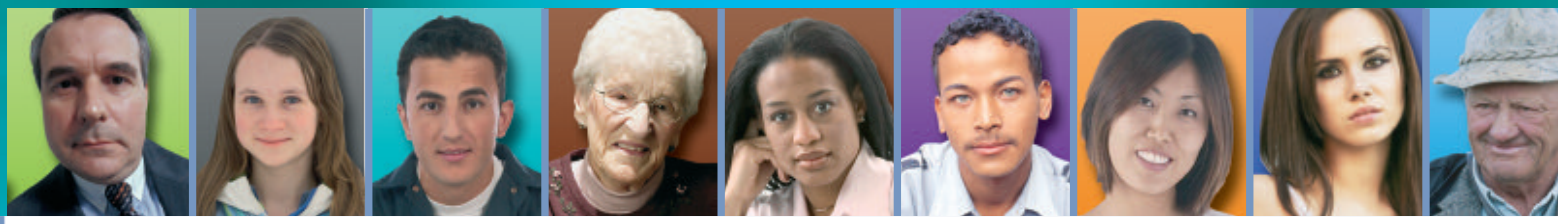
Ireland and Northern Ireland's Population Health Observatory

Making Diabetes Count

What does the future hold?



A systematic approach to forecasting population prevalence on the island of Ireland in 2010 and 2015

THE INSTITUTE OF PUBLIC HEALTH IN IRELAND

Second report of
The Irish Diabetes Prevalence Working Group,
Ireland and Northern Ireland's Population Health Observatory (INIsPHO),
Institute of Public Health in Ireland (IPH)

Making Diabetes Count – What does the future hold?
A systematic approach to forecasting population prevalence on the island of Ireland in 2010 and 2015.

May 2007

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Republic of Ireland population data was obtained from the Information Management Unit in the Department of Health and Children and the Central Statistics Office.

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Abbreviations

ADA	American Diabetes Association
BMI	Body Mass Index
CSO	Central Statistics Office
DECODE	Diabetes Epidemiology: Collaborative Analysis of Diagnostic Criteria in Europe
DHSSPS	Department of Health, Social Services and Public Safety
DoHC	Department of Health and Children
EHSSB	Eastern Health and Social Services Board
HSE	Health Service Executive
INIsPHO	Ireland and Northern Ireland's Population Health Observatory
IPH	Institute of Public Health in Ireland
NHS	National Health Service
NHSSB	Northern Health and Social Services Board
NI	Northern Ireland
NISRA	Northern Ireland Statistics and Research Agency
PBS	PHO-Brent-ScHARR Diabetes Population Prevalence (Model)
ROI	Republic of Ireland
ScHARR	University of Sheffield's School of Health and Related Research
SHSSB	Southern Health and Social Services Board
Tipperary (S.R.)	Tipperary South Riding
Tipperary (N.R.)	Tipperary North Riding
UK	United Kingdom
USA	United States of America
WHO	World Health Organization
WHSSB	Western Health and Social Services Board
YHPHO	Yorkshire and Humber Public Health Observatory

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Foreword

Diabetes mellitus is a common chronic condition which causes significant morbidity and mortality if not properly diagnosed and managed.

In 2005 Ireland and Northern Ireland's Population Health Observatory (INIsPHO) at the Institute of Public Health in Ireland developed and published systematic estimates of population prevalence for diabetes[i]. This report details the second phase of the study.

Forecasts of the population prevalence of diabetes have been developed for 2010 and 2015 based upon possible changes in our population profile and trends in BMI distribution. The forecasts are available at national and sub-national level.

Systematically developed forecasts are useful to describe changing patterns of diabetes in the population and are essential to support rational planning and development of services.

This report is extremely timely and will make a significant contribution to improving the prevention and treatment of diabetes on the island.

We would like to thank the Working Group for their contributions and the Institute for supporting the Working Group.

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[i] The Institute of Public Health in Ireland (2006). *Making Diabetes Count, A systematic approach to estimating population prevalence on the island of Ireland in 2005*, Institute of Public Health in Ireland, Belfast.

Executive Summary

Forecasts of population prevalence are useful to describe changing patterns of diabetes in the population and to support rational planning and development of services.

In 2005 the Irish Diabetes Population Prevalence Working Group led by Ireland and Northern Ireland's Population Health Observatory (INIsPHO) at the Institute of Public Health in Ireland (IPH), produced estimates of population prevalence of diabetes for the island of Ireland. These estimates are based on the PBS model developed in the UK.

In the second phase of this work forecasts of population prevalence of diabetes have been developed for 2010 and 2015.

i. Forecasts of population prevalence of diabetes

This report contains forecasts of population prevalence of diabetes for adults with Type 1 and Type 2 diabetes, combined and separately. For the purpose of this report adults are taken to be those aged 20 years and over.

In 2005 the estimated population prevalence of Type 1 and Type 2 diabetes in adults was 5.4% in Northern Ireland and 4.7% in the Republic of Ireland. This equated to just over 67,000 adults in Northern Ireland and 141,000 adults in the Republic of Ireland with diabetes.

Taking into account population change and assuming the most realistic scenario that obesity rates will continue to rise in a linear fashion, the PBS model forecasts that the population prevalence of diabetes in adults in 2015 will be 6.3% (84,226 adults) in Northern Ireland and 5.6% (193,944 adults) in the Republic of Ireland. This represents an increase of just over 17,100 and 52,800 adults, respectively between 2005 and 2015. The vast majority of this increase is for Type 2 diabetes.

The percentage increase in the population prevalence of diabetes is 26% in Northern Ireland and 37% in the Republic of Ireland over the ten year period 2005 – 2015.

ii. Developing the forecasts

The PBS Diabetes Population Prevalence Model (developed by Yorkshire and Humber Public Health Observatory (YHPHO), Brent NHS Primary Care Trust, and the University of Sheffield School of Health Related Research (ScHARR) and adapted for use on the island of Ireland by the Irish Diabetes Prevalence Working Group) was used to develop the forecasts of population prevalence.

The model accounts for age, gender, ethnicity and socio-economic factors which are known to affect the prevalence of diabetes. Forecasts were developed to account for changes in the population structure and three scenarios representing different trends in BMI distribution over the period 2005 – 2015.

In order to provide a range of estimates in 2010 and 2015 the forecast for three different scenarios were calculated. These scenarios were:

Scenario 1: (Less Radical)
Population structure alters as projected
BMI patterns remain constant at the 2005 level

Scenario 2: (Most 'Realistic')
Population structure alters as projected
There is a linear rise in obesity rates between 2005 and 2015
Rates of underweight/normal BMI slow exponentially between 2005 and 2015

Scenario 3: (More Radical)
Population structure alters as projected
Obesity levels rise exponentially between 2005 and 2015
Rates of underweight/normal BMI slow exponentially between 2005 and 2015

In scenarios 2 and 3 the overweight rate is calculated by subtraction.

