



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 chronic airflow obstruction?

Chronic airflow obstruction (CAO) is a chronic lung condition that interferes with normal breathing. For the purpose of this briefing, CAO includes chronic obstructive pulmonary disease (COPD), chronic bronchitis and emphysema.

CAO 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 COPD is the fourth leading cause of death worldwide¹ and predicts that it will soon become the third leading cause of death.

Cigarette smoking is the primary cause of CAO. Other risk factors include indoor and outdoor air pollution, exposure to certain dusts and chemicals, and the genetic disorder alpha-1 antitrypsin deficiency.

Policy Context

In the Republic of Ireland (RoI), the Health Service Executive's (HSE) national clinical programme for COPD aims to reduce morbidity, mortality, and improve access to care through better diagnosis, treatment and services. The HSE's *Tobacco Control Framework*² provides an evidence-based approach to address tobacco and to outline national standards for service provision. The Department of Health are currently reviewing the report of the Tobacco Free Policy Review Group *Towards a Tobacco Free Society*.³

In Northern Ireland (NI), the *Service Framework for Respiratory Health and Wellbeing*⁴ sets standards for the prevention, diagnosis, treatment, care, rehabilitation and palliative care of individuals and communities at a greater risk of developing respiratory disease. The *Ten Year Tobacco Control Strategy for Northern Ireland*⁵ aims to create a tobacco-free society through fewer people starting to smoke, more people stopping smoking and greater protection from tobacco-related harm.

Population prevalence and clinical diagnosis



This briefing describes how many people have CAO 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 CAO is known as its population prevalence. Many people with CAO are not aware of it, and population prevalence includes both clinically diagnosed and undiagnosed cases.

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

Method

Data from the Survey of Lifestyle, Attitudes and Nutrition (SLÁN) 2007⁶ in RoI and the Health and Social Wellbeing (NIHSWB) Survey 2005/06⁷ in NI were used to estimate the risk of having clinically diagnosed CAO 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 CAO 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 CAO. Analysis of SLÁN 2007 data identified age, smoking, education, sex, body mass index and physical activity as significant risk factors for clinically diagnosed CAO. 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 CAO in SLÁN 2007: age and smoking.



In NI, the NIHSWB 2005/06 survey asked adults if they had ever been told by a doctor that they have CAO. Analysis of NIHSWB 2005/06 data identified physical activity, age, employment, smoking and deprivation as significant risk factors for clinically diagnosed CAO. 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 CAO in NIHSWB 2005/06: physical activity and age.

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.⁸

The number of people in the Republic of Ireland who have been told by a doctor in the previous 12 months that they have chronic airflow obstruction (clinically diagnosed CAO)



In 2010 it is estimated that more than 82,000 (2.5%) adults aged 18+ years in RoI have been told by a doctor in the previous 12 months that they have CAO (clinically diagnosed CAO). This excludes undiagnosed CAO and is an underestimate of the number of people with the condition.

Clinically diagnosed CAO is more common among older people. In 2010 more than 6% of adults aged 65 years or over have clinically diagnosed CAO.

Rates of clinically diagnosed CAO are similar among men and women.

By 2020 the number of adults with clinically diagnosed CAO is expected to rise to almost 101,000 (2.8%). This represents a 23% increase (an additional 19,000 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 CAO 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 CAO.

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.

