

# Building Healthier Hearts



## **Introduction to the Report of the Cardiovascular Health Strategy Group**

Prepared by the Department of Health and Children



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# abbreviations

ACE	Angiotensin converting enzyme
AMI	Acute myocardial infarction
CABG	Coronary artery bypass graft
CHD	Coronary heart disease
CPR	Cardiopulmonary resuscitation
EMT	Emergency medical technician
GMS	General Medical Services
HDL	High density lipoprotien (cholesterol)
HIPE	Hospital In-Patient Enquiry
KHP	Kilkenny Health Project
LDL	Low density lipoprotein (cholesterol)
PTCA	Percutaneous transluminal coronary angioplasty
SLÁN	Survey of Lifestyles, Attitudes and Nutrition



# Foreword

*On taking office I identified the need to address cardiovascular disease as a priority for action. Irish rates for premature death and illness are not defensible. At a time of unprecedented economic growth and prosperity it is wholly unacceptable to have such high rates of premature death and illness from a disease which is largely preventable. There is nothing inevitable about our high levels of cardiovascular disease.*

*As Minister for Health and Children, I would like to take this opportunity to congratulate the Cardiovascular Health Strategy Group on producing this well researched, evidence based report. 'Building Healthier Hearts', is a very comprehensive report and its recommendations are far reaching. It is clear to me that through sustained action the many potential benefits from its implementation can certainly be realised. Given the multiple causes contributing to cardiovascular disease it is also evident that this will involve many Government Departments and voluntary agencies as well as a wide number of organised groups in society.*

*My Department has already looked at the additional structures which will be required to ensure the implementation of the recommendations of the Cardiovascular Health Strategy Report. The structured approach to cardiovascular health management recommended in the report will contribute to improved efficiency within the health services as a whole, with substantial consequential benefits to society. Equally, I would see it as extremely important that we ensure the removal of any inequities in access to public health services.*

*This "Introduction to Building Healthier Hearts" has been compiled by my Department to give an overview of the Report of the Strategy Group and to set out the implementation structures which we will put in place. I am encouraged that there is a role which all of us can play in improving the heart health of the nation. Because lifestyle is associated with this disease individuals must take responsibility for maintaining their own heart health. We need to lead the very young by our example in developing good lifestyle habits which in time will reap benefits for society as a whole. Lifestyle changes made even late in life can bring important gains. Within my own Department, I am making heart health a priority for action.*

*This Strategy provides us with an opportunity to make a real difference in the heart health of future generations of Irish people. We are embarking on a long term project here, one where the next generation will reap great benefits if we are prepared to do what is required. I am confident that we can sustain progress over the coming years through the implementation of this strategy and I look forward to a future where all of our people will enjoy standards of heart health which are comparable to the best in the world.*



**Mr Brian Cowen TD**

*Minister for Health and Children*



# 1. Introduction to the Cardiovascular Strategy

This introduction to ‘Building Healthier Hearts’ will give readers an overview of the report of the Cardiovascular Health Strategy Group. Firstly, it sets out the background to the strategy and its policy context. A brief description of mortality and morbidity trends from cardiovascular disease in Ireland follows. Next an overview is given of current health service provision and of the changes considered necessary by the Group. Finally, key recommendations are identified and implementation structures are set out.

The full report of the Cardiovascular Health Strategy Group (Building Healthier Hearts) contains 143 pages of text and is fully referenced. The evidence and scientific basis for the Group’s 211 recommendations are presented. The report contains ten chapters. The first four set out the relevant issues for cardiovascular diseases. Chapter 1 provides background information on the Group, its terms of reference and its working methods. Chapter 2 gives an overview of the different manifestations of cardiovascular disease and the epidemiological or population pattern of the disease internationally. Chapter 3 reviews the causes and prevention of cardiovascular disease and the treatment and rehabilitation of patients with coronary heart disease (CHD), the most common form of the disease. Chapter 4 presents what is known about patterns of cardiovascular disease and the associated risk factors in Ireland.

The next five chapters set out the situation for each sector with a role in cardiovascular disease management. Chapter 5 outlines present health promotion structures and public health strategies. Chapter 6 addresses the situation in primary care. Chapter 7 deals with pre-hospital services for those with a suspected acute coronary event and Chapter 8 addresses hospital medical services for CHD. Chapter 9 reviews cardiac rehabilitation services. In Chapter 10 information systems, audit and research are considered.

In each chapter the service situation is described, specific strategic and operational recommendations are made together with suggestions for appropriate implementation. Additional personnel and financial resources will be required to develop high quality services for patients with cardiovascular disease. Such a prevalent and complex public health problem requires cross-sectoral and multidisciplinary initiatives if meaningful health gains are to be achieved. The potential for collaboration with service providers in Northern Ireland could usefully be explored.

## Background

The Minister for Health and Children, Mr. Brian Cowen, T.D., established the Cardiovascular Health Strategy Group in March 1998 with the following terms of reference:

*‘..... to develop a strategic approach to reduce avoidable death and illness caused by cardiovascular disease. The Group will engage in a wide-ranging consultation process and make recommendations on the development and implementation of an integrated strategy to improve cardiovascular health.*

*In particular, it will advise on:*

- (i) initiatives which can be taken to improve cardiovascular health;*
- (ii) steps necessary to develop further cardiac care and rehabilitation services at primary, secondary and tertiary levels, having regard to considerations of equity, quality, effectiveness and efficiency;*

- (iii) *the future organisation and co-ordination of services to patients throughout the country;*
- (iv) *any additional measures which may be necessary to assess the impact of the overall strategy and its main constituent elements.'*

The establishment of the Cardiovascular Health Strategy Group was part of an overall initiative on cardiovascular health and cardiac services announced by the Minister in January 1998. The initiative also included investment in additional public cardiac surgery facilities for adults and children and the development, in the medium term, of a national heart/lung transplant programme for patients with cystic fibrosis and other heart and lung diseases.

