



Chronic Conditions Hub



Chronic Conditions Hub
a part of the Health Well



Supporting policy-makers and practitioners working to prevent and manage chronic conditions

www.chronicconditionshub.info

The Chronic Conditions Hub is a website that brings together information on chronic health conditions. It allows you to easily access, manage and share relevant information resources.

The Chronic Conditions Hub includes the Institute of Public Health in Ireland's (IPH) estimates and forecasts of the number of people living with chronic conditions. On the Chronic Conditions Hub you will find:

- A Briefing for each condition
- Detailed technical documentation
- Detailed national and sub-national data that can be downloaded or explored using online data tools
- A prevalence tool that allows you to calculate prevalence figures for your population data

What is coronary heart disease?

Coronary heart disease (CHD) is a collective term for diseases that occur when the walls of the coronary arteries become narrowed by a gradual build up of fatty material called atheroma. For the purpose of this briefing, CHD includes heart attack and angina (chest pain on exertion or stress).

CHD is responsible for a substantial amount of early deaths, reduced quality of life and significant costs to the health and social care system and to the economy. The World Health Organization estimates that CHD is the leading cause of death worldwide. There are often no symptoms of a first CHD event.

Age, high cholesterol, high blood pressure, smoking and diabetes are the main risk factors for CHD. Overall CHD mortality rates in Ireland have halved in the last number of decades despite additional deaths due to adverse trends in obesity, diabetes and physical inactivity during this period.^{1,2}

Policy Context

In the Republic of Ireland (RoI), *Changing Cardiovascular Health: National Cardiovascular Health Strategy 2010–2019*³ addresses the prevention and management of cardiovascular disease. The strategy places an increased emphasis on primary preventative measures. It details individual and population level measures to reduce heart disease incidence and mortality. The strategy recommends the development and implementation of a multidisciplinary team approach to ensure effective management for patients with heart disease.

In Northern Ireland (NI), the *Service Framework for Cardiovascular Health and Wellbeing*⁴ details 45 standards for good practice relating to the prevention, diagnosis and treatment of cardiovascular conditions including CHD. The key objectives of the framework are to improve population health, reduce inequalities and improve the quality of and access to cardiovascular health services in Northern Ireland.

Population prevalence and clinical diagnosis



This briefing describes how many people have CHD on the island of Ireland and how that number is expected to change between 2010 and 2020. This information will help us develop services where and when they are needed.

The number of people with CHD is known as its population prevalence. Some people with angina are not aware that they have this condition, and population prevalence includes both clinically diagnosed and undiagnosed cases.

Due to lack of data on undiagnosed CHD, we report national and sub-national rates of clinically diagnosed CHD among adults aged 18+ years. By definition undiagnosed cases are not included in our figures and they are likely to be an underestimate of the number of people with CHD.

Method

Data from the Survey of Lifestyle, Attitudes and Nutrition (SLÁN) 2007⁵ in RoI and the Health and Social Wellbeing (NIHSWB) Survey 2005/06⁶ in NI were used to estimate the risk of having clinically diagnosed CHD that is associated with a number of biological, behavioural and social risk factors.

We then estimated the number of people in the population - at a national and sub-national level - with a clinical diagnosis of CHD by applying these risk estimates to the number of people in the population who have these risk factors.

In RoI, the SLÁN 2007 survey asked adults if they had been told by a doctor in the previous 12 months that they have CHD (heart attack and/or angina). Analysis of SLÁN 2007 data identified age, high cholesterol, sex, physical activity, employment, smoking and alcohol as significant risk factors for clinically diagnosed CHD. Not all these factors were used to calculate clinical diagnosis rates because detailed sub-national population data were not available on them all. Figures are based on the factors with the strongest statistical associations with clinically diagnosed CHD in SLÁN 2007: age and high cholesterol.



