Coronary Heart Disease

Coronary heart disease (CHD) is a condition where the arteries of the heart muscle become narrowed and blocked, starving it of oxygen. CHD manifests as angina and heart attack. People living with coronary heart disease experience limitations in their quality of live, ability to perform daily activities, and have a higher risk of dying earlier.

CHD is the second leading cause of death in North Somerset after cancer. Many deaths are preventable through a healthy lifestyle that includes not smoking, a balanced diet and regular physical activity. CHD is closely linked to deprivation and leads to a gap in life expectancy between the most deprived and most affluent areas of 1.6 years for men and 0.9 years for women.

Death rates from CHD have halved in the past 10 years in North Somerset in line with national trends. As a result, more people are living with the condition. In North Somerset in 2009/10, 7,975 people (3.8%) were known by their GPs to have CHD. A further 4,700 people were estimated to have CHD but have not been identified by their GPs, the largest proportion of undiagnosed patients living in the most deprived areas. 1,800 people suffer heart failure as a consequence of a heart attack or persistent hypertension.

Patients at risk of CHD or with already established disease can only be treated if they are identified by their health care professionals. Only two thirds of CHD cases and less than half of hypertension cases are documented on GP registers. This proportion of undiagnosed cases is lower than in the Southwest or England but efforts should continue to identify cases.

Analysis of management of patients in North Somerset GP practices shows cholesterol levels are not tested as regularly tested as blood pressure and the control of cholesterol is slightly worse than that of high blood pressure. 95% of newly diagnosed patients with angina were referred for exercise and/or specialist assessment. Cardiac interventions such as revascularisation, pacemakers and heart transplants are provided by the Bristol Heart Institute.

Challenges for consideration

Action is required to collect information from services users on their experience in relation to cardiac prevention and services; target primary and secondary prevention in areas of deprivation; and implement the recommendations included in the CHD equity analysis due in 2011.

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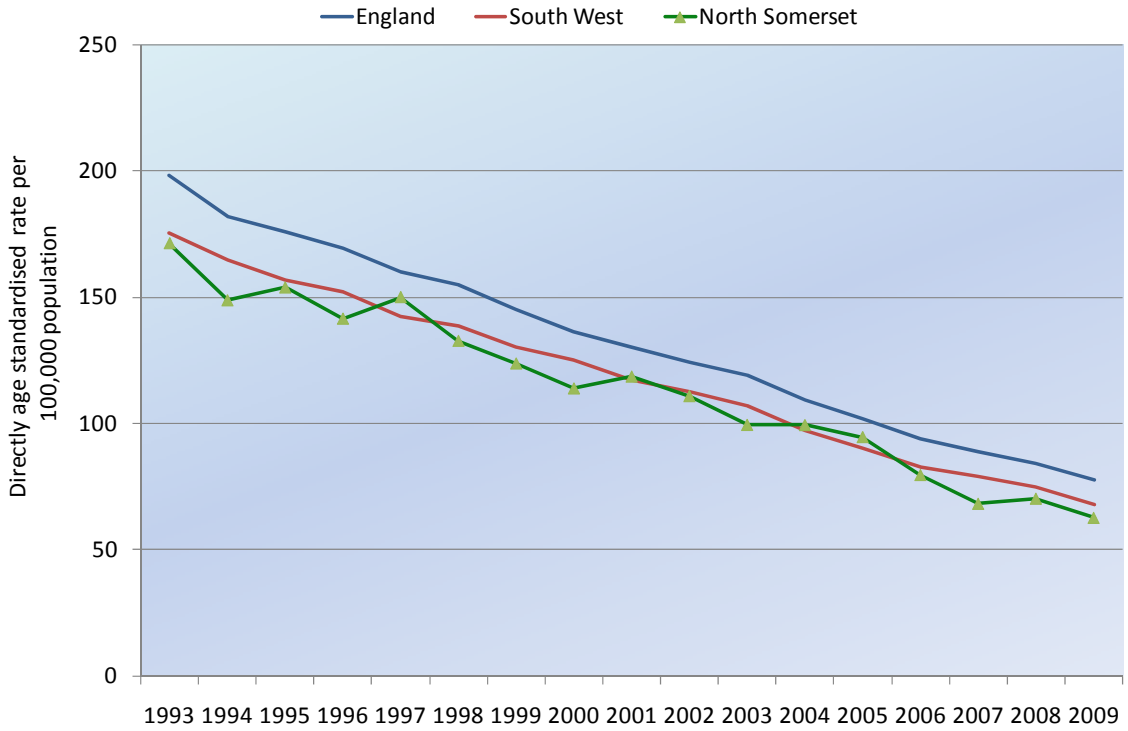
Why is this important?

