

## DELIVERING THE NATIONAL SERVICE FRAMEWORK FOR CORONARY HEART DISEASE

R Boyle, National Director for Heart Disease, Department of Health, London

### HEART DISEASE IN ENGLAND TODAY

Heart disease is England's leading cause of death. Although deaths from heart disease have decreased considerably in the past 20 years, England still has one of the highest rates in the world. More than 1.4 million people suffer from angina and about 300,000 have 'heart attacks' every year. More than 111,000 people die of heart problems in England every year. Thus the impact of heart disease on public health is unequalled by any other conditions through all strata of society. The death rate among unskilled men is almost three times that of professionals, and these differences have more than doubled over the past two decades. Heart disease is still much more common in deprived areas, but treatment and care is often better in more prosperous areas.

### THE NATIONAL SERVICE FRAMEWORK FOR CORONARY HEART DISEASE

The *National Service Framework for Coronary Heart Disease* was published in March 2000.<sup>1</sup> It was drawn up by clinicians, patients, managers and central government. It is a blueprint for how coronary heart disease (CHD) services in England will be modernised over the next ten years. It sets 12 standards for improved prevention, diagnosis and treatment, as well as targets and goals to secure fair access to high-quality services over a ten-year period. The standards are set out in Table 1.

The National Service Framework (NSF) is part of a wider government strategy to ensure that service

standards are clear, that they are delivered dependably and monitored so as to improve quality (Figure 1).

The NSF defined six immediate priorities to be delivered in the first year of the programme:

1. Smoking cessation:
  - 50,000 people were to be offered advice.
2. Rapid-access chest pain clinics:
  - the setting-up of 50 in 2000–1 and 50 in 2001–2.
3. Reducing time to thrombolysis (the call-to-needle time) in acute myocardial infarction (MI):
  - 75% of category A emergency calls to be answered within eight minutes;
  - 75% of A&E departments to offer thrombolysis;
  - 75% of patients with no reason to delay the procedure to be thrombolysed within 30 minutes.
4. Improve the use of effective medicines after heart attack, including aspirin, beta blockers, statins and ACE inhibitors:
  - 80–90% of patients to be discharged on these drugs by April 2002.
5. Increase the number of revascularisation procedures:
  - 3,000 additional procedures to be carried out by April 2002 (This was soon increased to 6,000 as part of the NHS Plan.).
6. Deliver the early milestones:
  - largely about installing systems of care.