#### **Membership of the Cardiovascular Health Strategy Group**

Mr Michael Jacob	Chairman
Mr Vincent Barton	Department of Health and Children
Ms Irene Byrne	Physiotherapist and Co-ordinator of Cardiac Rehabilitation
Prof J.H. Horgan	Consultant Cardiologist
Prof Cecily Kelleher	Professor of Health Promotion
Dr Cormac Macnamara	General Practitioner
Mr. Tony McNamara	Hospital Manager
Ms. Maureen Mulvihill	Health Promotion Manager
Mr. Micheál O'Muircheartaigh	Broadcaster
Ms. Valerie O'Sullivan	Ward Sister
Dr. Emer Shelley	Specialist in Public Health Medicine
Prof. Michael Walsh	Consultant Cardiologist
Ms. Patsy Carr	Department of Health and Children (Secretary to the Group)

Ms. Ciara Brown, Drury Communications, assisted the work of the Group.

#### **Working Methods**

The Group engaged in an extensive consultation process. Written submissions were invited and representatives from many organisations met with the Group. In addition, members of the Group made a number of site visits. Questionnaires were circulated to hospitals caring for patients with cardiac problems enquiring about the type and volume of diagnostic and treatment services provided and about the level of cardiology staffing.

An Implementation Group was established within the Department of Health and Children in order to facilitate the work of the Strategy Group and the implementation of its recommendations.

#### **The Need for a Strategic Approach**

Cardiovascular diseases eventually kill half of the Irish population. However, in recent years in Ireland and in other developed countries in the Western world, there have been substantial declines in mortality rates from CHD. Evidence from North America in particular suggests that the decreasing death rates have resulted from a combination of primary and secondary prevention and medical and surgical treatments.

There is little evidence, however, that the number of people who suffer from cardiovascular diseases has declined. The disease presents at an older age, there is lower case fatality and improved survival. Overall, Irish men and women are living longer. Consequently coronary and other cardiovascular diseases will continue to be common problems and require comprehensive, sustained prevention and treatment programmes.



The three principal risk factors for CHD are smoking, raised levels of cholesterol in the blood and raised blood pressure, all of which have a relationship to lifestyle, including diet and exercise. Therefore, as individuals we need to take responsibility for our own health. It is recognised that other factors also alter risk, including genetic make-up and the presence of other diseases such as diabetes. There is substantial evidence that factors predicting CHD are the result of a lifelong process beginning with the formation of the cardiovascular system in the foetus.

While individuals have responsibility for their own health behaviours, substantial demographic variations suggest that social and economic inequalities play an important part in the development of the disease. Measures to reduce such inequalities must therefore also be addressed.

To achieve **health gain** a comprehensive approach addressing primary prevention, primary care, pre-hospital care, diagnostic and treatment services in acute hospitals, secondary prevention and rehabilitation is required. Over a period of time, this will reduce death rates from cardiovascular disease. Physical function will be improved in those who develop the disease, recurrence rates will be reduced and survival will be increased.

We can also measure **social gain**. When a parent of a young family dies suddenly from a heart attack there are obvious consequences for the family and society as a whole. In Ireland today, many people have family responsibilities in late middle age. Many older people provide care for other family members and have responsibilities in their communities. In view of the social roles, as well as the economic contribution these people make, it is important that the state nurture this resource - the health and well-being of its citizens.

The treatment and rehabilitation of stroke are quite different to those for CHD. The Cardiovascular Health Strategy Group focussed mainly on treatment and rehabilitation for patients with CHD. The recommended strategies for prevention will, however, lead to declines in other cardiovascular diseases, such as stroke and diseases of arteries, as well as preventing CHD.

A strategic approach to the prevention of cardiovascular disease and to the treatment and rehabilitation of patients with CHD requires a full spectrum of interventions. We need to:

- reduce the risk factor profile in the general population;
- detect those at high risk;
- deal effectively with those who have clinical disease;
- ensure the best survival and quality of life outcome for those who recover from an acute event.

## **The Policy Context**

The national health strategy, 'Shaping a Healthier Future' (1994), set out the principles which guide the delivery of health services in Ireland and provided direction for the development of this strategy for cardiovascular health. It stressed the importance of equity of access to health care, the provision of a high quality service and of accountability. Service planning should be based on the concepts of health and social gain - that patients and clients of the health and social services should receive a clear benefit from their contact with the system. The assessment of health needs and evaluation and audit of services are essential if health gain is to be achieved. One of the key objectives of the Department of Health and Children's overall strategy is to work in partnership with all relevant agencies in the statutory and voluntary sectors.

Death rates from cardiovascular disease are falling, in line with the targets set in the national health strategy and in the national health promotion strategy for older people 'Adding Years to Life and Life to Years' (1998). The national health promotion strategy 'Making the Healthier Choice the Easier Choice' (1995) described the key settings in which action would take place to achieve health targets, together with action plans to address lifestyle issues and risk factors.

Progress is being made in the implementation of recommendations set out in other relevant national reports, including the Report of the Review Group on the Ambulance Service (1993). The Group also took into account relevant sections of the Report of the Commission on Health Funding (1989).

## **Basic Principles**

In developing its recommendations, the Cardiovascular Health Strategy Group was guided by the following basic principles:

### **Health and Social Gain**

- 1 Some treatments result in immediate improvements in symptoms and in quality of life, with measurable health and social gain in the short term. Other interventions, such as health promotion and disease prevention initiatives, yield results in a longer time frame. A comprehensive strategy for cardiovascular disease must achieve a balance in the application of resources between those yielding immediate results and those invested in the expectation of improved outcome in the longer term.
- 2 Balance must also be achieved between providing a physical and social environment which supports healthy choices and the responsibility of individuals to maintain their own health.

### **Equity of Access**

- 1 Access to health services should be based on need. Patients should not be restricted in their access to a service because of their income or ability to pay, or because of their place of residence, gender or age.
- 2 Basic services, including health promotion, primary prevention, pre-hospital care, acute coronary care and cardiac care, interventional cardiology, cardiac surgery, cardiac rehabilitation and secondary prevention, should be available to all patients who would benefit.
- 3 In order to attain geographic equity, appropriate regional self-sufficiency in a safe environment is essential. Some specialist services, such as cardiac surgery or cardiac transplantation should be provided at supra-regional or national centres.

