INTRODUCTION
The aim of this study is to determine the factors responsible for the considerable variation in ischaemic heart disease, hypertension and stroke in Great Britain. It also seeks to determine the causes of these conditions in order to provide a rational basis for recommendations towards their prevention.

Funding
The British Regional Heart Study was originally supported by the Medical Research Council (1975-1985). It is currently a British Heart Foundation Research Group and receives additional support from the Department of Health. Both funding agencies have recently renewed their support for the study, for which we are very grateful.

Work in Progress
Following the recent record review in our collaborating general practices we now have morbidity and mortality data to June 2004. This provides a minimum of 24 years follow-up on 4700 men. The number of records reviewed has remained high with a 98% response; we would like to thank our colleagues in General Practice for their continuing support.

Update on secondary prevention of CHD
We are examining the extent to which the secondary prevention of CHD is changing over time. Between 2000 and 2003, the proportion of patients with established CHD receiving a statin increased dramatically (from 34% to 67%). There was also a marked increase in the proportion receiving an ACE inhibitor (from 28% to 44%) and a modest increase in the proportion receiving a beta-blocker (from 35% to 44%). The proportion receiving aspirin changed very little (from 82% to 84%), though other antiplatelet drugs, taken by very few patients in 2000, were being taken by 4% in 2003. With the increasing interest in combined preparations following the publication of a paper on the ‘polypill’, we have examined the use of combination treatment. By 2003, fewer than 10% of patients with established CHD had no secondary prevention medication, while 32% were taking at least 2 classes of treatment for secondary prevention and 27% were taking 3 classes. The combination of four established secondary prevention agents (antiplatelet drug + beta blocker + ACE inhibitor + statin) was being taken by 13% of patients.

Measures of adiposity in the identification of metabolic abnormalities in elderly men
Body mass index (BMI) is regarded as a poor indicator of overall and abdominal obesity in the elderly. We have determined which simple anthropometric measurements (BMI, waist-to-hip ratio (WHR), waist circumference, percentage body fat (%BF) and fat mass) are most closely associated with metabolic risk factors and insulin resistance in elderly men (60-79 years). In men with no history of CHD, stroke or diabetes, BMI and waist circumference (WC) were the measures most strongly associated with the ‘metabolic syndrome’ (3 or more of the following metabolic disorders: hypertension, high triglyceride, low HDL-C or high glucose) and insulin resistance (HOMA). WHR and % BF showed the weakest associations. In normal weight (<25 kg/m²) and overweight (25-29.9kg/m²) men, the presence of the metabolic syndrome and insulin resistance increased with increasing WC; this was not seen in obese men (BMI ≥ 30 kgm²). BMI and WC are the simple measures of adiposity most strongly associated with metabolic abnormalities and insulin resistance in elderly men. Our findings suggest that WC complements BMI in the identification of health risks, in normal and overweight men.

Using data on CHD diagnoses obtained from the regular general practice record reviews, we examined trends over time in different forms of diagnosed CHD in the BRHS population. We assessed age-adjusted changes during 20-year follow-up (from 1978-80 to 1998-2000) in rates of i) first diagnosed major CHD event (CHD death or definite MI), ii) first diagnosed angina, and iii) first diagnosed CHD (CHD death, definite MI, angina or other documented CHD). Over the 20-year follow-up period there was a substantial fall in the rate of first major CHD events (average annual relative change: –3.5%). However, the rate of first diagnosed angina increased over the same period (average annual relative change: +2.6%). These opposing trends resulted in there being no significant change over time in the rate of first diagnosed CHD. These results suggest that, among British middle-aged men, a substantial decline in the incidence of major CHD events over the past two decades has been largely offset by an increase in the incidence of diagnosed angina. The results emphasise the ongoing need for CHD resources and services, particularly for new angina. They also highlight the need for continued emphasis on the primary prevention of CHD.

The metabolic syndrome and prediction of type 2 diabetes and cardiovascular disease

The metabolic syndrome (MetS), defined by a cluster of risk factors including obesity, hypertension, hyperglycaemia and dyslipidemia is associated with increased risk of cardiovascular disease and diabetes. We have assessed the 20-year prospective relationship between the metabolic syndrome and its components and risk of major CVD events (CHD and stroke) and type-2 diabetes in middle-aged men free of CVD or diabetes. We have also compared how the syndrome equates with the Framingham risk score in predicting the development of CHD and diabetes. MetS was defined as having 3 or more metabolic abnormalities based on modified National Cholesterol Education Program criteria. Men with the MetS showed significantly increased risk of both CVD and diabetes. Risk of CHD and diabetes increased progressively with increasing number of metabolic abnormalities. Preliminary findings indicate that the MetS is a stronger predictor of diabetes than of CHD and it is not as strong a predictor of CHD as the Framingham score.

Social inequalities in coronary heart disease

Social inequalities in the burden of coronary heart disease (CHD) are well recognised in most developed countries. We have previously demonstrated that this is also true among men from the British Regional Heart Study. We are currently attempting to clarify the extent to which these inequalities persist into older age. We also wish to understand which particular aspects of social position relate most strongly to CHD. Measures available from the 1992 postal questionnaire include car ownership, housing type, marital status, occupational social class, father’s social class, and social network score. We have used participants’ postcodes to map to the Carstairs deprivation scores for the electoral ward. This last measure is important because some researchers have suggested that the characteristics of areas where people live contribute to their health independently of their own personal circumstances. At the time of the 1992 questionnaire, the men were aged 52-73 years, and we now have a decade of follow-up data available after that time. We hope that our findings will help to highlight characteristics of older men in the community who are particularly susceptible to CHD.

Recent Publications available on request


**Papers in press**


**Presentations at meetings**

**Society of Social Medicine, Birmingham September 2004**

Inequalities in Coronary revascularisation during the 1990s- Evidence from the British Regional Heart Study. *RW Morris et al.*

**European Society of Cardiology (Munich) September 2004.**

Inequalities in coronary revascularisation during the 1990s - prospective study in older British men. *RW Morris et al.*

**Future Meetings**

**Cardiovascular Disease Prevention VII, Kensington Town Hall, London. February 2005.**

With all good wishes and seasons greetings, on behalf of the BRHS team.

[Signatures]

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