In NI, the NIHSWB 2005/06 survey asked adults if they had ever been told by a doctor that they have CHD (heart attack and/or angina). Analysis of NIHSWB 2005/06 data identified age, area deprivation, sex, physical activity and smoking as significant risk factors for clinically diagnosed CHD. Not all these factors were used to calculate clinical diagnosis rates because detailed sub-national population data were not available on them all. Figures are based on the factors with the strongest statistical associations with clinically diagnosed CHD in NIHSWB 2005/06: age, area deprivation and sex.

Note that clinical diagnosis rates in RoI relate to the previous 12 months and are not directly comparable with clinical diagnosis rates in NI which relate to any time in the past.

Full details of our method can be found in the technical documentation.⁷

The number of people in the Republic of Ireland who have been told by a doctor in the previous 12 months that they have coronary heart disease (clinically diagnosed CHD)



In 2010 it is estimated that more than 79,000 (2.4%) adults aged 18+ years in RoI have been told by a doctor in the previous 12 months that they have CHD (clinically diagnosed CHD). This excludes undiagnosed CHD and is likely to be an underestimate of the number of people with the condition.

Clinically diagnosed CHD is more common among older people. In 2010 almost 9% of adults aged 65 years or over have clinically diagnosed CHD.

Unlike NI, estimated rates of clinically diagnosed CHD are similar among men and women.*

By 2020 the number of adults with clinically diagnosed CHD is expected to rise to more than 103,000 (2.9%). This represents a 31% increase (an additional 24,000 adults) in ten years. Approximately one-quarter of this increase is due to increases in the size of the population and three-quarters is due to population ageing (including the increases in risk factor levels associated with ageing).

Rates of clinically diagnosed CHD were prepared for 32 Local Health Offices in RoI. Comparing 95% confidence intervals reveals no significant differences between Local Health Office areas. However, because of differences in population sizes, there is substantial variation in the number of adults aged 18+ years in each area with clinically diagnosed CHD.

Clinical diagnosis rates in RoI relate to the previous 12 months and are not directly comparable with clinical diagnosis rates in NI which relate to any time in the past.

* Although sex was initially identified as a significant risk factor for clinically diagnosed CHD (see Method section), it was not used to calculate clinical diagnosis rates because it would have produced sub-national estimates that were unacceptably imprecise. See the technical documentation for more details.⁷

Figure 1: Percentage of adults (aged 18+ years) with clinically diagnosed coronary heart disease in the previous 12 months (Republic of Ireland, 2010).

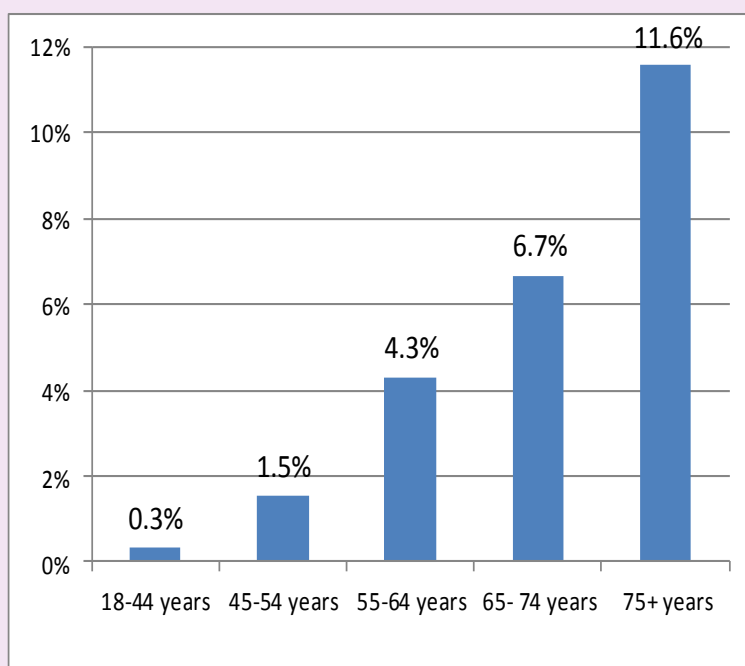
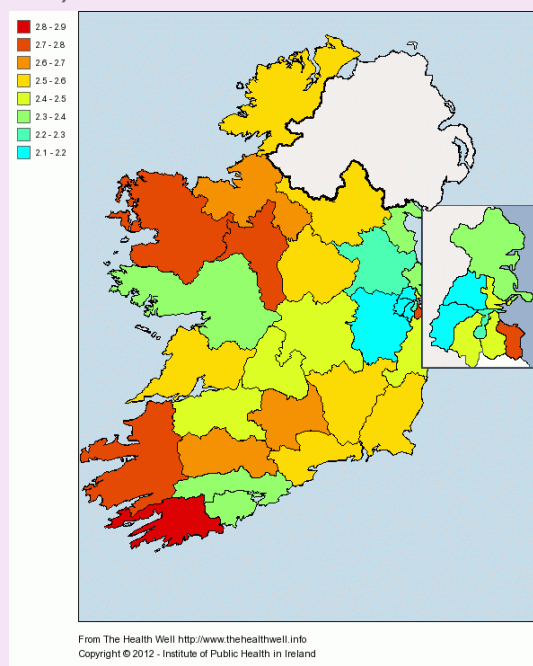


