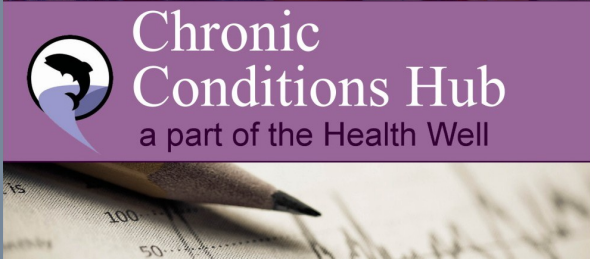




Chronic Conditions Hub



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 hypertension?

Blood pressure is the force exerted on artery walls as the heart pumps blood through the body. Hypertension, or high blood pressure, occurs when blood pressure is constantly higher than the pressure needed to carry blood through the body.

Hypertension often goes unnoticed and can cause damage to the heart and blood vessels which, if untreated, can lead to a stroke or heart attack. Hypertension is responsible for significant premature mortality, reduced quality of life and significant costs to the health and social care system and to the economy.

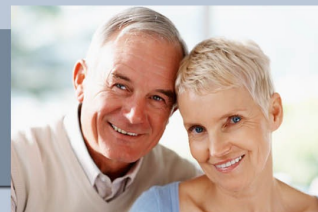
Age, family history and certain medical conditions put you at greater risk of developing hypertension. Eating a healthy diet, maintaining a healthy weight, being physically active, not smoking and limiting alcohol intake all decrease your risk.

Policy context

In the Republic of Ireland (RoI), *Changing Cardiovascular Health: National Cardiovascular Health Strategy 2010-2019*¹ identifies the detection and management of hypertension as particularly relevant to the prevention of stroke. The strategy recommends that the effective management of hypertension should be prioritised in primary care and calls for guidelines on standards of assessment, management and review of patients based on best practice.

In Northern Ireland (NI), the *Service Framework for Cardiovascular Health and Wellbeing*² details standards for a number of cardiovascular conditions including hypertension. The framework identifies hypertension as a key priority for prevention, detection and control and recognises the effective management of hypertension as an essential component of national strategies for coronary heart disease, stroke, diabetes and chronic kidney disease.

Population prevalence and clinical diagnosis



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

In RoI we report national population prevalence of hypertension for adults aged 45+ years and national and sub-national rates of clinically diagnosed hypertension among adults aged 18+ years. In NI we report national and sub-national rates of clinically diagnosed hypertension among adults aged 18+ years.

Method

Clinical diagnosis

Data from the Survey of Lifestyle, Attitudes and Nutrition (SLÁN)³ 2007 in RoI and the Health and Social Wellbeing (NIHSWB) Survey 2005/06⁴ in NI were used to estimate the risk of having clinically diagnosed hypertension 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 hypertension 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 hypertension. Analysis of SLÁN 2007 data identified age, body mass index, smoking, fruit/vegetable consumption, employment, physical activity and salt as significant risk factors for clinically diagnosed hypertension. 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 hypertension in SLÁN 2007: age, body mass index, smoking, and fruit/vegetable consumption.

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

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.

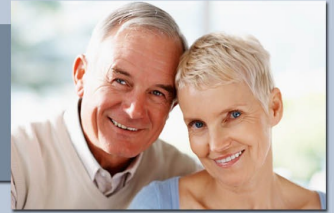
Population prevalence

National population prevalence figures in RoI for adults aged 45+ years were produced by adding national rates of clinically diagnosed hypertension to national rates of undiagnosed hypertension. Data on undiagnosed hypertension were available for a sub-sample of SLÁN 2007 respondents aged 45+ years (but not for respondents aged 18-44 years). Undiagnosed hypertension was defined as not having a clinical diagnosis of hypertension in the previous 12 months but having physically measured hypertension (≥ 140 mmHg SBP or ≥ 90 mmHg DBP) and/or using anti-hypertensive medication.



Full details of our method can be found in the technical documentation.⁵

National population prevalence of hypertension in the Republic of Ireland



In 2010 it is estimated that more than 950,000 (62.2%) adults aged 45+ years in ROI have hypertension. This estimate consists of 356,000 (23.3%) adults aged 45+ years who have been told by a doctor in the previous 12 months that they have hypertension (clinically diagnosed hypertension) and 595,000 (38.9%) adults aged 45+ years with undiagnosed hypertension.

