

The changing pattern of cardiovascular disease in Ireland: achievements and challenges



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Cardiac death in Ireland

It is well known that life expectancy in Ireland compares poorly with that in other developed countries. This largely reflects high death rates from lifestyle-related diseases including heart disease and stroke. Life expectancy at birth improved steadily over the decades and death rates in the early years of life compared reasonably well with those in other countries. The situation has been very different for life expectancy in middle age and beyond.

Life expectancy for Irish men at age 60 in 1985-1987 (16.0 years) had changed little from that for 1925-1927 (15.8 years).¹ Any gains in life expectancy through lower death rates from infectious diseases such as pneumonia and tuberculosis were cancelled out by increased death rates from cardiovascular disease (CVD). Life expectancy in middle age had improved for Irish women from 16.4 years in the 1920s to 20.1 years in the 1980s, but compared poorly with other European countries.

Since the mid-1980s, death rates from coronary heart disease (CHD) have been decreasing steadily in Irish men and women (see Figure 1). Age-standardised death rates, which take account of changes in the age structure of the population, continue steadily downwards. Death rates from CHD and stroke have decreased in men and women, in middle age and in older age groups. The proportion of all deaths in Ireland assigned to CVD has decreased from 50% in the 1980s to 36% in 2005 (including 18.5% attributed to CHD and 7% to stroke [Central Statistics Office; see Figure 2]).

Many questions arise when considering the decrease in death rates from CHD and stroke. To what can the decrease be attributed? What lessons are there for countries currently addressing a CVD epidemic? What lessons can we apply when dealing with other challenges to public health? And last, but by no means least, what are the challenges for cardiovascular health in Ireland at the present time?

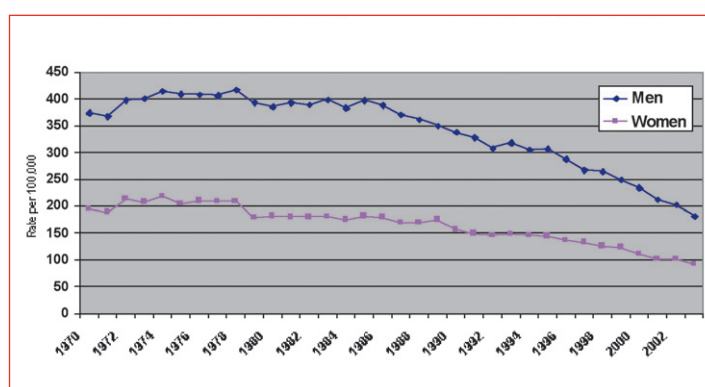


Figure 1: CHD mortality at all ages, age-standardised, Ireland, 1970-2003

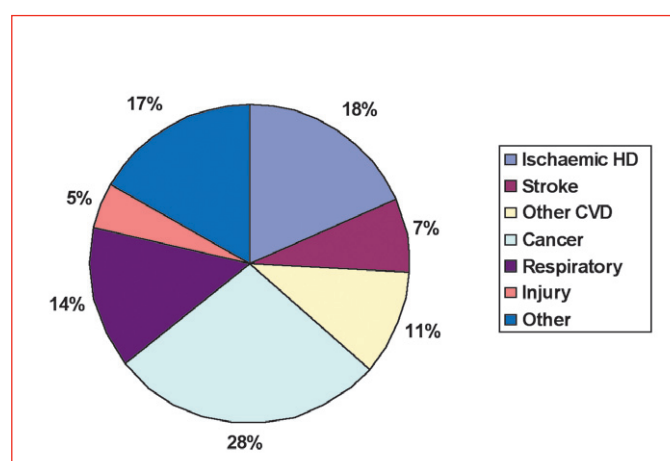


Figure 2: Total deaths at all ages Ireland 2005

The peak of the epidemic

There have been many changes in lifestyles and in health behaviours in recent decades. Effective, evidence-based treatments are now available and there have been strategic developments in the health services. It has been estimated that half of the decrease in death rates can be attributed to changes in

risk factors and half to treatments and interventions.² This is in line with similar analyses in other countries.

Lifestyle and risk factor changes were required to turn around the cardiovascular epidemic in the 1980s. Many patients presented with an acute myocardial infarction, with a high proportion suffering collapse and death within minutes in the community. As the disease became less aggressive at population level, a higher proportion of patients reached hospital alive, with the potential to benefit from increasingly more effective treatments.

Smoking prevalence decreased in Ireland in the 1970s, when 46% of men and 36% of women were current smokers, to 35% and 30%, respectively, in 1982-1985.³ This did not translate into lower death rates from CHD in the short term, probably because of the high prevalence of other risk factors.

After lobbying by the Irish Heart Foundation, the Kilkenny Health Project was launched in March 1985, the year in which death rates peaked in Irish men. Heartbeat Wales was launched the same month and death rates started to decrease from that year throughout the British Isles. Death rates had been decreasing slowly in women prior to that.

It is likely that the launch of community intervention programmes in Kilkenny and in Wales reflected a critical level of awareness by funding agencies of the high death rates from CVD in these islands and the extent to which such diseases were related to lifestyles and consequently were amenable to prevention.