### **Quality**

The Group aimed to recommend a safe, high quality service. It is recognised that it may be necessary to continually raise standards in order to attain the desired quality of service.

### **Effectiveness and Efficiency**

- 1 There are a number of treatments for which there is substantial evidence of benefit for patients with cardiovascular disease and for those at high risk of the disease. Resource allocation should be based on an assessment of needs and on evidence of likely benefit from service provision.
- 2 Health service structures should facilitate the integrated and continuing care of patients with chronic manifestations of cardiovascular disease.
- 3 The roles and responsibilities of the health professionals involved in continuing care should be clarified. For each individual patient there should be clear communication between professionals and with the patient and family so that the patient understands the proposed procedures and continues to benefit from appropriate treatments.

### **Accountability and Audit**

- 1 It should be explicit where responsibility lies for the delivery of services, including preventive services. It should also be clear which organisations are responsible for the implementation of proposed strategies.
- 2 An audit and evaluation process, including clinical audit, is necessary in order to measure the volume and quality of service provision. A review process is required to measure progress towards attaining targets and to highlight areas which require remedial action.

## **2. Cardiovascular Disease - an overview**

The cardiovascular system is made up of the heart and blood vessels - arteries and veins. By far the most common type of disease in the cardiovascular system occurs as a result of atherosclerosis or hardening of the arteries. Atherosclerosis of the arteries which supply blood and oxygen to the heart muscle results in CHD. This may present clinically as primary cardiac arrest, angina pectoris, acute myocardial infarction (AMI) or heart failure. Stroke (cerebrovascular disease) is the second most common of the atherosclerotic diseases to lead to death in Irish people.

### **A Global Perspective**

In nearly all European countries cardiovascular mortality represents around 40% of total mortality before the age of 75 years. There has been a decline in the age-specific cardiovascular disease mortality rates in younger age groups in Western European countries, including Ireland.

In the United States it has been estimated that 25% of the reduction in cardiovascular mortality can be attributed to primary prevention, 50% to treatment of acute conditions and to cardiological and surgical interventions, and 25% to secondary prevention in those with the disease. While there have been substantial declines in mortality from cardiovascular disease rates at younger ages in Western countries, the number of chronically ill cardiovascular patients is probably increasing due to the aging of the population.

In many Eastern European countries death rates from cardiovascular disease continue to increase. Mortality from cardiovascular diseases in Irish men and women is at the interface between the very high rates in Eastern European countries and the lower rates that pertain in the remainder of Europe outside these islands. There is much that Ireland can learn from countries such as Finland which have successfully taken a strategic approach to the management of the cardiovascular disease epidemic.

### **Cerebrovascular Disease**

Incidence rates of stroke rise exponentially with age. There has been a substantial decline in stroke mortality over a number of decades throughout the developed world. This reflects lifestyle and dietary changes, particularly a reduction in population salt intake, as well as improved detection and management of raised blood pressure. Strategies to prevent CHD will also result in a reduction in morbidity from stroke and other atherosclerotic diseases. The treatment and rehabilitation of patients with stroke is quite different to therapies for CHD and are not addressed in this report.

## Diabetes Mellitus

Patients with diabetes mellitus have a two-to four-fold risk of coronary, cerebrovascular and peripheral vascular disease compared to people who do not have the condition. People with diabetes are more likely to also have raised blood pressure, obesity, increased abdominal fat and abnormal lipid metabolism. Even when diabetic patients are asymptomatic their risk factors should be managed as aggressively as in non-diabetic patients with existing cardiovascular disease.

## Factors which Alter Risk of Cardiovascular Disease

Although many factors have been implicated in increasing risk of heart disease, smoking, raised blood pressure and raised blood cholesterol are regarded as the three 'classic' risk factors (Figure 2.1).

**Figure 2.1** Lifestyles and other characteristics associated with increased risk of future CHD

Personal characteristics (non-modifiable)	Lifestyles (modifiable)	Biochemical or physiological characteristics (modifiable)
Age	Diet high in saturated fat, cholesterol and calories	Elevated plasma total cholesterol (LDL cholesterol)
Sex	Tobacco and smoking	Elevated blood pressure
Family history of CHD or other atherosclerotic vascular disease at early age (in men <55 years, in women < 65 years)	Excess alcohol consumption	Low plasma (HDL cholesterol)
Personal history of CHD or other atherosclerotic vascular disease	Physical inactivity	Elevated plasma triglycerides  Hyperglycaemia/diabetes Obesity Thrombogenic factors

Because cardiovascular disease rates in population groups change relatively quickly, we know that for most people it is the combination of genes and lifestyle which is important in determining risk. Families share lifestyles as well as genes. Healthy lifestyles and preventive treatment can do much to ameliorate increased risk which is attributable to genetic inheritance.

The public assigns a high priority to 'stress' as a risk factor for cardiovascular disease. Such associations may operate through responses to stress which alter lifestyle factors including smoking and alcohol, diet and physical activity. However, substantial evidence exists of an independent association between psychosocial factors and the development of cardiovascular disease with regard to anxiety and depression, low social supports, low job control and personality type.

Studies in many countries, including Ireland, have found important differences between the social classes in mortality rates and in the prevalence of risk factors for cardiovascular disease, with risk being substantially higher in disadvantaged groups.

## Prevention

A comprehensive prevention plan has three components:

- A population strategy;

- A high risk strategy;
- Secondary prevention in those who already have cardiovascular disease.

Recommendations for preventive strategies in patients with CHD or other atherosclerotic diseases are summarised in Figure 2.2.

**Figure 2.2** Preventive strategies for patients with CHD or other atherosclerotic disease, based on European Task Force recommendations

<b>Lifestyle:</b>	Stop smoking   Reduce total fat intake (principally saturated fat) Be physically active
<b>Other risk factor goals:</b>	Blood pressure < 140/90 mm Hg   Total cholesterol < 5.0 mmol/l LDL cholesterol < 3.0 mmol/l
<b>Prophylactic drug therapies:</b>	Aspirin   $\beta$ -blockers   Cholesterol lowering therapy ACE inhibitors   Anticoagulants
<b>Screen:</b>	Close relatives of patients with premature CHD (i.e. in men < 55 years, women < 65 years)

## Diagnosis and Management

There is a range of procedures available to establish the diagnosis of CHD. Drug therapies, cardiac interventions, cardiac surgery and angioplasty all play a part in the management of cardiovascular disease. Patients with different manifestations of cardiac disease benefit from participation in formal rehabilitation programmes. These effects are seen in both men and women irrespective of age.