Undiagnosed hypertension among adults aged 45+ years exceeds the broad 'rule of halves' that states that approximately half of hypertension cases are undiagnosed.

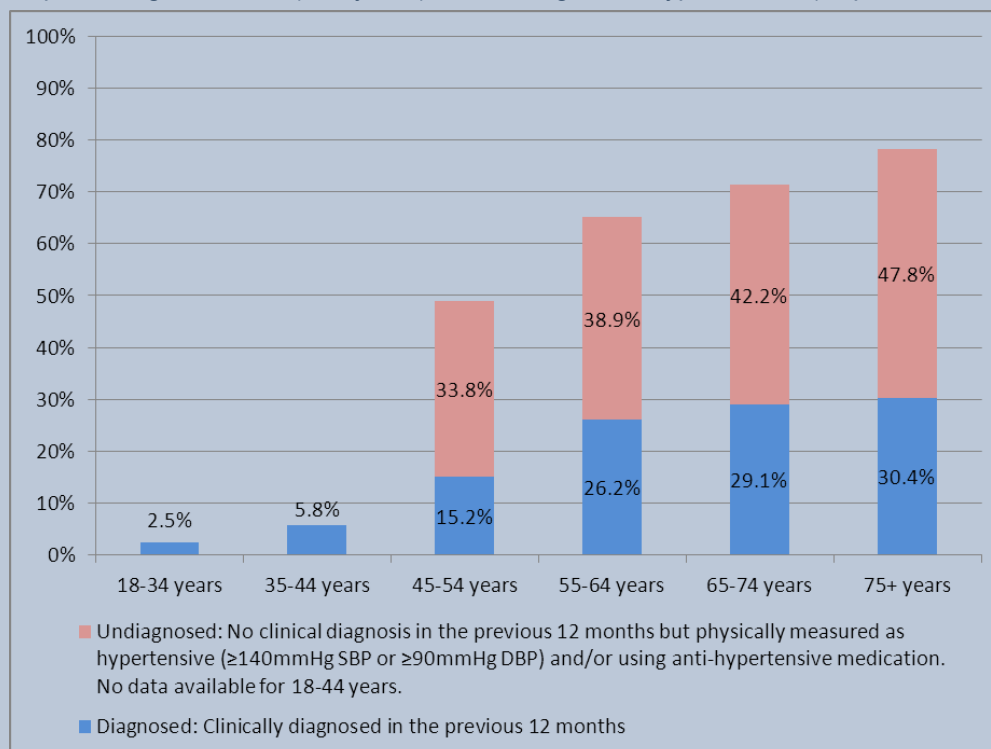
More than 67,000 (3.7%) adults aged 18-44 years in ROI have clinically diagnosed hypertension.* SLÁN 2007 does not include data on undiagnosed hypertension among adults aged 18-44 years.

Hypertension is more common among older people. In 2010 almost three-quarters of adults aged 65+ years have hypertension while almost one-half of adults aged 45-54 years have hypertension.

Rates of clinically diagnosed hypertension are similar among men (3.7%) and women (3.7%) aged 18-44 years and among men (23.0%) and women (23.5%) aged 45+ years. However, undiagnosed hypertension among adults aged 45+ years is more common among men (47.0%) than women (31.5%).

* The rate of clinically diagnosed hypertension for all adults aged 18+ years is 12.7% (423,000 people).

Figure 1: Percentage of adults (18+ years) with clinically diagnosed hypertension in the previous 12 months and percentage of adults (45+ years) with undiagnosed hypertension (Republic of Ireland, 2010).



By 2020 the number of adults aged 45+ years with hypertension is expected to rise to more than 1,220,000 (63.1%). This represents a 28% increase (an additional 270,000 adults aged 45+ years) in ten years.

By 2020 the rate of clinically diagnosed hypertension among adults aged 18-44 years is expected to rise to 4.0%.** Although the rate is expected to increase, the corresponding number of adults aged 18-44 years with clinically diagnosed hypertension is expected to remain approximately the same at more than 66,000. This is because the number of people in the population aged 18-44 years is expected to decrease.

** The rate of clinically diagnosed hypertension for all adults aged 18+ years is expected to rise to 14.6% (526,000 people). This represents a 24% increase (an additional 103,000 adults aged 18+ years) in ten years.