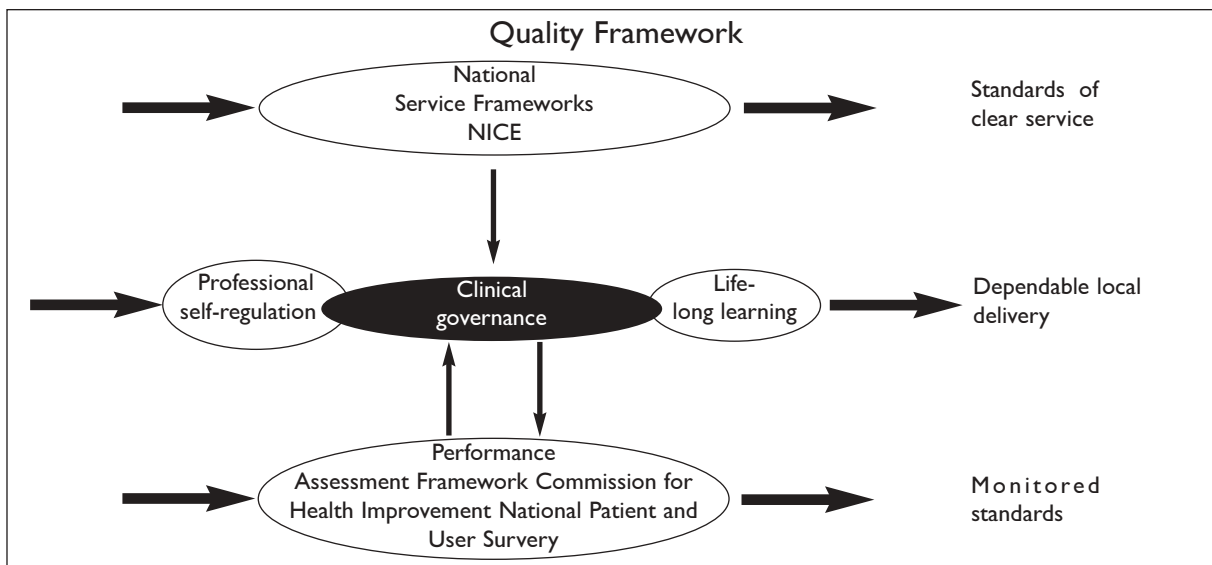


FIGURE 1  
NSFs as part of the quality agenda.

**TABLE 1**  
**The 12 standards defined by the NSF for CHD.**

1. The NHS and partner agencies should 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.	treatments of proven clinical and cost-effectiveness to reduce their risk of disability and death.
2. The NHS and partner agencies should contribute to a reduction in the prevalence of smoking in the local population.	8. 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.
3. General practitioners and primary care teams should identify all people with established cardiovascular disease and offer them comprehensive advice and appropriate treatment to reduce their risks.	9. People with angina that is increasing in frequency or severity should be referred to a cardiologist urgently or, for those at greatest risk, as an emergency.
4. General practitioners and primary healthcare teams should 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.	10. NHS Trusts should put in place hospital-wide systems of care so that patients with suspected or confirmed CHD receive timely and appropriate investigation and treatment to relieve their symptoms and reduce their risk of subsequent coronary events.
5. People with symptoms of a possible heart attack should receive help from an individual equipped with, and appropriately trained in the use of, a defibrillator within eight minutes of calling for help, to maximise the benefits of resuscitation, should it be necessary.	11. Doctors should arrange for people with suspected heart failure to be offered appropriate investigations (e.g. electrocardiography, echocardiography) that will confirm or refute the diagnosis. For those in whom heart failure is confirmed, its cause should be identified; treatments most likely to both relieve their symptoms and reduce their risk of death should be offered.
6. People thought to be suffering from a heart attack should be assessed professionally and, if indicated, receive aspirin. Thrombolysis should be given within 60 minutes of calling for professional help.	12. NHS Trusts should put in place agreed protocols/systems of care so that, prior to leaving hospital, people admitted to hospital suffering from CHD have been invited to participate in a multidisciplinary programme of secondary prevention and cardiac rehabilitation. The aim of the programme will be to reduce their risk of subsequent cardiac problems and to promote their return to a full and normal life.
7. NHS Trusts should put in place agreed protocols/systems of care so that people admitted to hospital with proven heart attack are appropriately assessed and offered	

### IMPLEMENTATION AND DELIVERY OF CHANGE

The NSF required local health communities to set up Local Implementation Teams incorporating disciplines from each step of the patient 'pathway'. These multidisciplinary groups were vital contributors to the successful early implementation phase.

For rapid progress to be made, it was absolutely essential that there was strong clinical commitment and interest established for the programme. Here the participation and enthusiasm of the many categories of staff involved in the prevention, detection and treatment of coronary heart disease far exceeded expectations. A major concern had been that the NSF would place too great a burden on primary care staff. There is no doubt that these were real concerns but, in the event, practices rose to the challenge and achieved the establishment of CHD registers with remarkable industry and efficiency.