The main interventions used to improve the blood supply to heart muscle remain coronary artery bypass graft (CABG) surgery and percutaneous transluminal coronary angioplasty (PTCA). The purpose of a PTCA procedure is to widen the stenosed artery by introducing and inflating a balloon catheter. In clinical practice CABG and PTCA have advantages and disadvantages; technical considerations and the clinical status of the patient determine the preference for one intervention over the other in the short term. Neither treatment cures the underlying condition and long-term management strategies are likely to use both interventions in a complementary fashion, along with appropriate lifestyle advice and medication.

# 3. Cardiovascular Disease in Ireland

## Mortality from All Causes and from Cardiovascular Diseases

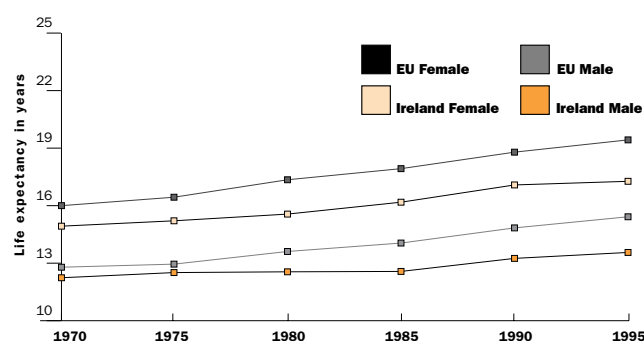
Cardiovascular disease including heart disease, stroke and related diseases is the single largest cause of death in Ireland, representing over two in five (43%) of all deaths in 1997. CHD results in the largest number of deaths, leading to almost one quarter of all deaths at all ages. Stroke causes nearly one in ten of all deaths. A further one in ten deaths is attributed

to other cardiovascular diseases, such as heart failure, diseases of arteries including aortic aneurysm and diseases of the peripheral arteries, hypertensive disease and rheumatic heart disease.

For Irish men under the age of 65 cardiovascular disease is the main cause of death. In women it is the second highest cause of death, after cancer. Life expectancy for middle-aged men and women has improved in recent years but at age 65 life expectancy for men and women in Ireland is the lowest in the EU. The widening gap in life expectancy with age between Irish men and the average for the EU (Figure 3.1) is caused by higher death rates, particularly from cardiovascular disease, in Ireland compared to the EU average. The lower life expectancy throughout life for Irish women compared to the average for the EU reflects the higher death rates from heart disease in Ireland than in other EU countries. Studies have found that men and women in Ireland have high levels of risk factors for heart disease. Cardiac investigation and intervention rates are also low in Ireland compared with rates in other countries.

**Figure 3.1**

Life Expectancy at Age 65: Ireland and EU Average 1970-1995



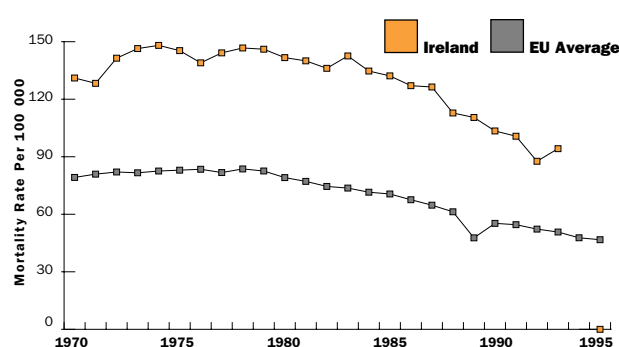
Source: WHO Health for All Database

### Mortality from CHD

Age-specific death rates start to increase at a younger age in men compared with women. Death rates from CHD at all ages plateaued during the 1970s, then decreased from the late 1970s onwards, with a more rapid decline in men since the mid-1980s. Death rates were 16% and 15% lower in men and women respectively in 1991-1993 compared to 1970-1972. The reduction in CHD mortality was greatest for men and women in younger age groups (Figure 3.2).

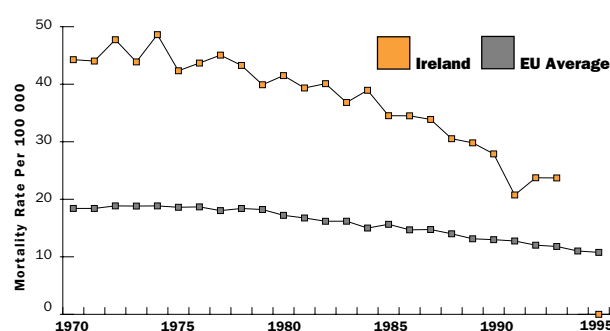
**Figure 3.2**

Age-standardised mortality from CHD in Irish men and EU average for men, 0 - 64 Years, 1970-1993



Source: WHO Health for All Database

Age-standardised mortality from CHD in Irish women and EU average for women, 0 - 64 Years, 1970-1993



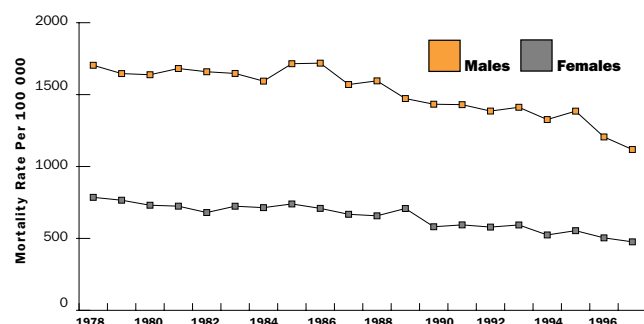
Source: WHO Health for All Database

There were also substantial declines in CHD mortality in those aged 65 to 74 years (Figure 3.3).

