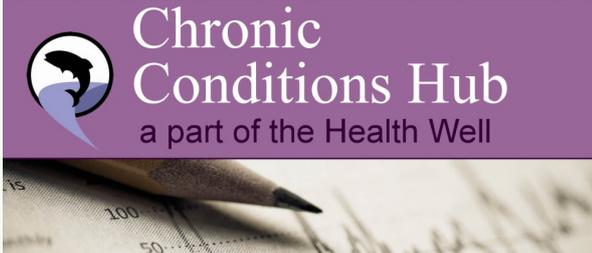




Chronic Conditions Hub



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

What is diabetes?

Diabetes mellitus is a group of metabolic disorders characterised by too much glucose in the blood. The body breaks down digested food into a sugar called glucose from which it derives energy. The hormone insulin allows the body to use that sugar by helping glucose to enter the cells. When a person has diabetes, either the pancreas fails to produce enough insulin or the body cannot properly use the insulin it has. As a result there is a build-up of glucose in the blood causing the cells to be starved of energy.

There are two types of diabetes: Type 1 diabetes is characterised by a lack of insulin production and occurs most frequently in children; Type 2 diabetes is the most common form and is caused by the body's ineffective use of insulin. Diabetes is responsible for many early deaths, reduced quality of life and significant costs to the health and social care system and to the economy. Age, family history, ethnicity, obesity, low physical activity levels and certain medical conditions put you at greater risk of developing diabetes. Eating a healthy diet, maintaining a healthy weight and being physically active all decrease your risk.

Policy context

In the Republic of Ireland (RoI), key strategies make recommendations to tackle obesity and prevent obesity related conditions such as diabetes¹ as well as promoting awareness of diabetes and its symptoms.² The provision of an integrated model of care for people with diabetes is a key initiative of the Health Service Executive (HSE). The HSE's national clinical programme for diabetes defines the way diabetic clinical services should be delivered, resourced and measured. One of the key priorities is the establishment of a National Diabetic Retinopathy Screening Programme scheduled to be available nationwide in late 2012.³

Key focuses in Northern Ireland (NI) include reducing the number of people with diabetes and ensuring appropriate and integrated care for those with diabetes.⁴ The *Service Framework for Cardiovascular Health and Wellbeing* sets out standards in relation to diabetes including accurate diagnosis, and education and support. It also recognises diabetes as a significant risk factor for the development of cardiovascular disease.⁵

Population prevalence and clinical diagnosis



This briefing describes how many people have diabetes 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 diabetes is known as its population prevalence. Many people with diabetes are not aware that they have this condition, and population prevalence includes both clinically diagnosed and undiagnosed cases.

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

Method

Clinical diagnosis

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 diabetes 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 diabetes 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 diabetes in the previous 12 months and if so, was it ever diagnosed by a doctor. Analysis of SLÁN 2007 data identified age, employment status, body mass index and smoking as significant risk factors for clinically diagnosed diabetes. 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 age and employment status. Note that an adjustment was made for diabetes medication use recorded in the SLÁN physical examination sub-group of 45+ year olds.

In NI, the NIHSWB 2005/06 survey asked adults if they had ever been told by a doctor that they have diabetes. Analysis of NIHSWB 2005/06 data identified age, body mass index and physical activity as significant risk factors for clinically diagnosed diabetes and these three factors were used to calculate clinical diagnosis rates. There was no physical examination sub-sample available in NIHSWB 2005/06 and no adjustment was made for diabetes medication use.

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 undiagnosed diabetes to national rates of clinically diagnosed diabetes. Data on undiagnosed diabetes were available for a physical examination sub-sample of SLÁN 2007 respondents aged 45+ years (but not for respondents aged 18-44 years). Undiagnosed diabetes was defined as not having a self-reported clinical diagnosis of diabetes in the previous 12 months and not taking diabetes medication but having HbA1c levels equal to or above the threshold of 6.5 per cent).



Full details of our method can be found in the technical documentation⁸.

National population prevalence of diabetes in the Republic of Ireland



In 2010 it is estimated that more than 135,000 (8.9%) adults aged 45+ years in RoI have diabetes. This estimate consists of more than 94,000 (6.2%) adults aged 45+ years who had clinically diagnosed diabetes in the previous 12 months and more than 41,000 (2.7%) adults aged 45+ years with undiagnosed diabetes.