Other than clinical enthusiasm, there were a number of other vital levers that promoted early progress:

#### 1. National audit programme

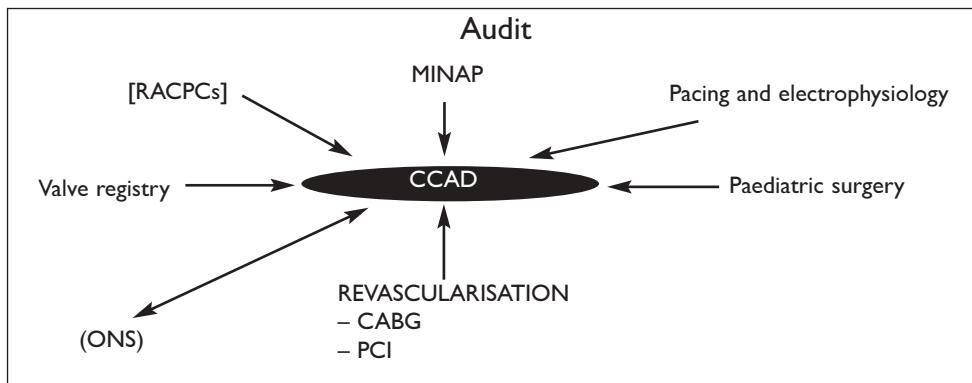
At an early stage it was agreed that a comprehensive

audit would be established to monitor management of acute MI. This was done under the umbrella of the Clinical Effectiveness and Evaluation Unit at the Royal College of Physicians in London.<sup>2</sup> It was also agreed that the resource for this and other key clinical information would be the Central Cardiac Audit Database (CCAD), now under the management of the NHS Information Authority (see Figure 2).<sup>3,4</sup>

The advantages of this aggregated system were: the system uses a system of encryption so that the data can be stored and analysed in a way that preserves patient confidentiality; the database would also incorporate data for cardiac surgery, intervention, pacing and implantable cardioverter defibrillators so that clinical events could be linked; and finally, the database was linked to the Office of National Statistics using the NHS number so that accurate outcome data could be obtained.

#### 2. Collaboratives

Two collaborative initiatives were set up: one for the whole of the CHD pathway and a second with an emphasis on primary care.



**FIGURE 2**  
Structure of the national CHD audit programme.

The primary care collaborative, run by the primary care development team, set out to improve access to primary care, referral to secondary care and, importantly for CHD, secondary prevention.

The CHD Collaborative started with an initial grouping of ten networks spread across England with six core topics: secondary prevention, angina, heart failure, acute MI, revascularisation and rehabilitation.<sup>5</sup>

Both collaboratives used the technique of process mapping to identify parts of the patient journey where improvements could be made. Changes in practice were tested using cycles of 'Plan-Do-Study-Act', before implementing the changes more widely and spreading the more successful change ideas and improvements to other collaborating centres.