Despite the decline in recent years, death rates from CHD remain high in Ireland compared to rates in other EU countries. The most stark contrast is with trends in Finland where during the 1960s death rates from CHD were substantially higher than for men in these islands. Death rates for men under 65 years in Finland are now lower than for Irish men. Death rates for Finnish women were similar to rates for Irish women during the 1960s.

**Figure 3.3**

Mortality from CHD in Irish men and women, aged 65–74 Years, 1978 - 1997



Source: CSO

The latest figures show death rates for women under 65 years in Finland to be nearly half those of women in Ireland.

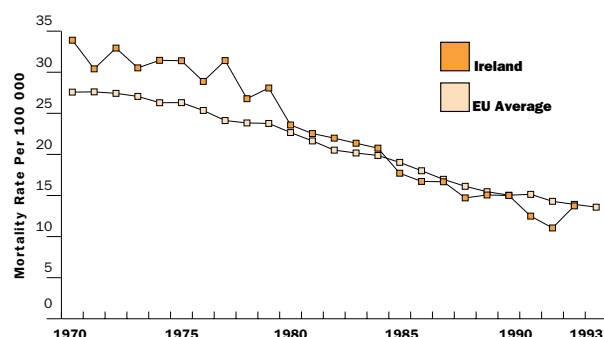
There is some geographic variation within Ireland in death rates from CHD. In men and women age-standardised death rates are highest in the North Eastern and Southern Health Board regions and lowest in the North Western Health Board area.

### Mortality from Cerebrovascular Disease

There have also been decreases in death rates from cerebrovascular disease (Figure 3. 4). Stroke death rates in Irish men and women are now similar to the average rate for the EU.

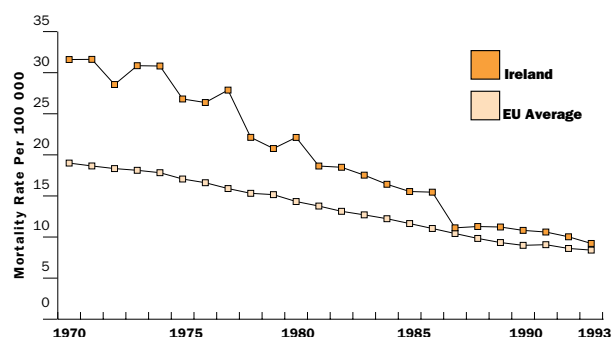
**Figure 3.4**

Age-standardised mortality from cerebrovascular disease in Irish men and EU average for men, 0 - 64 years, 1970-1993



Source: WHO Health for All Database

Age-standardised mortality from cerebrovascular disease in Irish women and EU average for women, 0 - 64 years, 1970-1993



Source: WHO Health for All Database

### Morbidity

A decline in mortality rates does not necessarily mean that the population burden of the disease has decreased. Reduced case fatality and improved survival results in lower death rates and increased prevalence of the disease.

CHD places a very considerable burden on the acute hospital system. In Ireland in 1996 there were 20 013 discharges where CHD was the primary diagnosis on discharge. The largest number of discharges was in men in the under 65 age group, followed by men aged 65 to 74 years. There were a similar number of discharges in men and women aged 75 or more. A further 22 717 patients had CHD listed as a secondary diagnosis. It is estimated that patients with a principal diagnosis of CHD occupy 435 beds on a continuous basis in our acute hospital system. In bed numbers, this is equivalent to a fully occupied major regional hospital on a year round basis.

### Interventions for CHD

Prior to referring a patient for coronary artery bypass graft surgery (CABG) or as a prelude to percutaneous transluminal coronary angioplasty (PTCA), coronary arteriography is performed. There were 5 236 such procedures performed in the hospitals reporting to the Hospital In-Patient Enquiry (HIPE) in 1996. There was substantial variation in the rate of coronary arteriography by health board of residence. The rate was highest for those living in the Eastern, North Eastern and Midland Health Boards and lowest in the Western Health Board.

The age-standardised HIPE data for cardiac procedures in 1996 show:

- Substantial variation by health board - rates were particularly low in the Western Health Board. In general the closer his residence is to a tertiary centre the more likely a male is to get CABG;
- Arteriography, PTCA and CABG are substantially lower in women than in men. There may be a higher threshold for referral of women for coronary arteriography.

### Morbidity Data for Cerebrovascular Disease

There were 13 431 discharges from acute hospitals in 1996 with a diagnosis of stroke. Of these, cerebrovascular disease was the principal diagnosis in 8 532 discharges (64%). Generally, patients with this diagnosis have a long stay in hospital, reflecting the requirement for in-hospital rehabilitation prior to discharge. The number of discharges and bed days with a diagnosis of stroke is particularly high in women aged 75 years and over.

### Prescriptions

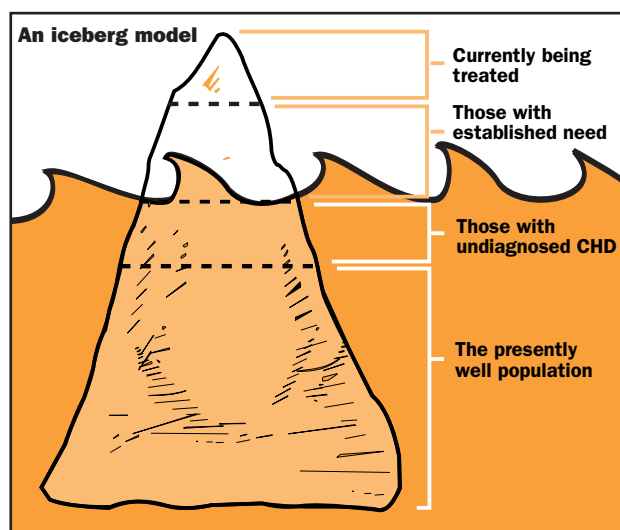
In 1997 the General Medical Services (GMS) (Payments) Board paid a total of £44 million for medicines for diseases of the cardiovascular system. This represented 17.5% of the total bill for medicines and appliances. Prescriptions for diseases of the cardiovascular system represented 19.4% of total prescriptions issued. In the 55 to 64 year age group, over one quarter of GMS cardholders were prescribed medication for a condition related to cardiac disease.