Comparing forecasts under these three scenarios, it is clear that an increase in obesity is the key driver of changes in the population prevalence of Type 2 diabetes in adults.

The PBS model offers several advantages over the existing methods used to forecast population prevalence of diabetes:

- It provides a systematic approach with clear methodology based upon the use of population studies and resident population counts. The model has been rigorously tested in England.
- As well as producing national forecasts, the PBS Model generates forecasts at sub-national levels.
- The model allows us to include different scenarios of BMI distribution over the period 2005 – 2015.
- It provides a single methodology that can be applied in both the Republic of Ireland and Northern Ireland.
- It provides estimates of population prevalence without making assumptions about the percentage of cases that are undiagnosed.

However like any model there are also limitations:

- In the Republic of Ireland, it was necessary to assume the whole population belonged to the "White" ethnic group. Although a question on ethnicity was included in the April 2006 census, detailed information is not yet available.
- In Northern Ireland, it was necessary to assume that the proportion of people from ethnic groups has remained constant since 2001 as population projections are not disaggregated by ethnicity.
- There is insufficient information on BMI available on the island of Ireland to estimate trends therefore trends in BMI distribution are based on data from the National Health Survey for England.
- The reference prevalence rates for Type 2 diabetes are based on the WHO 1985 diagnostic cut-off points.

- Due to lack of available data, the model and forecasts assume zero prevalence of Type 2 diabetes in children and young adults less than 20 years of age.

- Reference rates for Type 1 diabetes were taken from a Welsh study conducted in 1998 . No time adjustment has been made to the Type 1 estimates. No seperate forecasts for Type 1 diabetes in children and young adults (less than 20 years of age) are provided.

iii. Research and data issues and recommendations

A number of issues relating to the availability of data, which were highlighted in the previous report - ***Making Diabetes Count, A systematic approach to estimating population prevalence on the island of Ireland in 2005***[1] were again evident. Recommendations to address these were highlighted by the Working Group. These recommendations are;

Recommendation 1:
A systematic approach to the development and use of population prevalence estimates and forecasts, at national and sub-national level, should be developed on the island. Further development of the PBS Model is recommended.

Recommendation 2:
High quality diabetes registers should be urgently established and maintained on the island of Ireland, North and South, with a view to creating national and All-Ireland registers.

Recommendation 3:
All-Ireland cross-sectoral population studies should be undertaken to estimate:

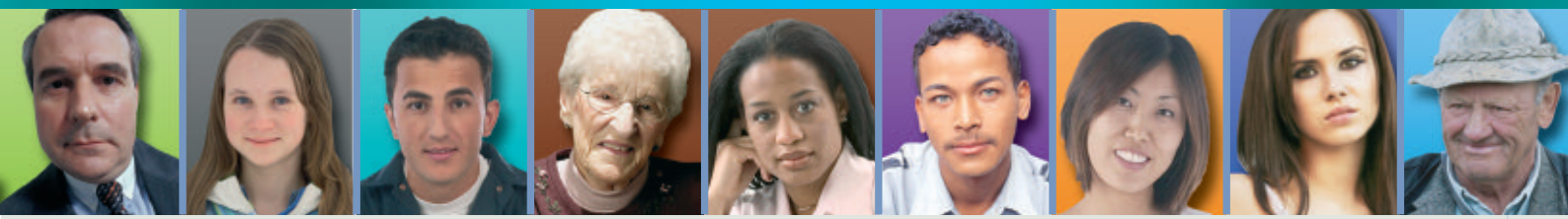
- The prevalence of Type 1 and Type 2 diabetes amongst children (0-19 years).

- The prevalence of Type 1 and Type 2 diabetes amongst adults (20+ years).

Recommendation 4:
Ethnicity should be included in any future census in Northern Ireland and the Republic of Ireland, and methods explored to include ethnicity as a factor in population projections in both jurisdictions.

Recommendation 5:
A comprehensive All-Ireland system for monitoring the prevalence of overweight/obesity and the factors which influence it should be established.

1 Background



1. Background

1.1 Estimating population prevalence of diabetes on the island of Ireland

In 2005 Ireland and Northern Ireland's Population Health Observatory (INIsPHO) set up a Working Group (Appendix 1) to adapt the PBS model, produced in England to estimate population prevalence of diabetes, for use on the island of Ireland. Estimates of the population prevalence of diabetes on the island were produced and published at national and sub-national levels.

Within the PBS model age, gender and ethnicity-specific estimates of diabetes prevalence rates, taken from a number of UK reference studies[2,3,4,5] are applied to resident population counts at various geographical levels. The reference rates for Type 2 diabetes are adjusted to take into account increases in overweight/obesity rates that have occurred since the studies were carried out. The sub-national estimated numbers of cases are also adjusted to take account of local socio-economic circumstances.

Full methodological details of the PBS model and the reference studies, along with the estimates of the population prevalence of diabetes in 2005 are available in the report:

Making Diabetes Count – A systematic approach to estimating population prevalence on the island of Ireland in 2005[1].

The next step in the Working Groups programme of work has been to develop forecasts of population prevalence of diabetes for the next ten years. This work is detailed in this report.

1.2 Why do we need forecasts of population prevalence?

Estimates of the likely population prevalence of diabetes in the next ten years are important to:

- Describe changing patterns of diabetes in the population;
- Support rational planning and development of services;
- Guide resource allocation at local and regional levels.

1.3 Overview of existing forecasts of population prevalence

Existing forecasts of population prevalence of diabetes were reviewed. The main estimates are detailed in Table 1.

When using rates from European studies it must be noted that there is a great diversity of populations and affluence among the 53 countries of the World Health Organization's (WHO) European Region which may cause problems when applying these rates to local populations.

Table 1: Existing forecasts of population prevalence

Organisation / Report	Age range to which forecasts apply (years)	Methodology	Forecasts of population prevalence		
			Year	UK	ROI
International Diabetes Federation e-Atlas	20-79	Rates from European studies are applied to local population structures	2007 2025	4% 4.6%	5.6% 6.4%
"Global Prevalence of Diabetes" Wilde et al 2004	20+	Data on the prevalence of diabetes by age and sex from the Netherlands (1989-1992) is extrapolated to United Nations population estimates. Levels of obesity and physical activity are assumed constant	2030	5.4%	4.3%

The Wilde et al study[7], without accounting for changes in obesity and physical activity, is likely to underestimate population prevalence.

2 Methodology

2. Methodology

2.1 The PBS Diabetes Population Prevalence Model

The PBS Population Prevalence Model was developed by Yorkshire and Humber Public Health Observatory (YHPHO), Brent NHS Primary Care Trust and the University of Sheffield's School of Health and Related Research (ScHARR), and adapted for use on the island of Ireland. The model provides area-based estimates of the number of people with Type 1 and Type 2 diabetes (diagnosed and undiagnosed). It accounts for age, gender, ethnicity and socio-economic factors which are known to affect the prevalence of diabetes.