Coronary heart disease (CHD) is a condition where the arteries of the heart muscle become narrowed and blocked, starving it of oxygen. CHD manifests as angina and heart attack.

CHD is a leading cause of death in the UK and the second leading cause of death after cancer in North Somerset. In 2009 CHD caused around 72,000 deaths in the UK, around one in six men and one in eight women. CHD is one of the leading causes of preventable death in England and a major cause of health inequality. A healthy lifestyle that includes a balanced diet, regular exercise and quitting smoking is important to maintain a healthy heart. Death rates from CHD have halved in the past 10 years in North Somerset in line with national trends (see Figure 1). This means more and more people now live with the condition, its long-term effects and have to manage it for longer.

Figure 1: All age, all cause mortality rates from Coronary Heart Disease, 1993-2003

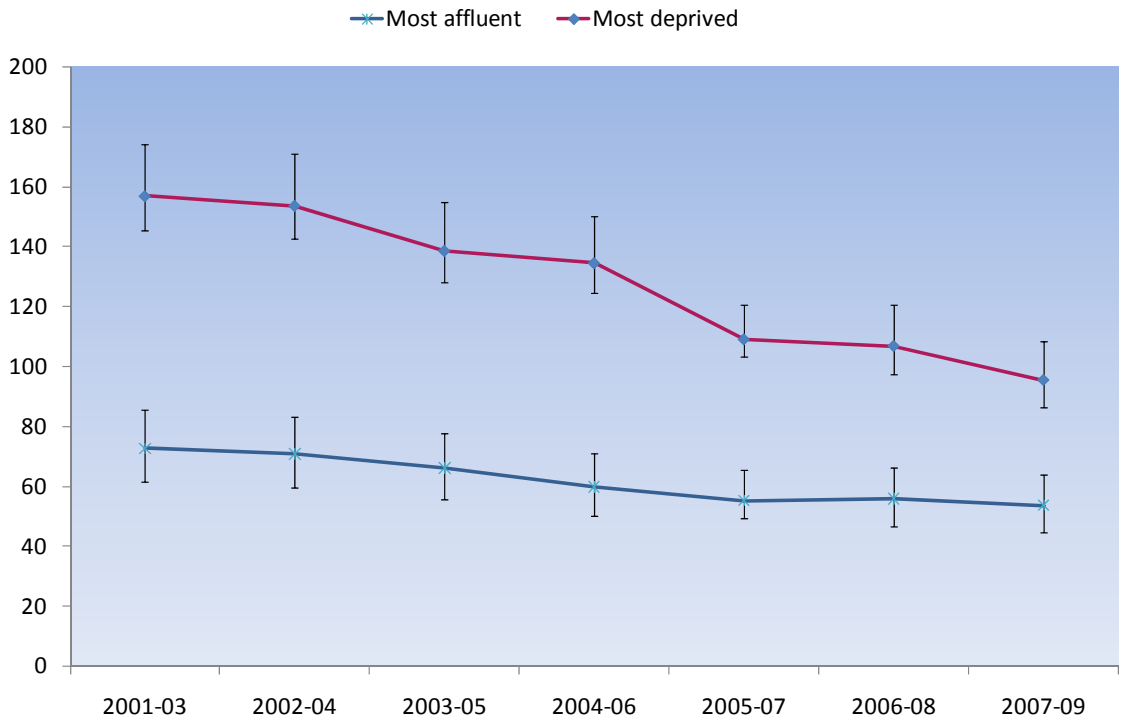


Source: ONS mortality file

People living with coronary heart disease experience limitations in their quality of live, ability to perform daily activities and have a higher risk of dying earlier. There is a strong positive relationship between deaths from heart disease and

levels of deprivation. In North Somerset social inequalities contribute to a shorter life expectancy due to CHD between the most deprived and most affluent areas of 1.6 years for men and 0.9 years for women.[1]