### Prevalence of Cardiovascular Disease

In a survey of older people in Ireland carried out in 1994 about one fifth of respondents reported having a disease of the circulation. Preliminary data from the Survey of Lifestyles, Attitudes and Nutrition (SLÁN) suggest that 13% of men over 55 years and 9% of women had a history of angina diagnosed by a doctor. In the same age group 8% of men and 4% of women reported that they had had a previous heart attack.

## 4. Current service provision - areas requiring action

In health services evaluation the 'iceberg concept' is well established and is an apt analogy to describe the population breakdown in terms of risk of CHD. At the visible top are those currently being treated by the acute services. Just beneath are those who have an established need and are awaiting services. These are the two groups that receive most current attention in political and media discussion but these are only the surface of the problem. Beneath these again are those for whom screening or high risk detection and primary interventions are appropriate. Finally, there are those presently well in the general population for whom health





promotion and disease avoidance strategies are appropriate. Effective strategies are required to intervene across the spectrum of health and disease, depending on where greatest benefit can be achieved.

The Strategy Group identified the following four main areas to be addressed:

- Health promotion
- Primary care
- Pre-hospital, hospital care and rehabilitation
- Information systems

### **Expand or put in place settings-based Health Promotion Programmes**

Without a major focus on health promotion the problems of cardiovascular disease will not just continue, but escalate, and patterns of health inequality in our society will widen. This is not just an economic or resource issue for the health sector but a matter of social responsibility for our political system and the general public. Individual lifestyle is in part a matter of personal control but also an indicator or signal of adverse social and environmental factors that inhibit individuals from making healthier choices.

The established international approach to lifestyle improvements has been by means of settings-based interventions. This refers to the provision of Health Promotion initiatives where people live, study or work, for example, in the school workplace or community, as well as in the health services. Health service workers are the largest single category of employees in the country and should be the leaders in this area. Dedicated programmes around the specific risk factors - smoking, diet and exercise - can be addressed using this framework. Settings-based approaches also ensure specific focused strategies for groups requiring special attention, particularly young people and the economically disadvantaged. There is little doubt but that society as a whole can play a huge part in promoting healthy lifestyles.

SLÁN (Survey of lifestyle, attitudes and nutrition, 1998) found that 31% of respondents were regular or occasional smokers. Prevalence of smoking was highest in the 18 to 34 year age group. The priority for health must be to reduce the prevalence of young people starting to smoke. The Consumer Price Index includes tobacco products which influences the calculated rate of inflation and restricts tax increases levied on tobacco products.

SLÁN also found that 9% of respondents engaged in strenuous activity and 31% were moderately active at least three times per week. One quarter reported taking no exercise at all. Any physical activity is worthwhile; the public should aim to build in stages to at least 30 minutes per day. The current lack of cycle lanes and safe footpaths is seen as a prohibitive factor for many people not taking exercise. All pre-school and primary school age children and second level young people should be encouraged to participate in physical activity. Young teenagers should be made aware of the importance of being involved in physical activity.

### **Establish a protocol for appropriate primary care**

General practitioners are in the best position to provide consistent, long-term structured follow-up for those with risk factors for heart disease as well as other illnesses. The infrastructure in Irish general practice has a number of limitations. Our health service structure means that about 34% of the population are covered comprehensively in the General Medical Services scheme and the remainder have a private fee-paying arrangement with their general practitioner. The GMS scheme provides only for treatment services and except where there are explicit contractual arrangements, as for example for childhood immunisation, the general practitioner is not paid to undertake any preventive or anticipatory care of patients. Outside the GMS the situation is also unsatisfactory in terms of implementing preventive strategies.

In 1996 general practitioners had an average of 80 hours scheduled work per week; 73% had a GMS list. One half of practices were single-handed, some did not have secretarial support and many did not have a practice nurse or other

paramedical staff. However, there have been substantial developments in general practice in recent years; for example, two thirds of practices had computers by the end of 1997.

Occupational health services also have a role in prevention but only a small proportion of larger companies have a regular physician, while some have occupational nurse support.

Key issues are the provision of an adequate hypertension detection and follow-up programme, the appropriate use of aspirin in primary and secondary prevention and an acceptable strategy for management of hypercholesterolaemia. General practitioners also have a role in supporting smoking cessation, both in short intervention strategies and in liaison with other community services. Specially trained practice nurses can do much of the necessary follow-up and counselling. The current provision of a clinical nutrition service in general practice is inadequate. Outside general practice referral to a hospital risk management clinic, to a community dietitian or smoking cessation clinic may often be necessary.

### **Standardise acute care in the pre-hospital and hospital setting across health board regions**

Of those patients dying from fatal coronary artery disease at least 50% will be dead within two hours of the onset of symptoms. The recognition that most deaths from cardiac arrest occur soon after the onset of symptoms and outside hospital focuses attention on 'improving the links in the chain of survival'. Bystander-initiated cardiopulmonary resuscitation (CPR) increases pre-hospital survival three to four-fold.

The Group noted that at present, emergency medical technicians (EMTs) cannot administer emergency cardiac care drugs. The review also identified a range of issues where no consistent standards of practice exist between and within health board regions. More progress has been made in some health boards than in others in implementing the recommendations of the Review Group on the Ambulance Service. There has been progress in equipping ambulances and in training ambulance personnel in the use of automatic defibrillators. Issues to be addressed now include audit and evaluation to reduce delays from the onset of chest pain to administration of thrombolysis, access to automatic defibrillators, the administration of thrombolysis by general practitioners and better response times for emergency calls.

A range of evidence-based treatments is available for patients with cardiac problems. Despite this evidence, protocols for treatment and secondary prevention in cardiac patients have not yet been agreed. These should cover thrombolytic agents, anticoagulation and antithrombotic treatments. There is a substantial research base on the management of hypertension, hypercholesterolaemia and heart failure, and the appropriate use of  $\beta$ -blocking agents and ACE-inhibitors.

Access to cardiac interventions is restricted and geographically uneven at present. Facilities for cardiac care, investigation and interventions vary substantially which raises important questions about equity of access and quality of service.