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

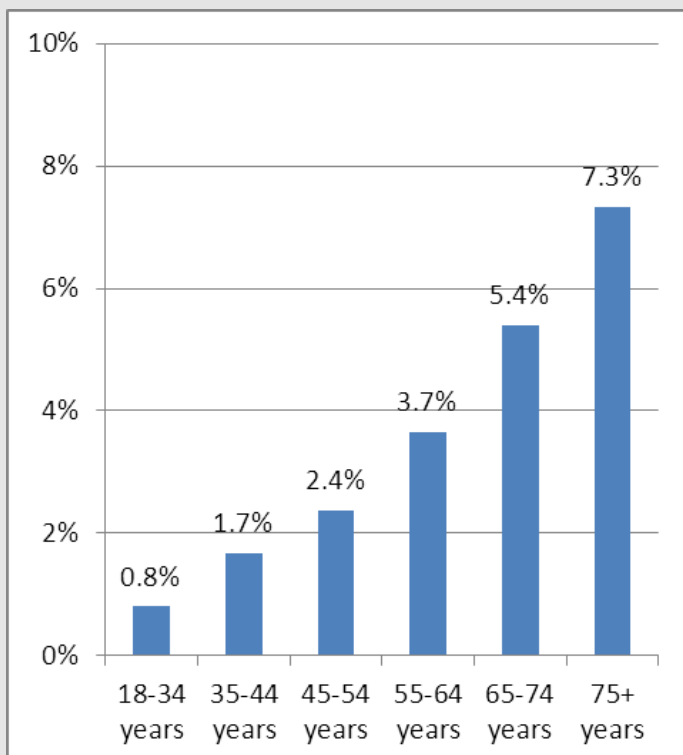
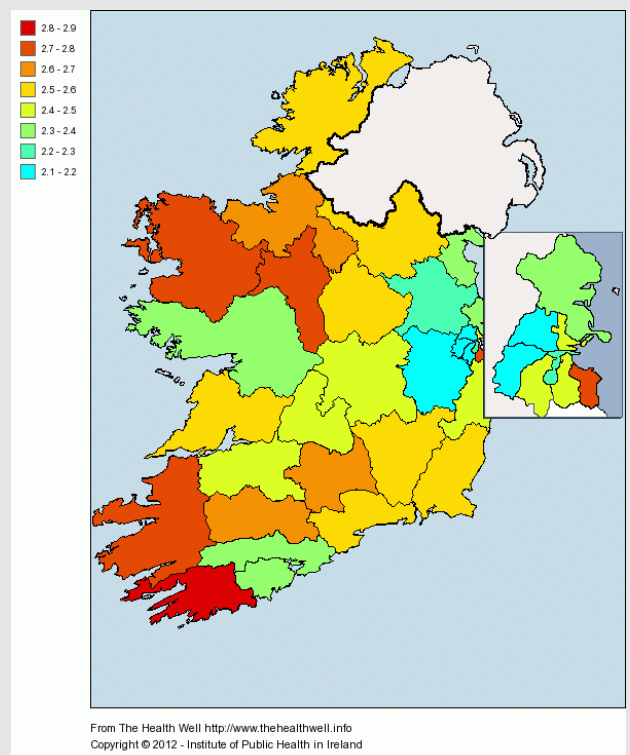


Figure 2: Percentage of adults (aged 18+ years) with clinically diagnosed chronic airflow obstruction in the previous 12 months (Local Health Offices, Republic of Ireland, 2010).



The number of people in Northern Ireland who have ever been told by a doctor that they have chronic airflow obstruction (clinically diagnosed CAO)



In 2010 it is estimated that more than 33,000 (2.4%) adults aged 18+ years in NI have ever been told by a doctor that they have CAO (clinically diagnosed CAO). This excludes undiagnosed CAO and is an underestimate of the number of people with the condition.

Clinically diagnosed CAO is more common among older people. In 2010 it is estimated that almost 6% of adults aged 55 years or over have clinically diagnosed CAO.

Rates of clinically diagnosed CAO are similar among men and women.

By 2020 the number of adults with clinically diagnosed CAO is expected to rise to almost 40,000 (2.7%). This represents a 19% increase (an additional 6,000 adults) in ten years. Approximately two-fifths of this increase is due to increases in the size of the population and three-fifths is due to population ageing (including the increases in risk factor levels associated with ageing).

Rates of clinically diagnosed CAO 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 CAO.

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 chronic airflow obstruction at any time in the past (Northern Ireland, 2010).