Figure 2: Coronary Heart Disease mortality rates over time by IMD North Somerset quintile



Source: ONS mortality file

What are the needs of the population?

7,975 persons (3.8%) in North Somerset were known by their GPs to have CHD in 2009/10.[2] It is estimated that another 4,700 people (2.3%) people have CHD but have not been identified by their GPs. The largest proportion of undiagnosed patients is from the most deprived quintile.[3]

In 2010, 248 people in North Somerset died of CHD (16.7% of all deaths), the majority of which died of ischaemic heart disease (112 deaths, 7.6% of all deaths) and heart attacks (102 deaths, 6.9% of all deaths)[4]. Around 1,800 people suffered heart failure as a consequence of a heart attack or persistent hypertension[2].

Patients at risk of CHD or with already established disease can only be treated if they are identified by their health care professionals. Even though two thirds of CHD cases and less than half of hypertension cases are documented on GP

registers, the proportion of undiagnosed cases is lower than in the Southwest or England.

The following risk factors put people at higher risk of developing CHD:

- **Age:** CHD occurs more after the age of 40. The proportion of the population aged 40 years and over is higher in North Somerset than in the rest of the South West of England and the national average and is expected to increase by a further 2% for women and 0.5% for men by 2030.

- **Male gender:** Twice as many men die of CHD as women in North Somerset.

- **Family history:** individuals with a first-degree male relative aged less than 55 years with CHD or female aged less than 65 years with CHD. Inherited familial hypercholesterolaemia (approximately 419 cases in North Somerset). Black or South Asian ethnicity for men; the proportion of black and ethnic minority groups (ethnic groups other than white) in North Somerset has increased from 1.4% in 2001 to 3.7% in 2007 and an estimated 3,800 black or South Asian people live in North Somerset.

- **Cholesterol:** elevated total or low density lipoprotein (LDL) cholesterol level and reduced high density lipoprotein (HDL) cholesterol level

- **Smoking:** Compared with nonsmokers, people who smoke 20 or more cigarettes a day are 60-90% more likely to develop CHD and have a heart attack. Light smokers (only one cigarette a day) are 20% more likely to develop CHD than a non-smoker. Modelled figures from The National Centre for Social Research estimate that 18% of North Somerset residents smoke, an average of 31,465 people.

- **Hypertension:** Hypertension increases the risk of heart attack and stroke, as well as causing kidney failure. If left untreated it can put extra strain on the heart leading to (left ventricular) heart failure. More than 32,000 people in North Somerset are known to have high blood pressure, representing around 15% of all patients. There are considerable differences between practices with a range of 9.9% to 19.8%. It is estimated that a further 6-14% of patients per practice are undiagnosed.

- **Diabetes mellitus:** Diabetes can change the makeup of blood vessels, and this can lead to cardiovascular disease. The lining of the blood vessels may become thicker, and this in turn can impair blood flow. Heart problems and the possibility of stroke can occur. More than 8,600 people in North Somerset are known to have diabetes with around another 1,500

undiagnosed. Diabetes is estimated to increase by 50% by 2025, increasing prevalence from around 5 % to 6.4 %.

- **Obesity:** Obese people are about twice as likely to develop angina or coronary heart disease than people with normal weight. 2009 estimates suggest that there are 47,347 people in North Somerset are obese. This is three times the number (16,440) that has been recorded by General Practitioners in North Somerset. This could mean that many obese people are not receiving help and support to manage their weight.

