The National Service Framework for Coronary Heart Disease: Lessons from the UK

Professor Roger Boyle CBE
National Director for Heart Disease and Stroke
Department of Health
London
The English NHS is a large complex system

Population 51 million

1,400,000 employees
1,000,000 patients every 24 hrs
Primary & secondary care
Mental health
Dentists, Opticians, Pharmacies
Ambulance services

10 regional Strategic Health Authorities
Each with a population between 2.5 and 7 million
Similar in population to Ireland, Norway, Finland & Denmark,
“It will provide you with all medical, dental and nursing care. Everyone - rich or poor, man, woman or child – can use it. There are no charges... There are no insurance qualifications. But it is not a “charity”. You are all paying for it, mainly as taxpayers, and it will relieve your money worries in time of illness.”
An inconsistent triad in healthcare

High quality healthcare

Full range of services

Easy access For everyone
UK appears to be doing well against other systems

<table>
<thead>
<tr>
<th></th>
<th>Australia</th>
<th>Canada</th>
<th>Germany</th>
<th>New Zealand</th>
<th>UK</th>
<th>USA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Overall ranking</strong></td>
<td>3.5</td>
<td>5</td>
<td>2</td>
<td>3.5</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td><strong>Quality care</strong></td>
<td>4</td>
<td>6</td>
<td>2.5</td>
<td>2.5</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td><strong>Right care</strong></td>
<td>5</td>
<td>6</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td><strong>Safe care</strong></td>
<td>4</td>
<td>5</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Co-ordinated</td>
<td>3</td>
<td>6</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Patient centered</td>
<td>3</td>
<td>6</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Access</td>
<td>3</td>
<td>5</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Efficiency</td>
<td>4</td>
<td>5</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Equity</td>
<td>2</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Long, healthy lives</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>4.5</td>
<td>4.5</td>
<td>6</td>
</tr>
<tr>
<td>Per capita cost 2004</td>
<td>$2,676</td>
<td>$3,165</td>
<td>$3,005</td>
<td>$2,083</td>
<td>$2,546</td>
<td>$6,102</td>
</tr>
</tbody>
</table>

Commonwealth Fund 2006
Satisfaction with the NHS is increasing

NHS overall 73%
ER 79%
Clinics 87%
Primary Care 89%
Cardiology in the 1990s in England

- Research output beginning to wane
- Low levels of uptake of effective treatments and technologies
- Only 400 cardiologists and 180 cardiac surgeons for the whole nation (51 million)
- Long waits for treatment
  - One year for a cardiologist, two for CABG
- High mortality rates from cardiovascular disease
- Increasing inequalities
  - Life expectancy
  - Access to care
National Service Framework for Coronary Heart Disease

This Framework will transform the prevention, diagnosis and treatment of coronary heart disease. It will help professionals to give better, fairer and faster care everywhere, to everyone who needs it. We want a service that is amongst the best in the world. Our people deserve nothing less.

March 2000

Alan Milburn
Secretary of State for Health
Process

• Setting up of an independent expert group to review the evidence and make recommendations on the basis of best evidence
• Included patients and carers as well as various clinicians, public health experts and epidemiologists
Launch in March 2000

- High level interest (Prime Minister)
- High level of clinician buy-in as well as the wider NHS
- Supported by government finance and a process of prioritisation at national level with national targets leading to:
  - A very effective coalition
Modernising care

CHD Collaborative
Heart Improvement Programme
NHS Improvement

Clinical networks
Implementing improvement

• National Service Frameworks
  – High level descriptions of service
  – What can the individual expect the service to deliver

• National Institute for Health and Clinical Excellence (NICE)
  – Guidelines and technology appraisals

• Systematic performance management
  – With clinical targets

• Care Quality Commission
  – Independent regulator with right to inspect, review and intervene

• Measurement and public reporting of clinical outcomes
  – National clinical audit programmes
National audits and registries

Public portal

Congenital

Pacing & ICDs

Central Cardiac Database

Cardiac Rehab & QOL

Cardiac surgery

Angioplasty

Heart attack

Heart Failure

Ambulance Care

Electrophysiology

Register Of Deaths (ONS)

Developing

Published outcomes
Heart programme
Twin track approach

• Better prevention
  – Primary
  – Secondary

• Better treatment
  – Faster
  – Better outcomes
  – More equity
1. Ban on advertising
2. Advertising campaigns
3. Pack health warnings
4. Price increases (serial)
5. Smoking cessation clinics
6. Ban on smoking in the workplace & public places
7. Increasing the minimum legal age for buying cigarettes
Primary prevention

(over 2 million children in 14,000 schools)
Advertising campaign against fat
Cholesterol levels

Mean total cholesterol (mg/dL)

England: 212
Scotland: 212
US White: 204
US Black: 199
Mexican American: 202

England – Statin Prescribing – Total Statins (Proprietary & Generic) Prescribed Items (000s) & Net Ingredient Costs (£000s)

- Total Statins
  - Between 2000/01 & 2008/09
    - Net Ingredient Cost - up 38%
    - Prescribed Items - up 388%

- NSF CHD

- Statins – Net Ingredient Cost (£000s)
- Statins – Prescribed Items (000s)
Trend in prescriptions for CV drugs

50% increase over five years

Number of items prescribed in primary care (millions)