### 3. Information and workforce

An information strategy was prepared to help the delivery process.<sup>6</sup>

Each NSF area established a Caregroup Workforce

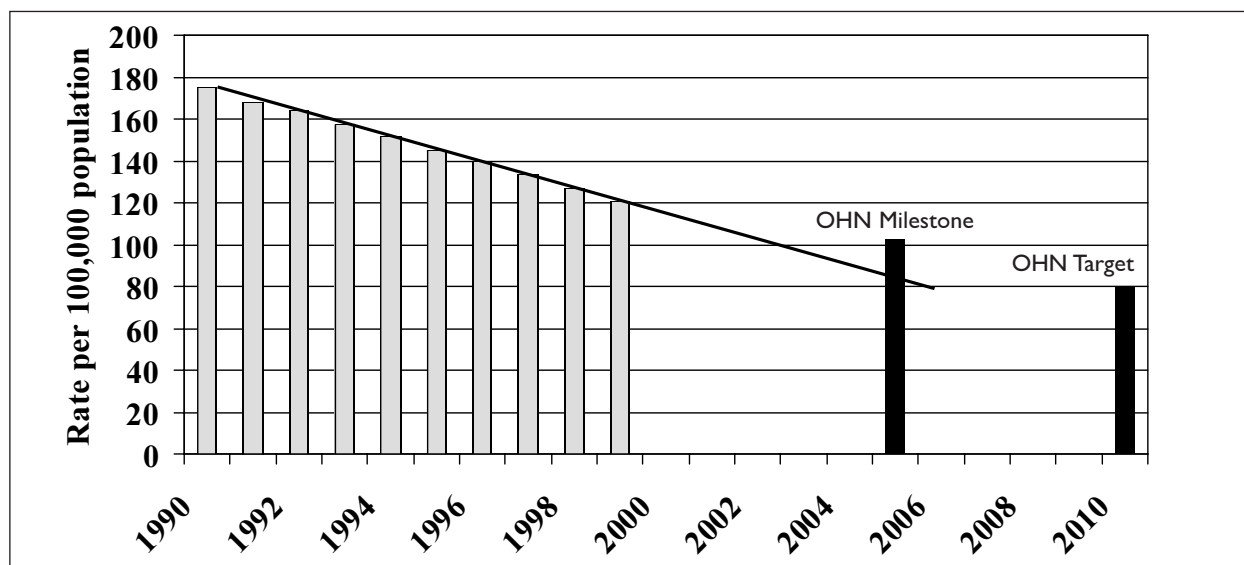
Team, developing recruitment and training strategies for all disciplines, planning the workforce expansion required for each group of staff, drawing up a selection of competencies under 'Skills for Health' and developing ideas for new ways of working.

### PROGRESS IN THE FIRST THREE YEARS<sup>7</sup>

The overarching aim of the NSF was to reduce CHD deaths in line with the targets set out in *Our Healthier Nation*, requiring a 40% reduction in cardiovascular deaths by 2010.

Current progress suggests that this target may be achieved earlier than planned (see Figure 3).

The NHS has a major programme of smoking cessation services, through which nearly 245,000 people have been helped to quit cigarette smoking for at least four weeks. The Department of Health (DoH) is also working with Cancer Research UK and the British Heart Foundation on new, hard-hitting, anti-smoking campaigns. In September 2003 all cigarette packets began to carry stronger health warnings and misleading



**FIGURE 3**  
Falling rates of cardiovascular deaths.

terms such as 'light' or 'mild' were outlawed; tobacco advertising is being phased out.

Local five-a-day initiatives are being set up by Primary Care Trusts with support from the New Opportunities Fund to improve access to fruit and vegetables for people on low incomes in 66 deprived areas of England.

The National School Fruit Scheme is providing a free piece of fruit each school day to over 500,000 children in over 3,500 schools in the West Midlands and London. This scheme will be rolled out across England during 2003 and 2004.

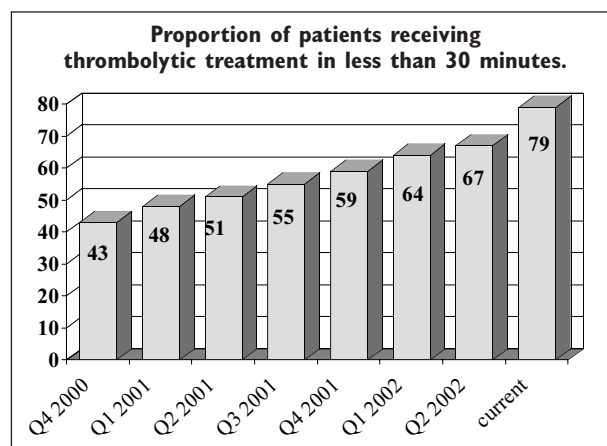
In primary care, the number of statins prescribed continues to rise by about 30% a year, so that the weekly cost is close to £10 million.

Some 681 defibrillators have been installed in public places in 100 sites across the country. So far, evidence suggests that 21 lives have been saved.

In emergency care, there has been a steady improvement in the time taken for hospitals to provide thrombolytic therapy to heart attack patients (see Figure 4). The uptake of effective therapies on discharge has also improved steadily.