Figure 2: Percentage of adults (aged 18+ years) with clinically diagnosed coronary heart disease in the previous 12 months (Local Health Offices, Republic of Ireland, 2010).



The number of people in Northern Ireland who have ever been told by a doctor that they have coronary heart disease (clinically diagnosed CHD)



In 2010 it is estimated that more than 107,000 (7.8%) adults aged 18+ years in NI have ever been told by a doctor that they have CHD (clinically diagnosed CHD). This excludes undiagnosed CHD and is likely to be an underestimate of the number of people with the condition.

Clinically diagnosed CHD is more common among older people. In 2010 it is estimated that almost 26% of adults aged 65 years or over have clinically diagnosed CHD.

Rates of clinically diagnosed CHD are higher in men than women.

By 2020 the number of adults with clinically diagnosed CHD is expected to rise to almost 132,000 (8.9%). This represents a 23% increase (an additional 25,000 adults) in ten years. Approximately one-third of this increase is due to increases in the size of the population and two-thirds is due to population ageing (including the increases in risk factor levels associated with ageing).

Rates of clinically diagnosed CHD were prepared for 26 Local Government Districts in NI. Comparing 95% confidence intervals reveals no significant differences between Local Government District areas. However, because of differences in population sizes, there is substantial variation in the number of adults aged 18+ years in each area with clinically diagnosed CHD.

Clinical diagnosis rates in NI relate to any time in the past and are not directly comparable with clinical diagnosis rates in ROI which relate to the previous 12 months.

Figure 3: Percentage of adults (aged 18+ years) with clinically diagnosed coronary heart disease at any time in the past (Northern Ireland, 2010).