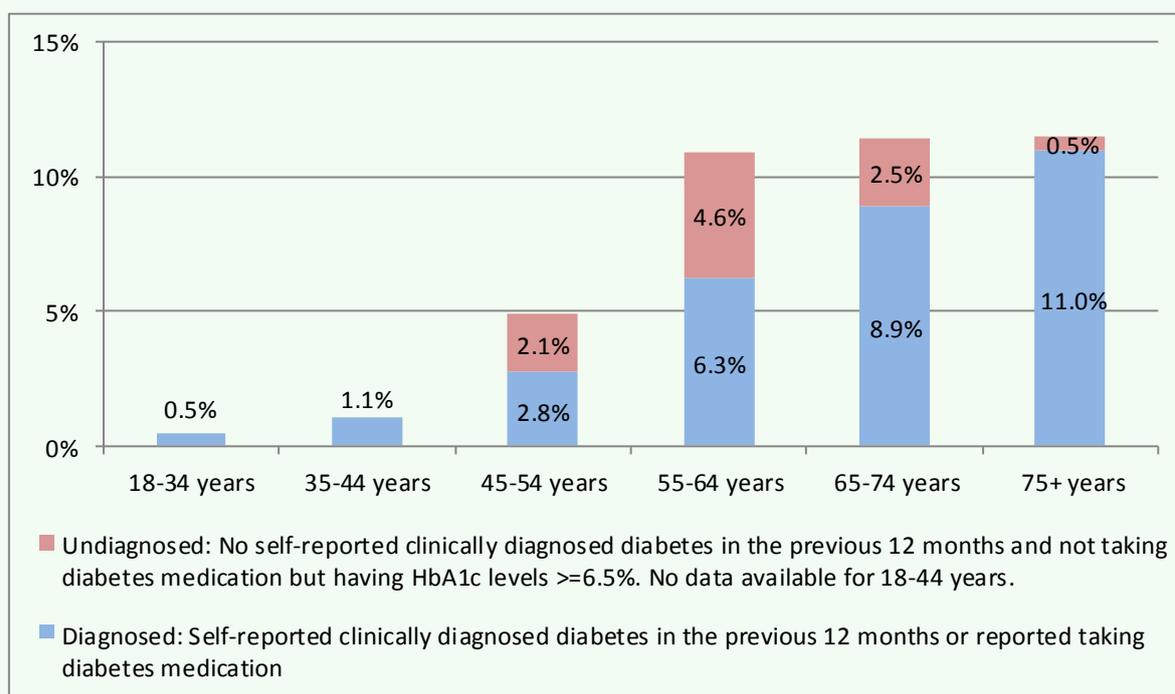
More than 12,000 (0.7%) adults aged 18-44 years in RoI have clinically diagnosed diabetes*. SLÁN 2007 does not include data on undiagnosed diabetes among adults aged 18-44 years.

Diabetes is more common among older people. In 2010 more than one in ten of adults aged 55+ years have diabetes.

Rates of clinically diagnosed diabetes are similar among men and women (0.7%) aged 18-44 years and among men (6.0%) and women (6.3%) aged 45+ years. However, undiagnosed diabetes among adults aged 45+ years is more common among men (4.0%) than women (1.5%).

* The rate of clinically diagnosed diabetes for all adults aged 18+ years is 3.2% (106,000 people).

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



By 2020 the number of adults aged 45+ years with diabetes is expected to rise to more than 175,000 (9.1%). This represents a 30% increase (an additional 40,000 adults aged 45+ years) in ten years.

By 2020 the rate of clinically diagnosed diabetes among adults aged 18-44 years is expected to marginally rise to 0.73%**. Although the rate is expected to increase, the corresponding number of adults aged 18-44 years with clinically diagnosed diabetes is expected to remain approximately the same at 12,000. This is because the number of people in the population aged 18-44 years is expected to decrease.

** The rate of clinically diagnosed diabetes for all adults aged 18+ years is expected to rise to 3.8% (136,000 people). This represents a 28% increase (an additional 30,000 adults aged 18+ years) in ten years.

Geographical variation in the Republic of Ireland in the number of people who clinically diagnosed diabetes.

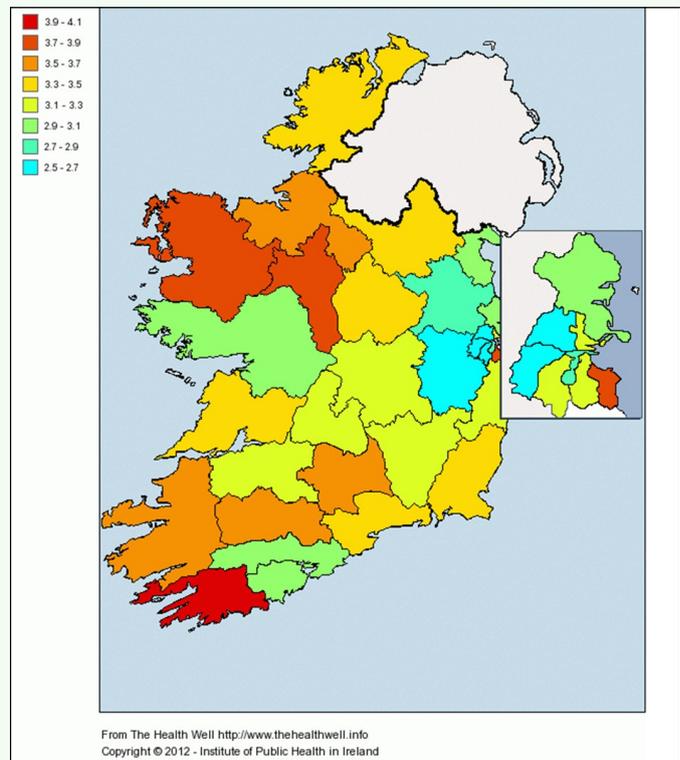


Rates of clinically diagnosed diabetes were prepared for 32 Local Health Offices in RoI. Comparing 95% confidence intervals reveals no significant differences between Local Health Office areas.

