the local NHS to work together and coordinate their approaches for a larger population, supporting modernisation and helping implementation of local delivery plans.

The CHD collaborative has always worked closely with the existing cardiac networks and since early 2004 plans have been underway to merge the CHD collaborative programme staff with the local cardiac networks in a formal manner. An assessment process began in August of 2004 and over half of the cardiac networks have now completed the process. By April 2005 the bulk of nationally held resource will be devolved to the networks' lead PCTs.

# Annex

## National Service Framework for Coronary Heart Disease – Standards

<p><b>Standards 1 and 2: Reducing heart disease in the population</b></p>	<p><i>1. The NHS and partner agencies should</i> develop, implement and monitor policies that reduce the prevalence of coronary risk factors in the population, and reduce inequalities in risks of developing heart disease.</p> <p><i>2. The NHS and partner agencies should</i> contribute to a reduction in the prevalence of smoking in the local population.</p>
<p><b>Standards 3 and 4: Preventing CHD in high risk patients</b></p>	<p><i>3. General practitioners and primary care teams should</i> identify all people with established cardiovascular disease and offer them identify all people with established cardiovascular disease and offer them</p> <p><i>4. General practitioners and primary health care teams should</i> identify all people at significant risk of cardiovascular disease but who have not developed symptoms and offer them appropriate advice and treatment to reduce their risks.</p>
<p><b>Standards 5, 6 and 7: Heart attack and other acute coronary syndromes</b></p>	<p><i>5. People with symptoms of a possible heart attack should</i> receive help from an individual equipped with and appropriately trained in the use of a defibrillator within 8 minutes of calling for help, to maximise the benefits of resuscitation should it be necessary.</p> <p><i>6. People thought to be suffering from a heart attack should</i> be assessed professionally and, if indicated, receive aspirin. Thrombolysis should be given within 60 minutes of calling for professional help.</p> <p><i>7. NHS Trusts should</i> put in place agreed protocols/systems of care so that people admitted to hospital with proven heart attack are appropriately assessed and offered treatments of proven clinical and cost effectiveness to reduce their risk of disability and death.</p>
<p><b>Standards 8: Stable angina</b></p>	<p><i>8. People with symptoms of angina or suspected angina should</i> receive appropriate investigation and treatment to relieve their pain and reduce their risk of coronary events.</p>





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