Cardiac rehabilitation after myocardial infarction or cardiac surgery provides a supervised exercise programme, reinforces advice about risk factor modification and provides psychological and vocational support. Changing to employment or activity that is more appropriate to the person's current physical and psychological state may help adjustment. A survey was undertaken of 114 patients (average age 47) with cardiac problems referred by Beaumont and the Mater Misericordiae Hospitals in Dublin to a dedicated vocational rehabilitation service. Approximately one third of these patients returned to their own job, many with the support of the service, over one third entered a new job, while the remainder decided to make beneficial lifestyle changes though remaining unwaged.

While cardiac rehabilitation in some centres is at an international standard of excellence, in other centres there are no programmes at all. Even where programmes are provided, often only a minority of eligible patients are enrolled. Special attention is required to ensure adequate participation by women and by older patients.

### Ensure an effective surveillance system

The Group identified considerable weaknesses in all aspects of surveillance. Without effective surveillance and evaluation it is impossible to determine prevalence levels or to evaluate measures taken. Relevant baseline data is substandard. Routinely available mortality data and demographic patterns are limited. There is no system for flagging deaths in identified cohorts and hence no long-term cohort information. There are no dedicated morbidity records apart from the Irish Cardiac Surgery Register and the registers established for the duration of the Kilkenny Health Project. The Hospital In-Patient Enquiry system records information on activity not individuals, therefore individual patients may be represented more than once. Up until 1999 HIPE data only recorded activity in the public hospitals. One private hospital has joined the system and plans are underway to include others. Public health departments at regional level were established in the mid-1990s and have produced a standard set of data on key health indicators.

Information systems are vital to health services planning. Information also provides a basis for clinical audit, an important aspect of continuing professional development and education. A vibrant research climate is fundamental to improving quality and maintaining morale in the health services. The Strategy Group noted that the Health Research Board committed funding of £4.4 million for 1998 - which they considered inadequate to allow quality research.

## 5. Key Recommendations

The Cardiovascular Health Strategy Group made 211 recommendations which fall into the areas already outlined. The key players responsible for each are also identified. The implementation of this strategy will address issues of service co-ordination, equity of access, equity of service and health education and promotion. The objectives set will require the whole-hearted support and engagement of Government at the very highest level. International experience shows that real change can be achieved through commitment to a national campaign that will set out to radically alter each citizen's attitude to cardiovascular health. Lifestyle changes made even late in life can bring huge gains.

Because heart disease is so common we need to standardize approaches to the care of patients throughout the health care system with the nationwide application of :

- Clinical protocols
- Clinical audit and evaluation
- Shared care between hospital and general practice
- Structures for the identification of those at high risk in general practice
- Structures for the care of patients with chronic disease in general practice

Special attention should be paid to the integration of patient services from primary care, through pre-hospital emergency care, to services provided in acute hospitals.

### Health Promotion

There are 58 recommendations in this area. Certain major policy decisions need to be taken as a matter of priority. Recommendations include removing tobacco products from the Consumer Price Index and increasing the annual taxation on tobacco significantly above the inflation rate, thus acting as a deterrent to smoking. The 'Recommendations for a Food

and Nutrition Policy for Ireland' should be implemented and the timetable for implementation of the National Alcohol Policy should be defined. National sporting organisations should provide facilities and establish targets for participation in recreational sports by men and women, young and old.

The Group also recommend a coherent national strategy based on guidelines from examples of good practice (Irish and International) in the established settings - schools, workforce, community and health services. Settings-based approaches also ensure specific focused strategies for groups requiring special attention, particularly young people and the economically disadvantaged. Specific interventions in each of these settings are recommended.

Key players in this area are the Department of Health and Children, the Department of Education and Science, the other government departments listed in Shaping a Healthier Future which have a stated role in cross-sectoral initiatives, the health promotion departments of the regional health boards who should co-ordinate cross-sectoral initiatives at a regional level, agencies with a responsibility in this area such as the Food Safety Authority of Ireland and voluntary bodies such as the Irish Heart Foundation.

### **Primary care**

The Group makes 55 recommendations. Examples include strengthening links between Health Promotion Departments and the GP Units and general practitioners, establishment of patient registers and the appointment of additional practice nurses, community dietitians and public health nurses. A proactive approach, including staff training, improved patient information and the provision of smoking cessation clinics should be adopted. Secondary prevention should be provided in the general practice setting with protocols for shared care agreed at national and regional level. A pilot programme should be established in general practice to detect and manage those at high risk of developing cardiovascular disease.

In relation to smoking, nicotine replacement therapy should be available to GMS patients. The provision of smoking cessation clinics and training for health professionals is necessary to support patients to quit smoking.

The key players in this sector are general practitioners, public health and practice nurses, local health promotion services and occupational health services.

### **Pre-hospital care**

The Group make 18 recommendations on pre-hospital care. For example, CPR training should be expanded, the necessary legislation should be enacted to enable EMTs to administer cardiac care drugs. The audit standard for thrombolytic care of 90 minutes from 'call to needle' should be implemented. The National Ambulance Advisory Council should be established on a statutory basis and the recommendations of the Review Group on the Ambulance Services should be implemented in full.

The key players in addressing these issues are the Department of Health and Children, the National Ambulance Advisory Council, those with responsibility for pre-hospital service development and management in health boards and hospitals and ambulance staff.

### **Hospital services**

There are 46 recommendations in relation to services in acute hospitals. Adequate facilities for cardiac care are required in all hospitals admitting patients with acute coronary problems at local, regional and tertiary levels. Hospitals which provide cardiac investigation and interventions require appropriate space, equipment and staffing. The procedures to be provided

include angiography, angioplasty, intracardiac electrophysiological studies and pacing. Guidelines should be agreed for evidence-based treatments in cardiology and for shared care of patients between general practitioners and hospital services. Additional consultants, support staff and upgraded facilities are required to meet the needs of a modern cardiology service which are equally accessible to all.

The key players in addressing these issues are the Department of Health and Children, those with responsibility for hospital service development and management in health boards and hospitals, cardiologists and cardiothoracic surgeons, general physicians in acute general hospitals with responsibility for cardiology and specialist nursing and paramedical staff.