Full methodological details of the model are available in the first report;

Making Diabetes Count – A systematic approach to estimating population prevalence on the island of Ireland in 20051.

The PBS model has also been used in England to generate forecasts of population prevalence of diabetes from 2001 to 2010 which account for changes in population structure and national growth in the prevalence of overweight and obesity. These estimates are available from York and Humber Public Health Observatory - http://www.yhpho.org.uk/.

2.2 Forecasting Population Prevalence for the island of Ireland

2.2.1 Factors which affect population prevalence

To generate forecasts of population prevalence of diabetes for the next ten years it is important to determine how factors known to affect the prevalence of diabetes will alter over this time. In order to do this the Working Group considered two key questions:

1. How will the population structure change?
2. How will BMI distribution change?

Projecting the population structure: Northern Ireland

Population projections, based upon recent demographic trends, were obtained from the Northern Ireland Statistical and Research Agency (NISRA) for 2010 and 2015 (Appendix 2). These projections were disaggregated by age, gender and region but not by ethnicity. To incorporate ethnicity into the projections the proportion of people by age, gender, ethnicity and region from the 2001 census, was applied to age, gender and region population counts in 2010 and 2015 population projections. This assumes that the proportion of people in Northern Ireland from ethnic groups will not change between 2001 and 2015.

Projecting the population structure: Republic of Ireland

Population projections, based upon recent demographic trends, were obtained from the Central Statistics Office (CSO) for 2010 and 2015 (Appendix 2). These projections were based upon the most likely scenario of M1F2 . The projections were disaggregated by age, gender and region but not ethnicity. Due to this lack of available data on ethnicity it was necessary to assume the whole population belonged to the "White" ethnic group in 2015.

In some instances, disaggregated data was not available for sub-national regions. In these cases the proportion of people in each age and gender category from the next largest available geographical level was applied to the population projections for that region.

Forecasting BMI distribution

In the first application of the PBS Model a "time" adjustment factor for Type 2 diabetes is used to reflect the changes that occurred in obesity rates from the time of the original reference studies to 2005[1]. This adjustment factor is calculated separately for males and females reflecting the fact that obesity rates are rising more steeply in males than females. In order to extend this adjustment and generate the forecasts for 2010 and 2015 it was necessary to project BMI distributions to 2010 and 2015.

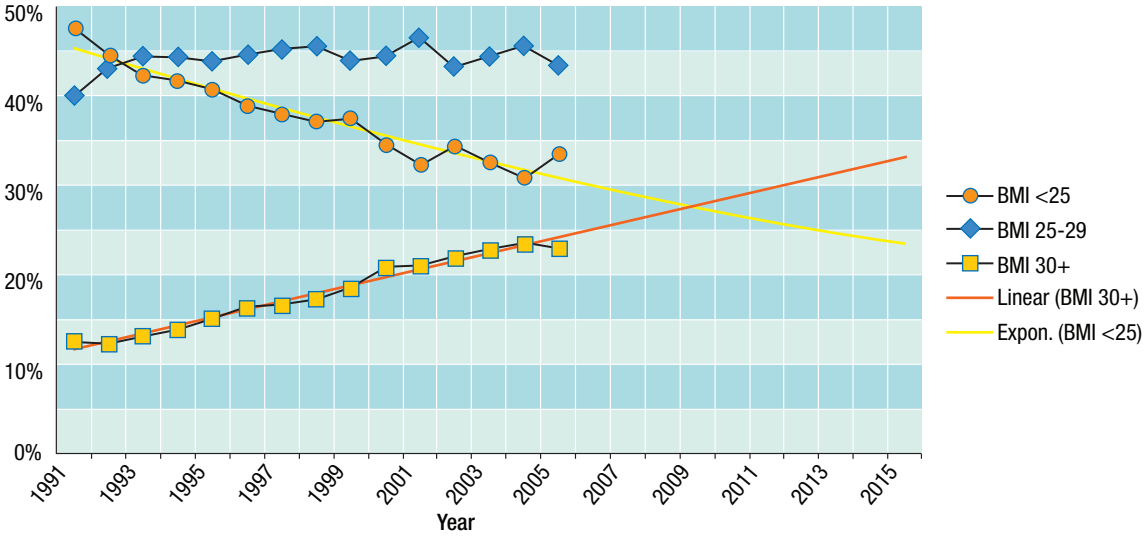
English forecasts of population prevalence of diabetes to 2010, based on the PBS Model, used data from the Health Survey for England and the National Health and Nutrition Examination Survey in the United States to develop a scenario about changing BMI distribution. They predicted a linear increase in obesity rates to 2010, and a gently slowing exponential decrease in the normal/underweight rates in both males and females. Overweight rates were obtained by subtraction.

More recent data from the Health Survey for England (2004 and 2005) did not appear to deviate from these predictions (Figures 1 and 2).

A review of recent data from the National Health and Nutrition Examination Survey and the Behavioral Risk Factor Surveillance System , in the United States, where trends in obesity are estimated to be 9 to 13 years ahead of England for males and females respectively, suggested that it was possible to extrapolate these trends to 2015.

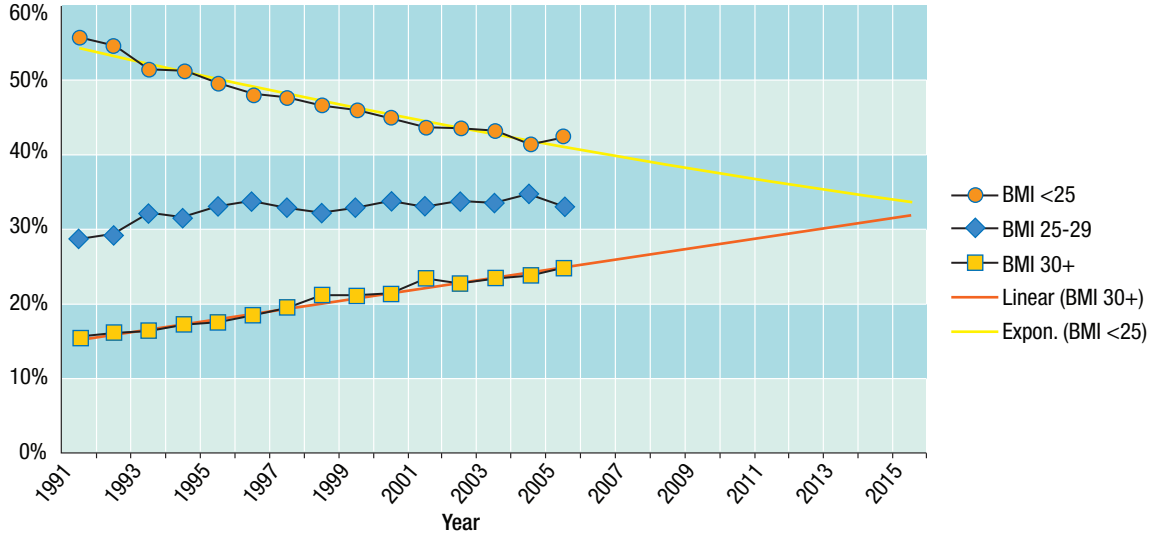
Consequently a linear increase in obesity rates to 2015 and a gently slowing exponential decrease in the normal/underweight rates were felt to be appropriate to develop the forecasts of population prevalence of diabetes on the island. This is referred to as Scenario 2 (Most 'Realistic') throughout this report.