The NHS Plan target of 6,000 additional revascularisation procedures by April 2003 was achieved one year early and waiting times have been significantly reduced. In March 2000, there were 1,093 patients waiting over 12 months for surgery now there are none. By April 2003, there were no patients waiting more than nine months (Figure 5). The NSF target of achieving a maximum wait of three months has been brought forward from April 2008 to April 2005 and is likely to be achieved earlier than this date.

Since July 2002, any patient waiting more than six months for heart surgery has been eligible to choose to have faster treatment elsewhere – be that at another



**FIGURE 4**  
Improvements in door-to-needle time (MINAP).

NHS hospital or a private hospital. From March 2003 they could also opt to travel abroad for treatment to one of two top-ranking Belgian hospitals.

This progress has been supported by continued growth in the work force. In September 1999, 467 consultant cardiologists were in post, of whom some 90 or so were single-handed. By March 2002 there were 590 consultants of whom fewer than 20 were single-handed. The DoH is working with professional bodies and the NHS to improve recruitment, retention, training and development of staff in key areas, including cardiac physiologists, 'perfusionists', critical care nurses and primary care staff.

To support the development of services, a £300 million programme of long-term investment in the capital infrastructure is supporting further expansion of cardiac surgery in many of the 29 surgical centres in England, including a brand-new centre in Wolverhampton.

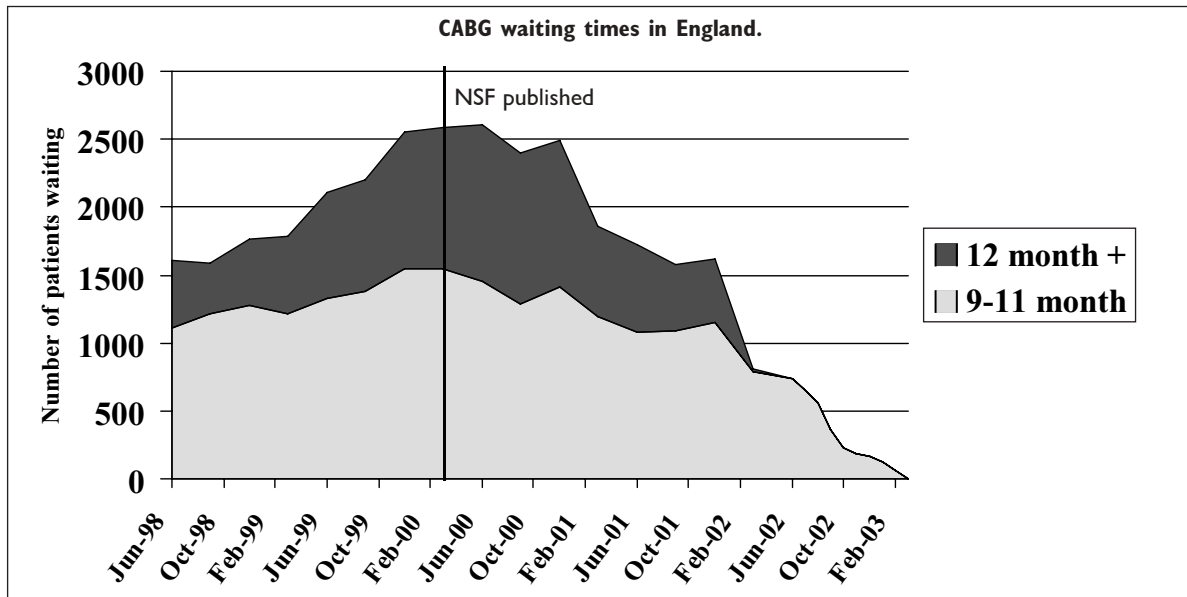
In November 2001, the New Opportunities Fund announced £110 million funding for CHD, of which £65 million is being used to provide over 80 new cardiac catheter laboratories, also supported by £60 million enabling capital from the DoH.