- **Sedentary lifestyle**: A low level of physical activity is a major risk factor for CHD. In 2008, based on self-reported physical activity, only 39% of men and 29% of women aged 16 and over met the Chief Medical Officer's minimum recommendations for physical activity in adults. The proportion of both men and women who met the recommendations generally decreased with age[5].

- **Alcohol**: Men who regularly drink above 3 to 4 units per day are four times more likely to develop hypertension. Women who regularly drink above recommended limits of 2-3 units per day are twice as likely to develop hypertension than women who drink within safe limits. Around 45,000 are estimated to drink regularly above the recommended limits, putting themselves at risk of hypertension and CHD.

Current Service Provision

Most patients are supported in managing their condition in primary care by receiving appropriate medication and regular reviews of their blood pressure and cholesterol levels. Analysis of primary care management of patients in North Somerset shows that cholesterol levels are not tested as regularly as blood pressure and the control of cholesterol is slightly worse than that of high blood pressure. 95% of newly diagnosed patients with angina were referred for exercise and/or specialist assessment.[2]

Health promotion services provided in North Somerset, including obesity, alcohol and support to stop services can be found in other chapters of the JSNA. NHS Health Check is aimed to prevent heart disease, stroke, diabetes and kidney disease. Adults between the ages of 40 and 74 are invited to attend a health check at their general practice or pharmacy. The check includes blood pressure and cholesterol tests as well as an assessment of the risk of developing diabetes and the measurement of the Body Mass Index, which is used to assess overweight. In North Somerset these health checks are currently targeted at the most deprived areas to improve inequalities.

Should the need arise, cardiac interventions such as revascularisation, treatment of heart rhythm problems with pacemakers and heart transplants are performed at the Bristol Heart Institute at University Hospitals Bristol Foundation Trust.

Areas of inequity of service provision

We are currently undertaking further health equity analysis of prescribing and service provision in secondary care, including revascularisation which will be included in the JSNA later in 2011.

Community voice

Currently no feedback is sought from patients with coronary heart disease in North Somerset.

What works

The National Service Framework for CHD was published in 2000. Since then, the National Institute of Health and Clinical Excellence has published specific guidance for the prevention and provision of services for CHD.

Department of Health (2000) National Service Framework for Coronary Heart Disease

NICE Guidance (CG 67) 2008 – Lipid modification and risk assessment

Department of Health (2008) Putting prevention first- vascular checks: risk assessment and management - next steps guidance for primary care trusts.

Department of Health (2009) Best practice guidance for the assessment and management of vascular risk

UK National Screening Committee (2008) – Handbook of vascular risk assessment, risk reduction, and risk management

NICE CG34 (2006) – Management of hypertension in adults in primary care
Faculty if Public Health toolkit (2005) Easing the pressure: tackling hypertension
NICE CG36 (2006) – Management of atrial fibrillation

NICE Public Health guidance, September 2008 - Identifying and supporting people most at risk of dying prematurely - Reducing the rate of premature deaths from CVD and other smoking-related diseases: finding and supporting those most at risk and improving access to services

NICE Public Health guidance 9, February 2008 - Community engagement to improve health

NICE Public Health guidance 6, October 2007 - Behaviour change at population, community and individual levels

NICE CG48 (2007) Secondary prevention of myocardial infarction (2007)

NICE Public Health Guidance 25 (2010): Prevention of cardiovascular disease

Challenges for Consideration

- To collect regular and structured feedback from service users on their experience of health care services in relation to cardiac prevention and services.

- To target primary and secondary prevention in areas of deprivation to decrease the inequalities in CHD.

- To implement the recommendations included in the CHD equity analysis due in 2011.

References:

[1] Department of Health: Health Inequalities Intervention Toolkit (2008)
[2] Quality and Outcomes Framework 2009/10 data
[3] Southeast Public Health Observatory-CVD profiles,2011
[4] ONS Mortality File, 2010
[5] Health Survey for England (2008)