Figure 1: Projecting male BMI distributions to 2010 and 2015



Source: Institute of Public Health in Ireland based on the Health Survey for England data

Figure 2: Projecting female BMI distributions to 2010 and 2015



Source: Institute of Public Health in Ireland based on the Health Survey for England data

In order to give a range of forecasts of population prevalence of diabetes two further scenarios were also explored.

The first (referred to as "Scenario 1 (Less Radical)") used a less radical assumption about BMI distribution with the BMI distribution remaining constant between 2005 and 2015 in both males and females.

The second (referred to as "Scenario 3 (More Radical)") used a more radical assumption about BMI distribution with obesity rates increasing at an exponential rate between 2005 and 2015 in both males and females. This scenario continued to assume a gently slowing exponential decrease in the normal/underweight rate.

2.2.2 Development of scenarios

Taking the above into account three scenarios were developed and the forecasts were generated. All three scenarios use the same population projections but vary in terms of projected BMI distribution.

Based upon current obesity trends in England and the United States, as detailed above, a linear trend for the growth of obesity to 2015 (Scenario 2) is considered to be the most realistic.

The three scenarios are:

Scenario 1: (Less Radical)
Population structure alters as projected
BMI patterns remain constant at the 2005 level

Scenario 2: (Most 'Realistic')
Population structure alters as projected
There is a linear rise in obesity rates between 2005 and 2015
Rates of underweight/normal BMI slow exponentially between 2005 and 2015

Scenario 3: (More Radical)
Population structure alters as projected
Obesity levels rise exponentially between 2005 and 2015
Rates of underweight/normal BMI slow exponentially between 2005 and 2015

In each scenario the overweight rate is calculated by subtraction.

Two time points were considered;
- 2010
- 2015

2.3 Benefits and limitations in adapting the PBS Model

The forecasts from the PBS Model offer several advantages over other existing methods used to forecast population prevalence of diabetes:

- They provide a systematic approach with clear methodology based upon the use of population studies and resident population counts. They use a model which has been rigorously tested in England.
- As well as producing national forecasts, forecasts are generated at sub-national levels.
- The model allows us to include different scenarios of BMI distribution over the period 2005 – 2015.
- A single methodology is used that can be applied in both the Republic of Ireland and Northern Ireland.
- They provide estimates of population prevalence without making assumptions about the percentage of cases that are undiagnosed.

However like any model there are also limitations:

- In the Republic of Ireland, it was necessary to assume the whole population belonged to the "White" ethnic group. Although a question on ethnicity was included in the April 2006 census, detailed information is not yet available. This is likely to result in a slight underestimate at national level and minor distortion of the sub-national patterns.

- In Northern Ireland, it was necessary to assume that the proportion of people from ethnic groups has remained constant since 2001 as population projections are not disaggregated by ethnicity. This may result in a slight underestimate at the national level.

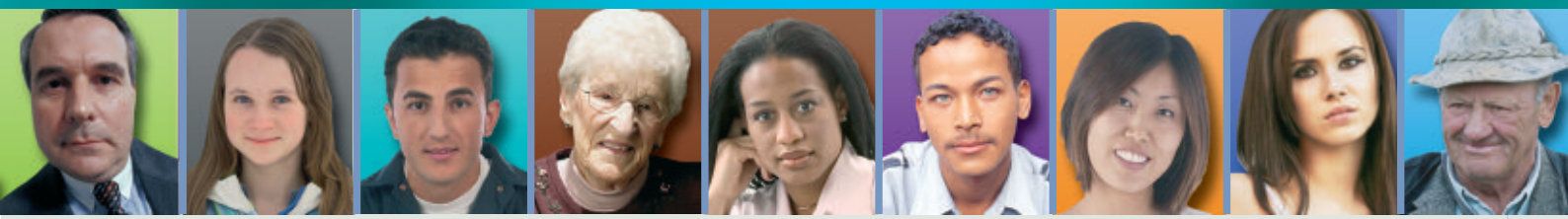
- There is insufficient information on BMI available on the island of Ireland to estimate trends, therefore trends in BMI distribution are based on data from the National Health Survey for England.

- The reference prevalence rates for Type 2 diabetes are based on the WHO 1985 diagnostic cut-off points. More recently WHO reduced its diagnostic cut-off point, and the American Diabetes Association (ADA) proposed the use of a fasting plasma glucose test. The Diabetes Epidemiology: Collaborative Analysis of Diagnostic Criteria in Europe (DECODE) study group felt that the use of the ADA criteria will have little effect on the national prevalence rate however the new diagnostic cut-off point means the model may underestimate prevalence.

- Due to lack of available data, the model and forecasts assume zero prevalence of Type 2 diabetes in children and young adults less than 20 years of age. This may cause a slight underestimate in prevalence, particularly by 2015.

- Reference rates for Type 1 diabetes were taken from the Welsh study conducted in 1998[2]. No time adjustment has been made to the Type 1 estimates. Other studies suggest the prevalence of Type 1 diabetes is increasing[6,11], and that this change is due to changes in demographics and environmental factors. Whilst the model takes demographic changes into account it does not adjust for environmental changes in Type 1 diabetes therefore the population prevalence estimates for Type 1 diabetes may be underestimates. No seperate forecasts for Type 1 diabetes in children and young adults (less than 20 years of age) are provided.

3 Forecasts of the expected number of people with diabetes in 2010 and 2015



3. Forecasts of the expected number of adults with diabetes in 2010 and 2015

3.1 Type 1 and Type 2 diabetes combined

In 2005 the estimated population prevalence of Type 1 and Type 2 diabetes in adults (aged 20+ years) was 5.4% in Northern Ireland and 4.7% in the Republic of Ireland. This equated to just over 67,000 adults in Northern Ireland and 141,000 adults in the Republic of Ireland with diabetes.