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 diabetes.

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 diabetes 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 diabetes (clinically diagnosed diabetes)

In 2010 it is estimated that almost 55,000 (4.0%) adults aged 18+ years in NI have ever been told by a doctor that they have diabetes (clinically diagnosed diabetes). This excludes undiagnosed diabetes and is an underestimate of the number of people with the condition.

Clinically diagnosed diabetes is more common among older people. In 2010 almost one in ten adults aged 55 years or over have clinically diagnosed diabetes.

Rates of clinically diagnosed diabetes are similar among men (3.8%) and women (4.2%).

By 2020 the number of adults with clinically diagnosed diabetes is expected to rise to almost 66,000 (4.4%). This represents a 20% increase (an additional 11,000 adults) in ten years.

Rates of clinically diagnosed diabetes 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 diabetes.

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 diabetes at any time in the past (Northern Ireland, 2010).

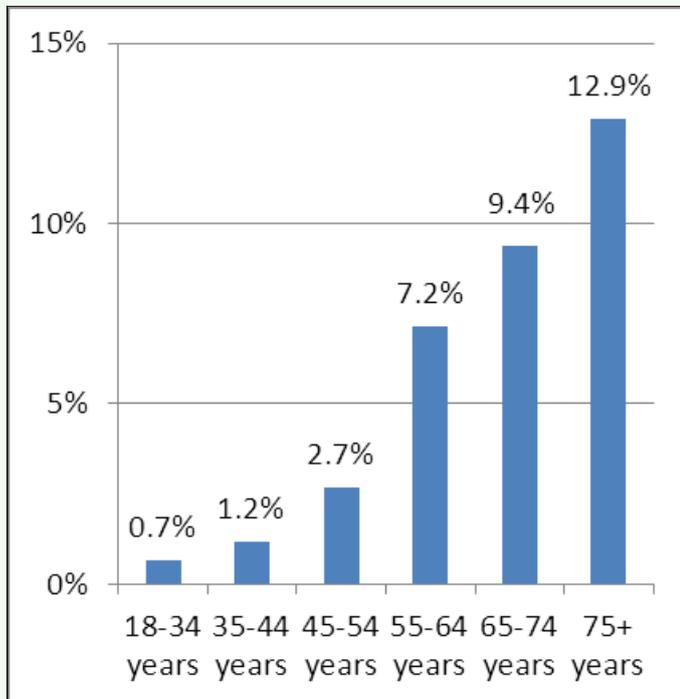
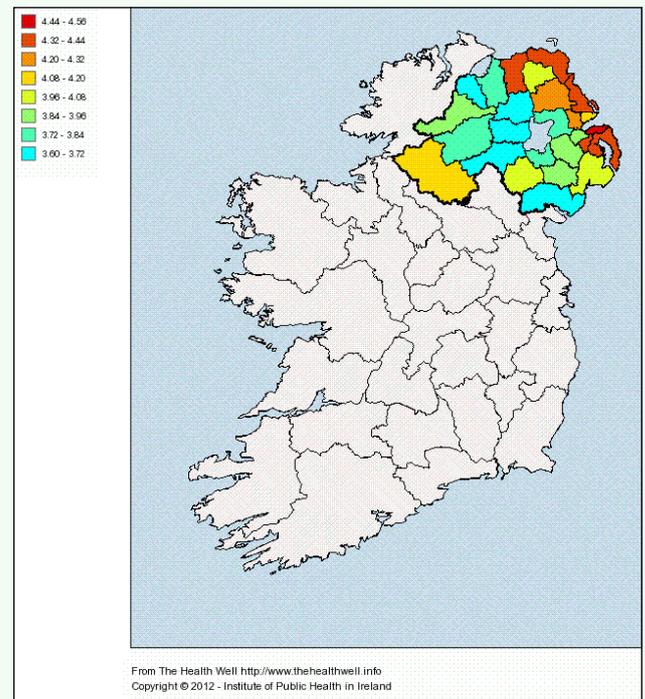


Figure 4: Percentage of adults (aged 18+ years) with clinically diagnosed diabetes at any time in the past (Local Government Districts, Northern Ireland, 2010).



Discussion

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

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 diabetes 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 diabetes. Prevention programmes should address social, environmental and other issues that influence the development of diabetes.

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

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

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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).