Geographical variation in the Republic of Ireland in the number of people who have been told by a doctor in the previous 12 months that they have high blood pressure (clinically diagnosed hypertension)

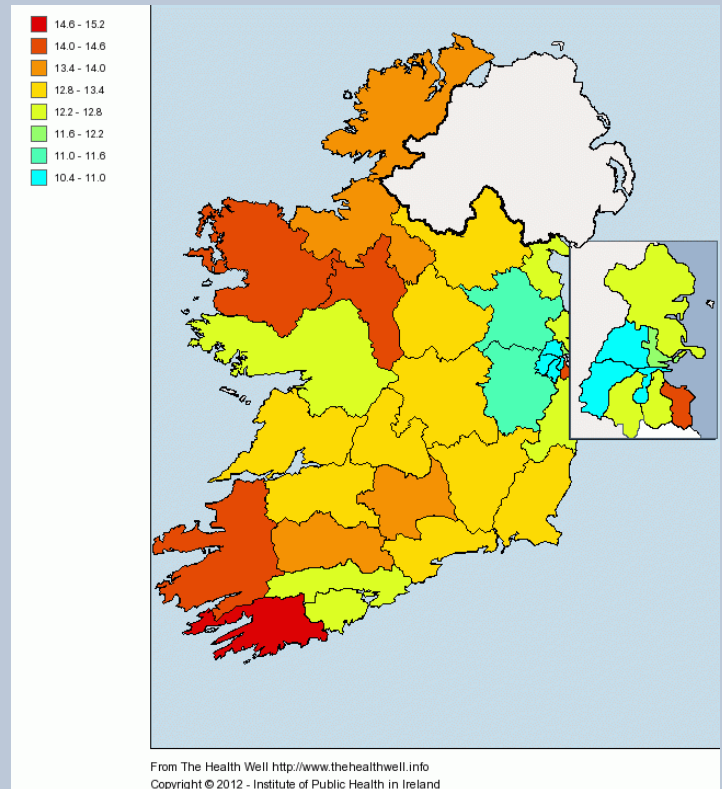


Rates of clinically diagnosed hypertension (the percentage of people who have been told by a doctor in the previous 12 months that they have high blood pressure) were prepared for 32 Local Health Offices in RoI. Comparing 95% confidence intervals reveals no significant differences between Local Health 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 hypertension.

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 2: Percentage of adults (aged 18+ years) with clinically diagnosed hypertension 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 or nurse that they have high blood pressure (clinically diagnosed hypertension)

In 2010 it is estimated that almost 317,000 (23.2%) adults aged 18+ years in NI have ever been told by a doctor or nurse that they have high blood pressure (clinically diagnosed hypertension). This excludes undiagnosed hypertension and is an underestimate of the number of people with the condition.

Clinically diagnosed hypertension is more common among older people. In 2010 almost 48% of adults aged 65 years or over have clinically diagnosed hypertension.

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

By 2020 the number of adults with clinically diagnosed hypertension is expected to rise to almost 366,000 (24.8%). This represents a 15% increase (an additional 49,000 adults) in ten years.

Rates of clinically diagnosed hypertension 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 between areas in the number of adults aged 18+ years with clinically diagnosed hypertension.

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.

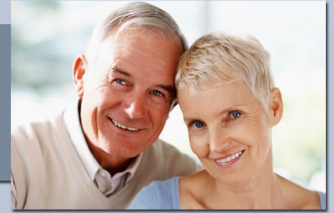


Figure 3: Percentage of adults (aged 18+ years) with clinically diagnosed hypertension at any time in the past (Northern Ireland, 2010).