Assuming the BMI levels remain at the 2005 level (scenario 1) the PBS model forecasts that the population prevalence of diabetes in 2015 will be 5.6% (75,466 adults) in Northern Ireland and 5.0% (173,917 adults) in the Republic of Ireland, an increase of just over 8,000 and 32,800 adults respectively. This reflects population changes only.

If the levels of BMI do not remain at the 2005 level but instead obesity increases in a linear fashion, with underweight/normal rules showing a slow exponential decrease (scenario 2) the model forecasts that the population prevalence of diabetes in 2015 will rise to 6.3% (84,226 adults) in Northern Ireland and 5.6% (193,944 adults) in the Republic of Ireland, an increase of just over 17,000 and 52,800 adults respectively. These are the most realistic forecasts.

If obesity increases at an exponential rate with the underweight/normal rates showing a slow exponential decrease (scenario 3) then the model forecasts that the population prevalence of diabetes in 2015 will be 6.5% (86,769 adults) in Northern Ireland and 5.8% (200,047 adults) in the Republic of Ireland, an increase of just over 19,700 and 58,900 adults respectively.

Table 2: Forecasts of population prevalence of adult diabetes (Type 1 and Type 2 combined) to 2010 and 2015, by jurisdiction

	Northern Ireland			Republic of Ireland		
Scenario 1	Estimated population	Estimated number of cases	Estimated prevalence	Estimated population	Estimated number of cases	Estimated prevalence
2005	1,230,947	67,063	5.4%	2,981,300	141,063	4.7%
2010	1,287,592	70,066	5.4%	3,222,976	153,538	4.8%
2015	1,335,852	75,466	5.6%	3,466,961	173,917	5.0%
Scenario 2						
2005	1,230,947	67,063	5.4%	2,981,300	141,063	4.7%
2010	1,287,592	74,114	5.8%	3,222,976	162,320	5.0%
2015	1,335,852	84,226	6.3%	3,466,961	193,944	5.6%
Scenario 3						
2005	1,230,947	67,063	5.4%	2,981,300	141,063	4.7%
2010	1,287,592	75,497	5.9%	3,222,976	165,443	5.1%
2015	1,335,852	86,769	6.5%	3,466,961	200,047	5.8%

The following figures demonstrate the changes in population prevalence over the next ten years, according to each scenario. Scenario 1 reflects changes in the population structure only whilst scenarios 2 and 3 also incorporate for a linear and exponential increase in obesity respectively, and a slow exponential decrease in the underweight/normal rate.

Figures 3 and 4 indicate that whilst the population prevalence of adult diabetes (Type 1 and Type 2 combined) in Northern Ireland will increase with projected changes in the population structure, more significant increases will occur if obesity rates continue to increase. Similar changes are seen in the expected numbers of people with diabetes.

Figures 4 and 5 indicate similar patterns in the Republic of Ireland; the population prevalence of adult diabetes (Type 1 and Type 2 combined) will increase with projected changes in the population structure. However, more significant increases will occur if obesity rates continue to increase. Similar changes are again seen in the expected numbers of people with diabetes.

Figure 3: Forecasts of population prevalence of adult diabetes (Type 1 and Type 2 combined) to 2010 and 2015, in Northern Ireland

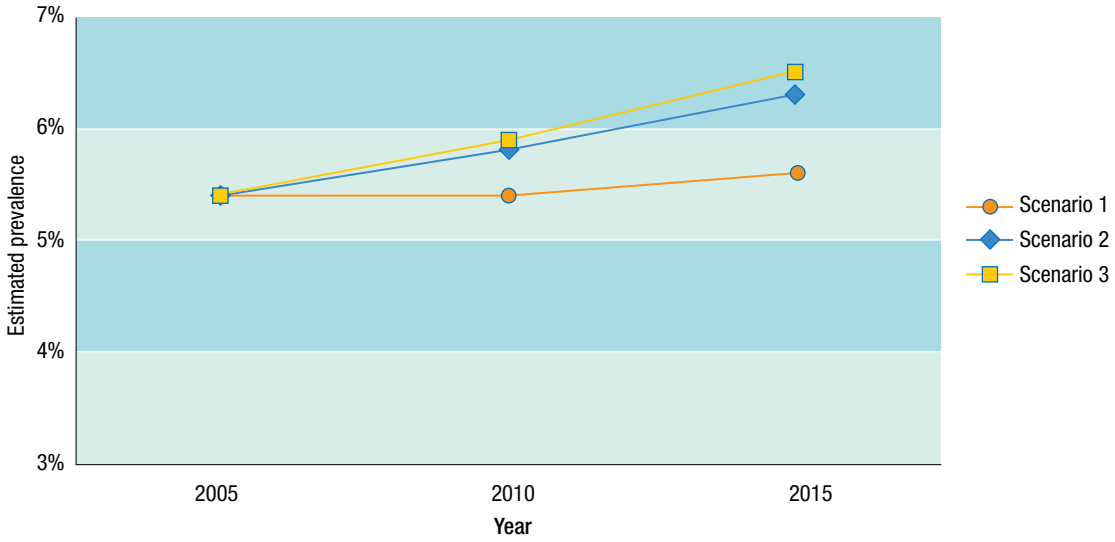


Figure 4: Forecasts of number of adults with diabetes (Type 1 and Type 2 combined) to 2010 and 2015, in Northern Ireland

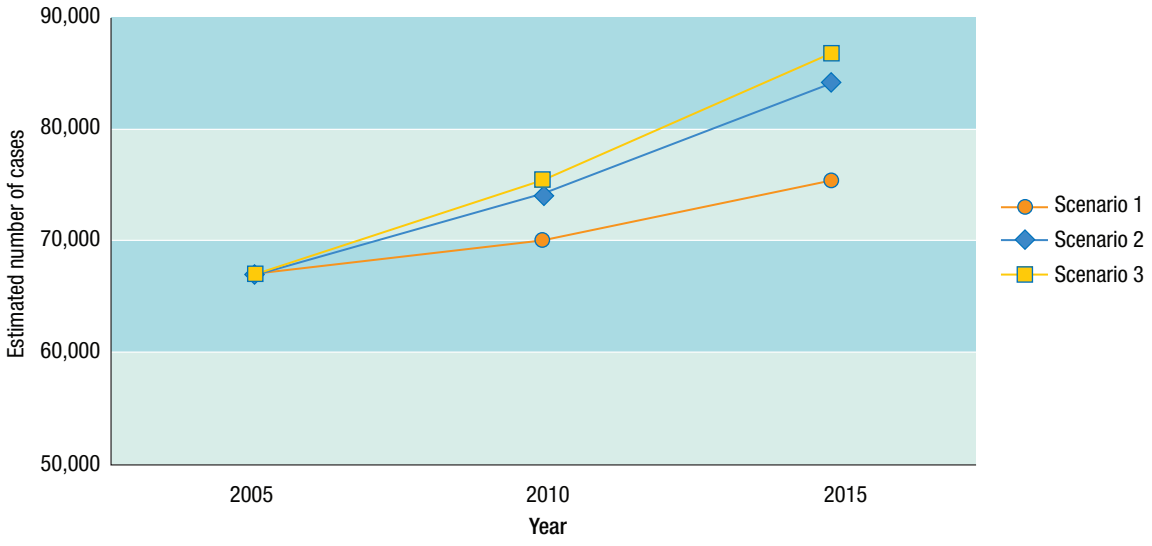


Figure 5: Forecasts of population prevalence of adult diabetes (Type 1 and Type 2 combined) to 2010 and 2015, in the Republic of Ireland