The NSF set targets to speed up diagnosis for patients with new-onset chest pain suggestive of angina. In March 2000, there were only three rapid-access chest pain clinics in England. Now over 90% of acute hospitals have set up such a clinic and some 80% of patients with new-onset symptoms are seen within two weeks.

If services are to improve, those providing and managing the services need to know how well they are doing. It is also important that patients using the service know how well they are being provided for and what risks they are facing. The national audit programme is beginning to provide this. In this the cardiac surgeons are leading the way in reporting their outcome data and presenting them in a way that makes a wealth of information available and intelligible to all. From 2004, surgeon-specific data will be made available to patients.

The DoH has been keen to develop better rehabilitation for cardiac patients and has endorsed the current Scottish Intercollegiate Guidelines Network (SIGN) guideline.<sup>7</sup> Investment has been made available to support the many programmes around the country but there remains much to be done, particularly for the hard-to-reach groups.

It was always intend to phase the work programme of NSF implementation so as to keep the agenda manageable for the NHS. Heart failure was kept back until the fourth year of the programme for this reason. The DoH has now commissioned a guideline on heart



**FIGURE 5**  
Reducing numbers of patients waiting 12 and 9 months for coronary bypass surgery.

failure management from the National Institute of Clinical Excellence (NICE) as well as setting targets for reducing hospital admissions as a consequence of heart failure over the next three years.<sup>8</sup>

#### FUTURE TARGETS

The specific CHD targets set for the next three years are as follows:

1. By 2005 contributions to a national reduction in death rates from CHD of at least 25% in people under 75 years of age compared to 1995–7, targeting the 20% of areas with the highest rates of CHD
2. Reduce the rate of smoking, contributing to the national target of reducing the rate in manual groups from 32% in 1998 to 26% by 2010. The aim is to have 800,000 smokers from all groups successfully quitting smoking at the four-week stage by 2006.
3. Improving access to services across the 'patient pathway' and increasing patient choice by achieving the two-week wait standard for rapid-access chest pain clinics, setting local targets to make progress towards the NSF goal of a three-month maximum wait for angiography; and by March 2005, or sooner if possible, delivering maximum waits of three months for revascularisation.
4. Deliver a 10% improvement per year in the proportion of people suffering from a heart attack who receive thrombolysis within 60 minutes of calling for professional help.
5. 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 that 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.

6. Improve the management of patients with heart failure in line with the NICE clinical guideline due to be published in 2003, and set local targets for the consequent reduction in patients admitted to hospital with a diagnosis of heart failure.

#### REFERENCES

- 1 Department of Health. *National Service Framework for Coronary Heart Disease*. London: DoH; 2000; (<http://www.doh.gov.uk/nsf/coronary.htm>).
- 2 Second Public Report of the Myocardial Infarction National Audit Project (MINAP). *How hospitals manage heart attacks*. London: Royal College of Physicians of London; 2003; (<http://www.rcplondon.ac.uk/pubs/books/minap/>).
- 3 Central Cardiac Audit Database; ([www.ccad.org.uk](http://www.ccad.org.uk)).
- 4 NHS Information Authority; ([www.nhsia.nhs.uk](http://www.nhsia.nhs.uk)).
- 5 Department of Health, Modernisation Agency; ([www.modern.nhs.uk/scripts](http://www.modern.nhs.uk/scripts)).
- 6 Department of Health. *Coronary Heart Disease Information Strategy (September 2001)*; ([www.doh.gov.uk/ipu/strategy/nsf/chdstrat/chdisdoc.htm](http://www.doh.gov.uk/ipu/strategy/nsf/chdstrat/chdisdoc.htm)).
- 7 Scottish Intercollegiate Guidelines Network. *57 Cardiac rehabilitation. A national clinical guideline*. Edinburgh: SIGN; 2002; ([www.sign.ac.uk](http://www.sign.ac.uk)).
- 8 National Institute for Clinical Excellence; ([www.nice.org.uk](http://www.nice.org.uk)).