Q2 Q4 Q2 Q4 Q2 Q4 Q2 Q4 Q2 Q4 Q2
Percentage of CHD patients achieving blood pressure targets, England general practice, 2001-2008
Percentage of CHD patients achieving cholesterol targets, England general practice, 2001-2008

England – QOF % of People with CHD with Cholesterol 5mmol/l or less – 2001/02 – 2008/09 - QResearch Population & National QOF Results

Data
- QR Chol <5 mmol/l
- QOF Chol <5 mmol/l
- Reg Chol <5 mmol/l

QOF Reported Chol <5 mmol/l

QResearch Chol <5mmol/l
Pre-introduction of QOF

QOF Reported Chol <5mmol/l as % of CHD Register
Rapid access chest pain clinics
(National network – every hospital)

Percentage seen within two weeks

New onset, stable angina
Thrombolysis rates for acute myocardial infarction, England 2001-2008

% of patients thrombolysed within 30 minutes of arrival

% of patients thrombolysed within 60 minutes of calling for help

Source: Royal College of Physicians, MINAP
Proportion of patients discharged on secondary prevention medication, 2002 -2007

Source: Royal College of Physicians, MINAP
30 day mortality for STE MI England and Wales 2003 - 2007

MINAP data
National Infarct Angioplasty Project

Cohort of 1,460 patients across 10 centres
Acute Myocardial Infarction - STEMI - Thrombolysis
Shift from Thrombolysis to Primary PCI

- 100% Thrombolysis
- 40% Primary PCI
- 60% pPCI

2003 2004 2005 2006 2007 2008 2009
PPCI in England

• Two thirds of all STEMIs treated by PPCI

• **Door to balloon time**
  – Mean of 54 minutes
  – 81% treated in less than 90 minutes

• **Call to balloon times**
  – Mean of 117 minutes
  – 79% treated in less than 150 minutes

Total Waiters have fallen by 72% between April 2002 & July 2007
In April 2002 – 42% waited less than 3 months
Since April 2004 – 100% have waited less than 3 months

Data
- 12-14 mths
- 9-11 mths
- 6-8 mths
- 3-5 mths
- 0-2 mths

Intervention
- CABG
Circulatory Disease Mortality Target

Death rates from All Circulatory Disease in England 1993-2008 and target
Persons under 75

Progress since baseline:
A fall of 47.1%

Target:
40% minimum reduction from 1995-97 baseline rate

Rates are calculated using the European Standard Population to take account of differences in age structure.
ICD9 data for 1993 to 1996 and 2000 have been adjusted to be comparable with ICD10 data for 1999 and 2001 onwards.
Percentage change since baseline is calculated based on unrounded rates.
Source: ONS (ICD9 390-459; ICD10 I00-I99)
Circulatory Disease Mortality - Directly Standardised rate per 100,000

In 2001 the HK DSR Was 50% of the English
In 2007 the HK DSR Was 86% of the English
Mortality from coronary heart disease, international comparison 1997-2004

US – 17.2% decrease
UK – 30.8% decrease

Source OECD
Years of life lost due to circulatory disease, international comparison 1997-2004

US – 13% decrease
UK – 24% decrease

Source OECD
Total expenditure on health per capita, 1997-2005

Source OECD
What are the challenges for the future?
Mortality from all circulatory diseases 2002-4 according to social deprivation

Mortality

Deprivation

Standardised mortality

Index of deprivation
Travelling east from Westminster, each tube stop represents nearly one year of life expectancy lost.

Male: 77.7y  
Female: 85.5y  

Male: 70.7y  
Female: 78.4y
CV Deaths averted

Risk factors worse
- Obesity +3.5%
- Diabetes +4.8%
- Less physical activity +4.4%

Risk factors better
- Smoking -41%
- Cholesterol -9%
- Popul’n BP fall -9%
- Deprivation -3%
- Other factors -8%

Treatments
- AMI treatments -8%
- Secondary prevention -11%
- Heart failure -12%
- Angina: CAGB/PCI -4%
- Angina: drugs -5%
- BP treatment -3%

Redrawn from Capewell et al
We say we take responsibility...

Who is at fault for obesity
Who is responsible for addressing it?

<table>
<thead>
<tr>
<th>Category</th>
<th>Fault for Obesity</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parents</td>
<td>76</td>
<td>31</td>
</tr>
<tr>
<td>Food and drink manufacturers</td>
<td>48</td>
<td>40</td>
</tr>
<tr>
<td>The individual</td>
<td>22</td>
<td>30</td>
</tr>
<tr>
<td>The state</td>
<td>12</td>
<td>69</td>
</tr>
</tbody>
</table>

Henley Centre (2007)
Vascular checks

• A single, universal, integrated check for all aged 40 – 74
  – Measure risk of CV disease, diabetes and chronic kidney disease
  – Set out how to reduce risk/maintain low risk
  – Offer a standard package of prevention

• Evidence confirms this to be clinically and cost effective
THE BEST THING YOU CAN DO IS GIVE UP SMOKING, DRINKING AND FRIED FOOD

WHAT'S THE SECOND BEST?
Conclusion

• Our systems are different
  – Different funding mechanisms
  – Different starting positions

• Our solutions will be different

• Nationalised systems are difficult to manage because of scale

• But not impossible!
Thank you