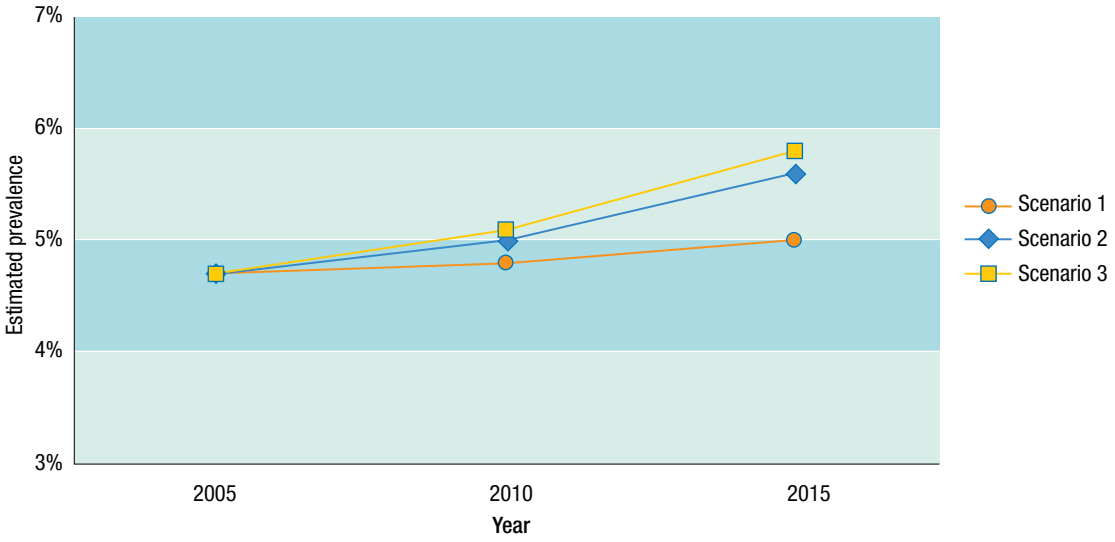
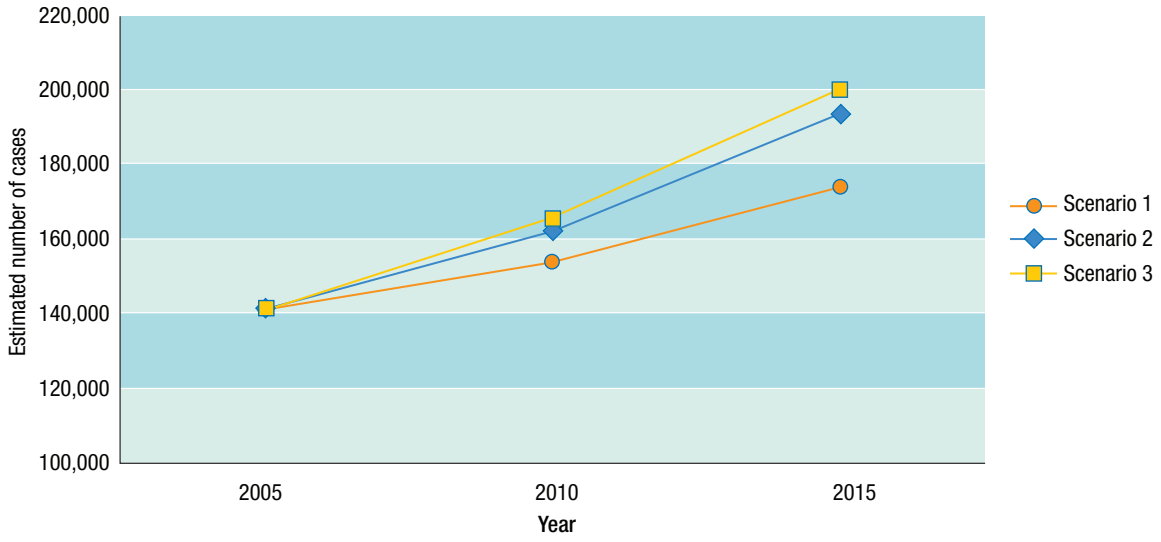


Figure 6: Forecasts of number of adults with diabetes (Type 1 and Type 2 combined) to 2010 and 2015, in the Republic of Ireland



As it was in 2005, the estimated population prevalence of diabetes (Type 1 and Type 2 combined) in 2015 is higher in females than males. However the rate of increase in population prevalence is greater in males than females, reflecting greater expected increases in rates of obesity within males (scenarios 2 and 3). This is clearly seen in figures 7 - 10.

Table 3: Forecasts of population prevalence of diabetes (Type 1 and Type 2 combined) in adult males to 2010 and 2015, by jurisdiction

	Northern Ireland			Republic of Ireland		
Scenario 1	Estimated population	Estimated number of cases	Estimated prevalence	Estimated population	Estimated number of cases	Estimated prevalence
2005	589,721	26,573	4.5%	1,469,300	58,807	4.0%
2010	618,626	28,394	4.6%	1,585,357	65,643	4.1%
2015	642,413	30,691	4.8%	1,706,745	74,927	4.4%
Scenario 2						
2005	589,721	26,573	4.5%	1,469,300	58,807	4.0%
2010	618,626	30,271	4.9%	1,585,357	69,899	4.4%
2015	642,413	34,774	5.4%	1,706,745	84,723	5.0%
Scenario 3						
2005	589,721	26,573	4.5%	1,469,300	58,807	4.0%
2010	618,626	31,590	5.1%	1,585,357	72,891	4.8%
2015	642,413	37,332	5.8%	1,706,745	90,860	5.3%

Table 4: Forecasts of population prevalence of diabetes (Type 1 and Type 2 combined) in adult females to 2010 and 2015, by jurisdiction