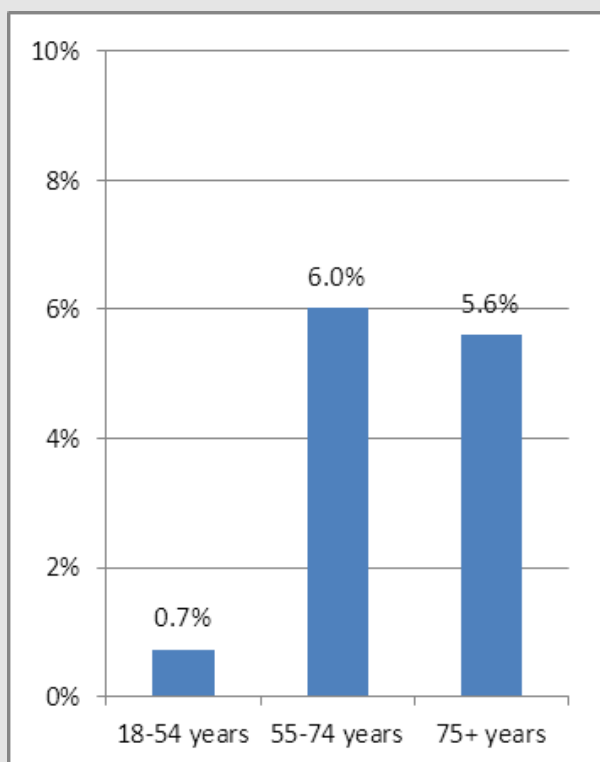
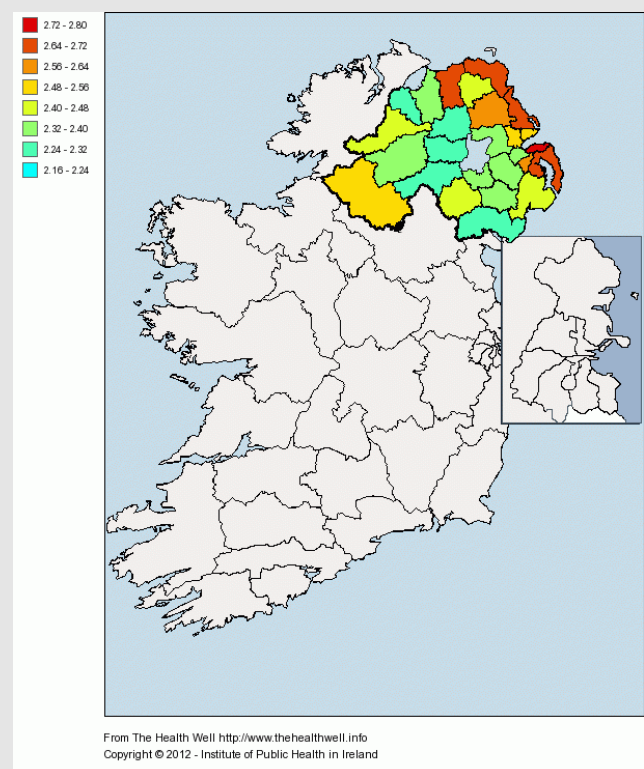


Figure 4: Percentage of adults (aged 18+ years) with clinically diagnosed chronic airflow obstruction at any time in the past (Local Government Districts, Northern Ireland, 2010).



Discussion



Large numbers of adults on the island have clinically diagnosed CAO 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 CAO as they exclude undiagnosed CAO. International research suggests that the rate of self-reported clinically diagnosed CAO is approximately half of the population prevalence rate of CAO as measured by spirometry.⁹ It is important that both the public and health professionals be aware that CAO may be undiagnosed in many cases and that appropriate assessment and treatment are made available.

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

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

- Firstly, there are limited data on undiagnosed CAO which, as the international literature suggest, is a substantial component of the population prevalence of CAO.
- Secondly, detailed population data are not available on the risk factors associated with CAO. 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, 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).