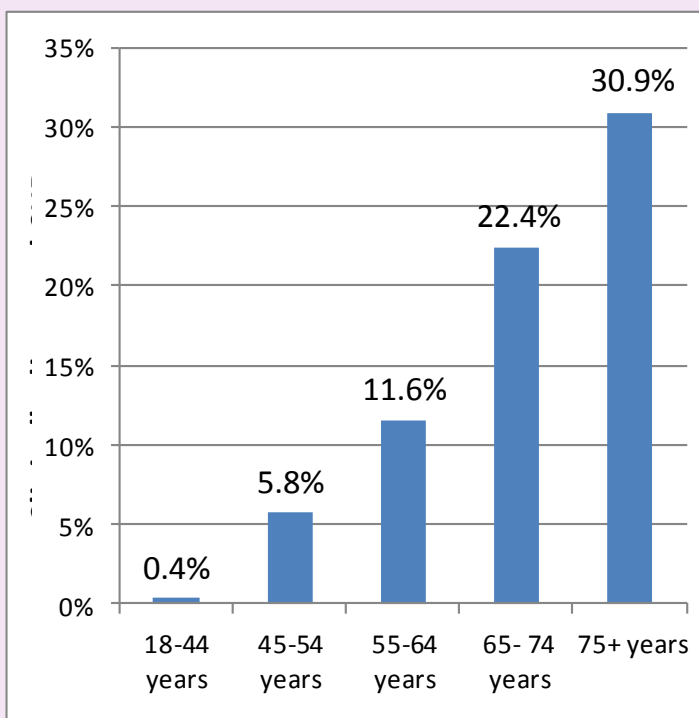
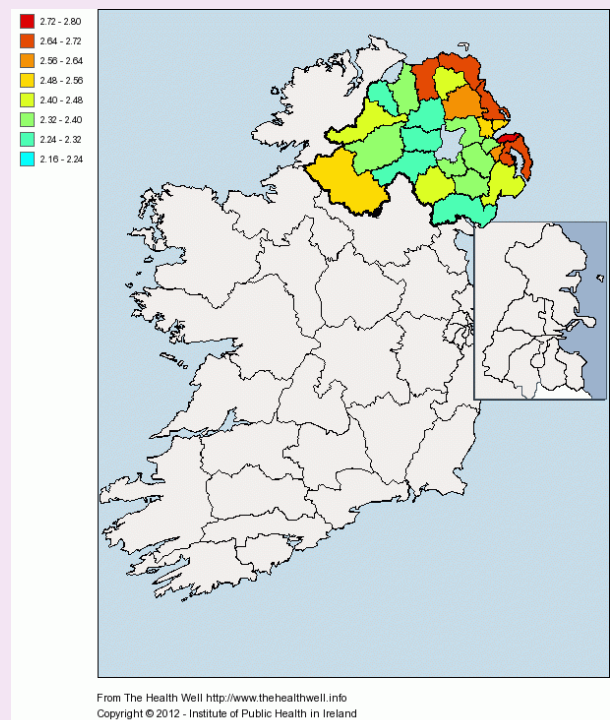


Figure 4: Percentage of adults (aged 18+ years) with clinically diagnosed coronary heart disease at any time in the past (Local Government Districts, Northern Ireland, 2010).



Discussion



A large number of adults on the island have clinically diagnosed CHD and this number is expected to increase between 2010 and 2020. These findings have significant implications for individuals and families, the health and social care system and Ireland's economies.

These estimates and forecasts are likely to be an underestimate of the number of adults with CHD as they do not include undiagnosed angina cases. It is important that both the public and health professionals be aware that angina is undiagnosed in many cases so that appropriate assessment and treatment are made available.

The expected increases assume that risk factors levels do not change over time. If levels get worse, the expected increases in the number of people with clinically diagnosed CHD will be even greater. A greater focus on prevention to reduce these risk factors and promote healthier lifestyles, particularly in relation to physical activity and diet, will help moderate these increases. Both jurisdictions' cardiovascular strategies emphasise prevention and include targets for improvement in population levels of risk factors for CHD. Prevention programmes should also address social, environmental and other issues that influence the development of CHD.

There remain significant limitations in the data that are available for estimating and forecasting the population prevalence of CHD on the island.

- Firstly, there are limited data on undiagnosed angina which is a substantial component of the population prevalence of CHD.
- Secondly, detailed population data are not available on the risk factors associated with CHD. The data limitations are particularly critical when we are looking at sub-national estimates and forecasts to guide local action. For risk factors other than age and sex, we had to assume that all sub-national areas had the same distribution of risk factors as the national population.
- Thirdly, there are no agreed data on future trends in risk factors so we had to assume that the levels of risk factors do not change over time.

Estimates and forecasts of the population prevalence of major chronic conditions are essential for the development of healthy and equitable communities. The figures reported here could be improved if comprehensive and accurate data at local level were more readily available.

References



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The Institute of Public Health in Ireland (IPH: www.publichealth.ie) produces figures on the number of people living with chronic conditions on the island of Ireland. Briefings, technical documentation and data tables can be accessed on the Chronic Conditions Hub website (www.chronicconditionshub.info).