	Northern Ireland			Republic of Ireland		
Scenario 1	Estimated population	Estimated number of cases	Estimated prevalence	Estimated population	Estimated number of cases	Estimated prevalence
2005	641,226	40,489	6.3%	1,512,000	82,256	5.4%
2010	668,966	41,672	6.2%	1,637,619	87,895	5.4%
2015	693,439	44,774	6.5%	1,760,216	98,990	5.6%
Scenario 2						
2005	641,226	40,489	6.3%	1,512,000	82,256	5.4%
2010	668,966	43,843	6.6%	1,637,619	92,420	5.6%
2015	693,439	49,452	7.1%	1,760,216	109,221	6.2%
Scenario 3						
2005	641,226	40,489	6.3%	1,512,000	82,256	5.4%
2010	668,966	43,906	6.6%	1,637,619	92,552	5.7%
2015	693,439	49,437	7.1%	1,760,216	109,187	6.2%

Figure 7: Forecasts of population prevalence of diabetes (Type 1 and Type 2 combined) in adult males to 2010 and 2015, in Northern Ireland

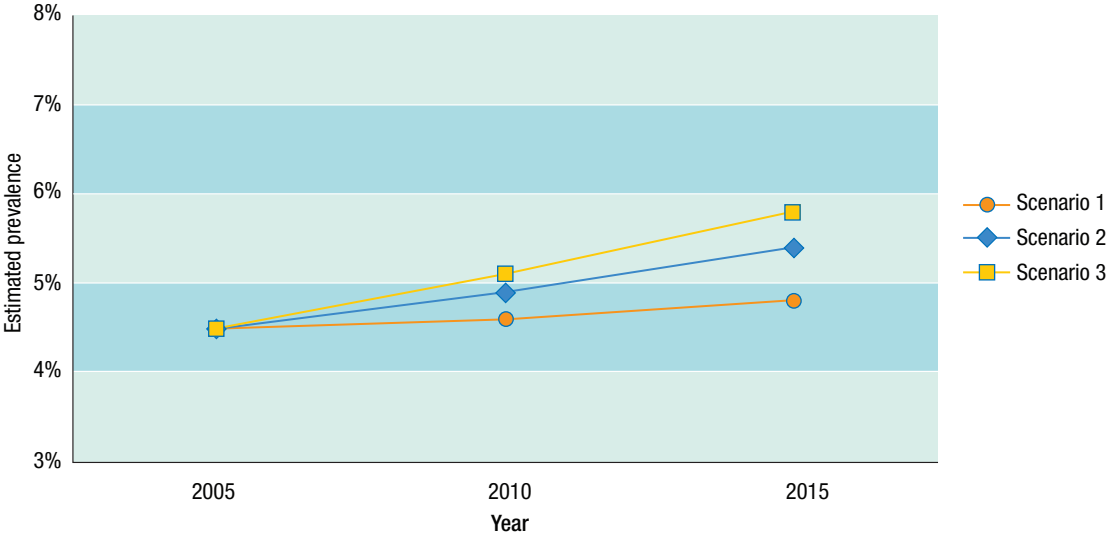


Figure 8: Forecasts of population prevalence of diabetes (Type 1 and Type 2 combined) in adult females to 2010 and 2015, in Northern Ireland

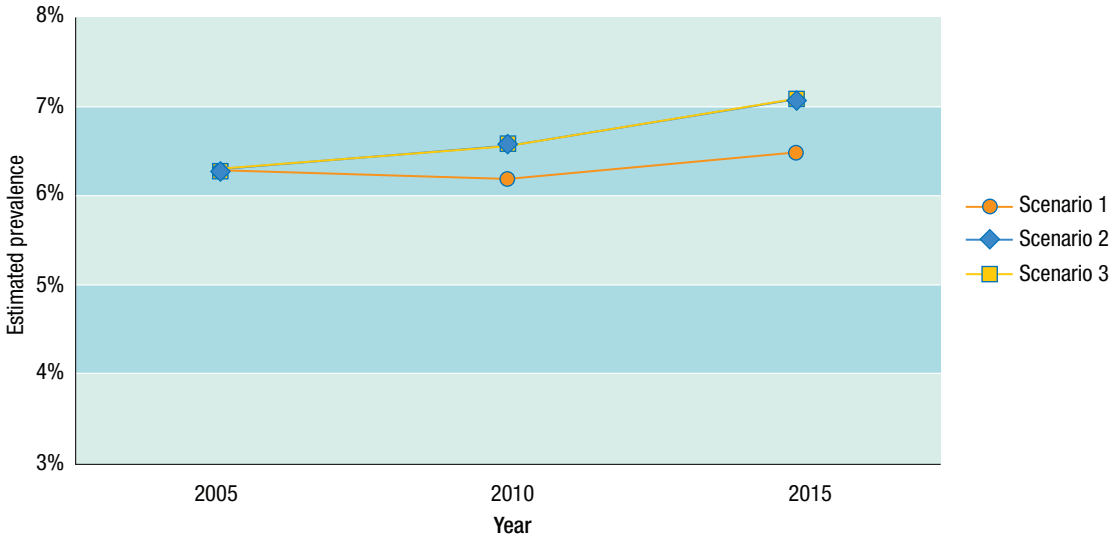


Figure 9: Forecasts of population prevalence of diabetes (Type 1 and Type 2 combined) in adult males to 2010 and 2015, in the Republic of Ireland