### **Cardiac Rehabilitation**

The Group make 10 recommendations on cardiac rehabilitation. There is a need to expand cardiac rehabilitation services, supervised by a cardiologist/physician with a special interest in cardiology and run by a specially trained co-ordinator. Every hospital that treats patients with heart disease should provide a cardiac rehabilitation service. Adequate funding is required for staff training, equipment and facilities.

The key players in addressing these issues are the Department of Health and Children, those with responsibility for hospital service development and management in health boards and hospitals.

### **Surveillance, Audit and Evaluation**

The Group recommends 21 changes in relation to surveillance, audit and evaluation. In addition, 3 recommendations are presented in chapters 2 and 4 in relation to facilitating surveillance, audit and evaluation. Policy makers need accurate, reliable data on the extent of cardiovascular disease in order to address the challenge of the increased population burden of the disease and to implement appropriate preventive and treatment strategies. The establishment of an information system in coronary care units is recommended. All cardiothoracic surgeons should contribute data to the Irish Cardiac Surgery Register. A national angiography and angioplasty register should also be established. In time, these cardiovascular registers should be linked. The national health and lifestyle survey (SLÁN) commissioned by the Health Promotion Unit in 1998 should be repeated in adults and young people at four yearly intervals. There should be comprehensive monitoring of risk factors. The feasibility of collecting risk factor data in the pilot project in general practice should be examined. Information on trends in risk factor detection will help to focus services towards those in greatest need and provide the possibility for evidence-based evaluation of policy.

Key players to address these recommendations are the Department of Health and Children itself, the public health departments of the health boards, the Irish Cardiac Surgery Register, the Hospital In-patient Enquiry system and the Nutrition and Lifestyle Surveillance Centre at NUI Galway.

### **Implementation**

To successfully implement the report 'Building Healthier Hearts' we need to alter the perception that as individuals we are powerless in the fight against heart disease. Once we achieve this change in mindset and couple it with the efforts of health care providers across the spectrum we can look forward to achieving our long term goals. The Group presents 48 measures which will aid the implementation process of the recommendations in a systematic manner. These measures have been taken into account in developing the mechanisms which will be put in place to improve heart health in Ireland.

# 6. Implementation Structures

## Healthier Hearts by 2010

It is possible to make a real impact on the heart health of Irish people by the year 2010. We set a target in the National Health Strategy, 1994 (Shaping a Healthier Future) to reduce premature death rates as a result of Cardiovascular disease by 30% over ten years. While we are making progress in achieving this target we cannot assume that this trend will continue. We need to give a renewed impetus to our efforts now.

The medium term objective should be to bring our levels of premature death from cardiovascular disease in line with the European average at a minimum. Our longer term goal must be to reduce our rates to those of the best performers in the European Union.

At age 65 Ireland has the lowest life expectancy in the European Union, with the single biggest contributor being heart disease. The gap between Ireland and the EU average is widening. There is room for major improvement before we attain even the average life expectancy enjoyed by our European counterparts. Our overall goal must be to achieve life expectancy which at a minimum compares with the EU average and significantly improve quality of life for those who encounter heart health problems.

As a measure of the Government's commitment to the Cardiovascular Health Strategy structures will be put in place at National, Regional and Local level which will drive the implementation process. The implementation structures take account of the need to sustain a co-ordinated programme over a very long period. A diagrammatic representation of these structures is attached at Appendix A. The key elements are as follows:

## Heart Health Task Force

The Heart Health Task Force will give overall direction and impetus to the implementation and review of the Cardiovascular Health Strategy and in particular:

- take measures to ensure that momentum is maintained in the implementation, review and evaluation of cardiovascular health policy in line with the recommendations of the report of the Cardiovascular Health Strategy Group;
- review short, medium and long term objectives proposed by the various Government Departments and other statutory bodies charged with achieving timely and co-ordinated implementation of detailed elements of the Cardiovascular Health Strategy;
- report to a Ministerial group chaired by the Minister for Health and Children on a quarterly basis;
- submit an annual progress report to the Joint Oireachtas Committee on Health and Children.

The Heart Health Task Force will, as it considers necessary, establish sub-groups to examine particular policy areas and report back directly to it on these. Priority will be given to the early establishment of a sub-group on Tobacco. The Task Force will be serviced by a dedicated secretariat based in the Department of Health and Children.

## Advisory Forum

An independent Advisory Forum, appointed by the Minister for Health and Children will advise the Heart Health Task Force on

- best practice in cardiovascular disease prevention, detection, treatment and rehabilitation
- the evaluation of the effectiveness and quality of cardiovascular services
- the co-ordination of research into cardiovascular disease

It will also advise the Department of Health and Children on

- major policy issues which arise from the implementation of the Strategy
- the development and implementation of protocols for the treatment and care of cardiovascular patients.

The Forum can establish sub-groups to undertake a more detailed analysis of particular service areas, where this is considered necessary. It will meet at quarterly intervals to consider the major policy issues that arise from the Department of Health and Children's ongoing work with agencies in developing and implementing their operational plans for cardiovascular health, arising from the Strategy. The Forum will be serviced by a secretariat based in the Department of Health and Children.

## Health Services Implementation Structures

The Department of Health and Children will be responsible for the achievement of objectives agreed by the Task Force in relation to the health services. The Department will:

- provide a secretariat for the Heart Health Task Force and any sub-groups established by it;
- co-ordinate the cardiovascular strategy related work of the various Divisions within the Department;
- agree operational plans and funding with health agencies in line with the overall objectives established by the Task Force.

Preliminary discussions have already taken place with the Chief Executive Officers regarding the implementation of the Strategy. A stakeholders seminar will take place in September when the report will be discussed in detail with representatives from all the organisations who will be involved in the delivery of services as a result of this Strategy. In line with the strategic management approach ultimate responsibility for the implementation of the Strategy will rest with the Health Boards. Appropriate local structures will be put in place in due course by the Health Boards to inform policy decisions on relevant local initiatives.

## Appendix A

### Cardiovascular Strategy - Implementation Structures