Changing attitudes

The baseline studies in Kilkenny found high levels of knowledge of the main risk factors for CHD. Death rates were lower in the US than in Ireland and had been decreasing there for some years. Yet people in Kilkenny believed that death rates from heart disease were higher in the United States than in Ireland. There was a low level of awareness of CVD as a major cause of death and disability in Ireland.

Economic development brought changing attitudes and behaviours to many aspects of life in Ireland. There had been fatalistic attitudes about the extent to which heart disease was preventable. There was a tendency to believe that 'when your number is up, it's up', that Irish people were prone to heart disease and that little could be done about it.

Attitudes and lifestyles changed with improved economic circumstances. There was a growing national belief in the potential to change one's circumstances and that extended to the potential to influence one's health and risk of disease. Many of the lifestyle changes reflected increased capacity to make choices, with coincidental positive health outcomes. Of course, entrenched behaviours change slowly, not all age or social groups changed to the same extent and not all changes were positive from a health perspective.

Changing lifestyles and risk factors

The Kilkenny Health Project carried out a baseline population

health examination study in County Kilkenny in 1985.⁴ Risk factors were compatible with the high mortality rates in Ireland at that time. In the 35 to 64 year age group surveyed in Kilkenny, 27% were current cigarette smokers and 6.5% were classed as 'other smokers'. The average serum total cholesterol was 6.1mmol/L in men and in women, consistent with a diet high in total fat and in saturated fat, and low in unsaturated fats.

Blood pressure levels were also high. Average levels were 146/79mmHg in men and 142/78mmHg in women. The prevalence of hypertension (either >159mmHg systolic and/or >94mmHg diastolic, or lower pressures on treatment) ranged from 8% in men aged 35 to 44 to 40% in men in the 55 to 64 year age group, and from 4% to 52% in women.

From the mid-1980s, there were major changes in diet and eating habits. The baseline survey in Kilkenny did not ask 'what type of milk do you drink?'. Whole fat milk was the only type of milk on sale. By the time the surveys were repeated in the early 1990s, low fat and skimmed milk were widely available. The range of spreads for bread had increased greatly to include more low-fat or unsaturated choices. The choice of fruit and vegetables had increased – broccoli and kiwi fruit were no longer considered exotic.

The increase in the variety of foods consumed resulted in a diet that was somewhat lower in fat, had a better balance between the saturated and unsaturated fats, and an increased intake of antioxidants. The repeat surveys of the Kilkenny Health Project found substantial improvements in risk factor levels in the population of both counties surveyed – Kilkenny and Offaly.⁵ However, there was still plenty of scope for improvement.

Even in the mid-1980s, obesity was identified as a public health problem in rural Ireland.⁶ Classified by body mass index (BMI), 51% of men and 45% of women were overweight. A further 14% and 19%, respectively, were classed as obese. These figures were very high by international standards. Compared to studies done using similar methods, the mean BMI in Kilkenny was lower than in populations in the USSR, Czechoslovakia and Finland, but higher than in other populations surveyed around the world from Europe to North America, Australia and New Zealand.

Another issue of concern was the extent to which lifestyle changes and risk factor management for heart health were unevenly distributed across the social classes.⁷ These differences have continued to translate into mortality differentials throughout the island of Ireland.⁸

Expansion of services, increasing morbidity

Persistent advocacy by the Irish Heart Foundation, the Irish Cardiac Society and by leading cardiologists resulted in the establishment of the Cardiovascular Health Strategy Group in 1998. A great deal of thought had already gone into how services should be developed in hospitals, by general practitioners and for cardiac rehabilitation. All stakeholders were advising similar

strategies, which meant that the Group could reach its conclusions and publish its report 'Building Healthier Hearts' in 1999.⁹

The Heart Health Task Force was appointed to oversee the implementation of Building Healthier Hearts with technical support from the Advisory Forum on Cardiovascular Health. By 2003, €53 million had been allocated to implement the recommendations in the report, addressing prevention and health promotion, general practice and community care, pre-hospital and hospital care, and cardiac rehabilitation and secondary prevention.¹⁰ This review is currently being updated by the Health Services Executive.

There have been ongoing reductions in death rates from cardiovascular disease in Ireland in the past two decades. Lifestyles have changed and there have been improvements in the prevalence of major risk factors in the population. Services have been expanded and it is likely that there will be ongoing development of services. This will be necessary because not all of the lifestyle changes have been positive: the prevalence of obesity is increasing and the prevalence of risk factors is unevenly spread across the social classes. In addition, there are indications of a growing burden of chronic CVD in older people in Ireland.

Acknowledging the work of cardiologists

While admitting the challenges that remain, it is important to acknowledge the improvements in population health and in services over the past two decades. Some of these changes resulted from economic development. However, the contribution of senior cardiologists should also be recognised. With the support of their colleagues, leaders in the field advocated ceaselessly to raise the awareness of cardiovascular health and the need to develop high-quality, integrated cardiology services. Their sustained campaigns delivered major dividends for public health. We should acknowledge their work with gratitude and wish them many years of health and happiness.

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