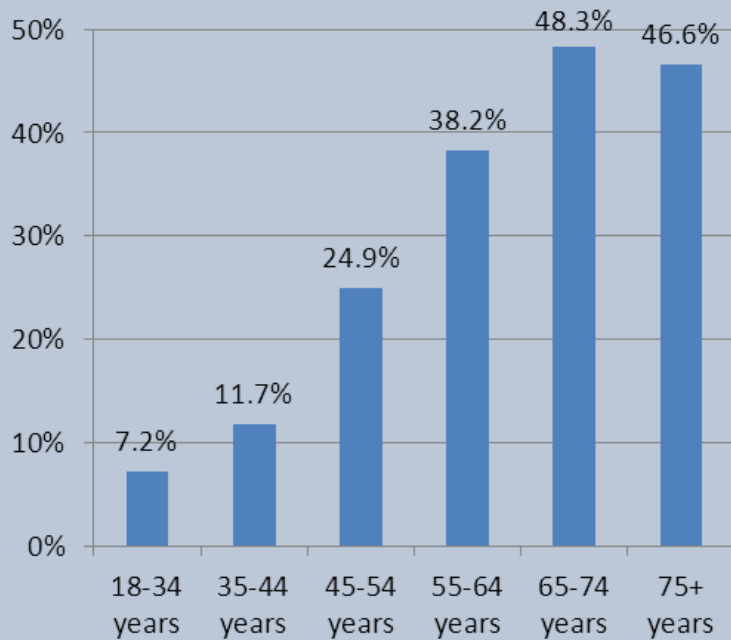
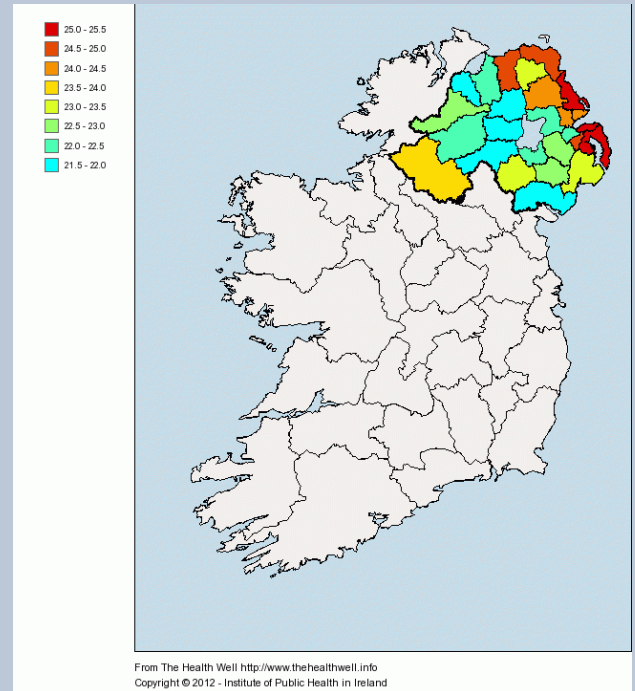


Figure 4: Percentage of adults (aged 18+ years) with clinically diagnosed hypertension at any time in the past (Local Government Districts, Northern Ireland, 2010).



Discussion

Large numbers of adults on the island are living with hypertension and this number is expected to increase between 2010 and 2020. These findings have significant implications for individuals and their families, the health and social care system and Ireland's economies.

The findings suggest that large numbers of people with hypertension are not aware they have this condition and highlight the need for targeted case finding to help manage undiagnosed hypertension and reduce future health damage. The national RoI data suggest that there are approximately five adults aged 45+ years with undiagnosed hypertension for every three adults aged 45+ years with clinically diagnosed hypertension.

The expected increases assume that the levels of biological, behavioural and social risk factors do not change over time. If levels get worse, the expected increases in the number of people with hypertension 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 risk factors for hypertension. Prevention programmes should address social, environmental and other issues that influence the development of hypertension.

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

- Firstly, there are limited data on undiagnosed hypertension which, as the RoI data suggest, is the major component of the population prevalence of hypertension.
- Secondly, detailed population data are not available on the risk factors associated with hypertension. 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

1. Department of Health and Children (2010). *Changing Cardiovascular Health: National Cardiovascular Health Strategy 2010-2019*. Dublin: Department of Health and Children.
http://www.dohc.ie/publications/changing_cardiovascular_health.html
2. Department of Health, Social Services and Public Safety (2009). *Service Framework for Cardiovascular Health and Wellbeing*. Belfast: Department of Health, Social Services and Public Safety.
http://www.dhsspsni.gov.uk/service_framework_for_cardiovascular_health_and_wellbeing.pdf
3. Department of Health and Children (2008). *Survey of Lifestyle, Attitudes and Nutrition 2007*. Dublin: Department of Health and Children.
<http://www.slan06.ie/index.htm>
4. Northern Ireland Statistics and Research Agency Central Survey Unit (2007). *Northern Ireland Health and Social Wellbeing Survey 2005/06*. Belfast: Northern Ireland Statistics and Research Agency.
<http://www.csu.nisra.gov.uk/survey.asp46.htm>
5. Institute of Public Health in Ireland (2012). *Hypertension Briefing: Technical Documentation*. Dublin: Institute of Public Health in Ireland.
<http://www.chronicconditionshub.info/hypertension-method>

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).