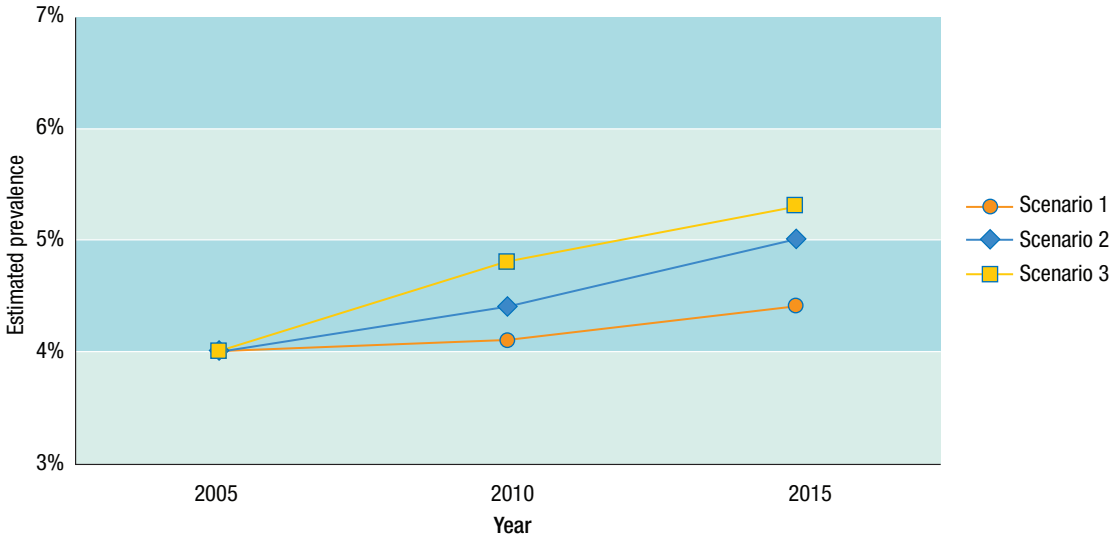
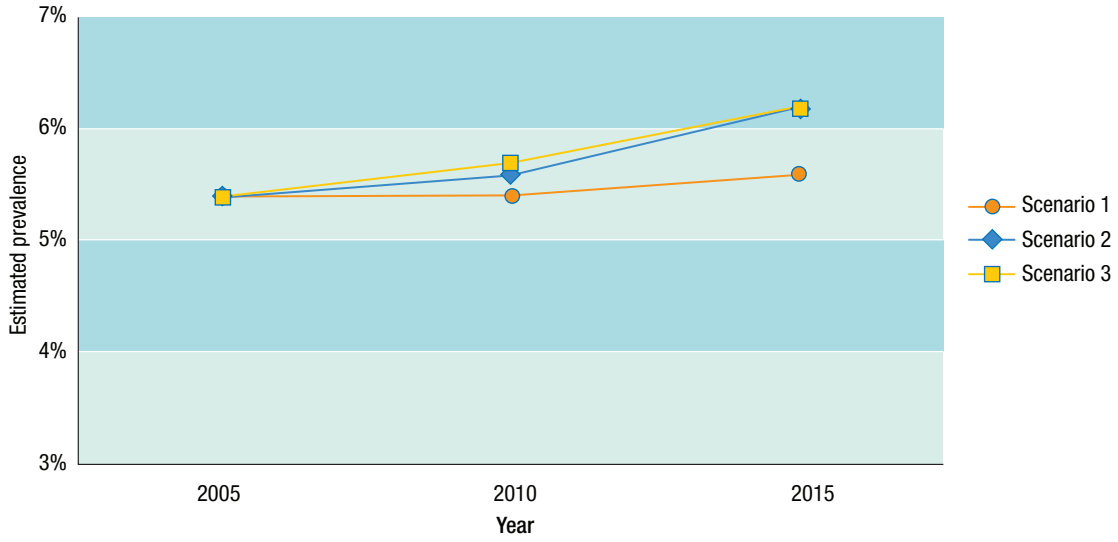


Figure 10: Forecasts of population prevalence of diabetes (Type 1 and Type 2 combined) in adult females to 2010 and 2015, in the Republic of Ireland



3.2 Type 2 diabetes

The PBS model estimated the population prevalence of Type 2 diabetes in adults (aged 20+ years) in 2005 to be 5.1% (62,287 adults) in Northern Ireland and 4.3% (129,052 adults) in the Republic of Ireland.

Taking into account projected changes in the population only, the model forecasts that in Northern Ireland by 2015 this will rise to 5.3% (70,464 adults) if BMI distribution remains stable at the 2005 level (scenario 1), 5.9% (79,225 adults) if obesity increases at a linear rate (scenario 2) and 6.1% (81,767 adults), if obesity increases at an exponential rate (scenario 3). The corresponding population prevalence in the Republic of Ireland will be 4.6% (160,002 adults), 5.2% (180,028 adults) and 5.4% (186,132 adults) respectively.

Table 5: Forecasts of population prevalence of Type 2 diabetes in adults to 2010 and 2015, by jurisdiction

	Northern Ireland			Republic of Ireland		
Scenario 1	Estimated population	Estimated number of cases	Estimated prevalence	Estimated population	Estimated number of cases	Estimated prevalence
2005	1,230,947	62,287	5.1%	2,981,300	129,052	4.3%
2010	1,287,592	65,169	5.1%	3,222,976	140,502	4.4%
2015	1,335,852	70,464	5.3%	3,466,961	160,002	4.6%
Scenario 2						
2005	1,230,947	62,287	5.1%	2,981,300	129,052	4.3%
2010	1,287,592	69,217	5.4%	3,222,976	149,283	4.6%
2015	1,335,852	79,225	5.9%	3,466,961	180,028	5.2%
Scenario 3						
2005	1,230,947	62,287	5.1%	2,981,300	129,052	4.3%
2010	1,287,592	70,600	5.5%	3,222,976	152,407	4.7%
2015	1,335,852	81,767	6.1%	3,466,961	186,132	5.4%

The following figures demonstrate the changes in population prevalence over the next ten years, according to each scenario. Scenario 1 reflects changes in the population structure only whilst scenarios 2 and 3 also incorporate a linear and exponential increase in obesity respectively, and a slow exponential decrease in the underweight/normal BMI rate.

Figure 11: Forecasts of population prevalence of Type 2 diabetes in adults to 2010 and 2015, in Northern Ireland

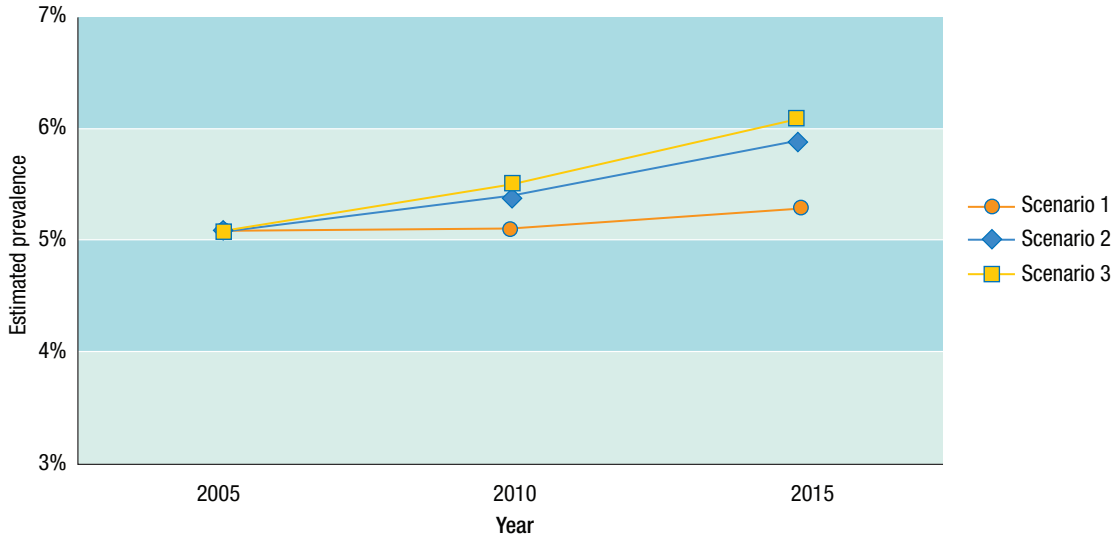


Figure 12: Forecasts of number of adults with Type 2 diabetes to 2010 and 2015, in Northern Ireland

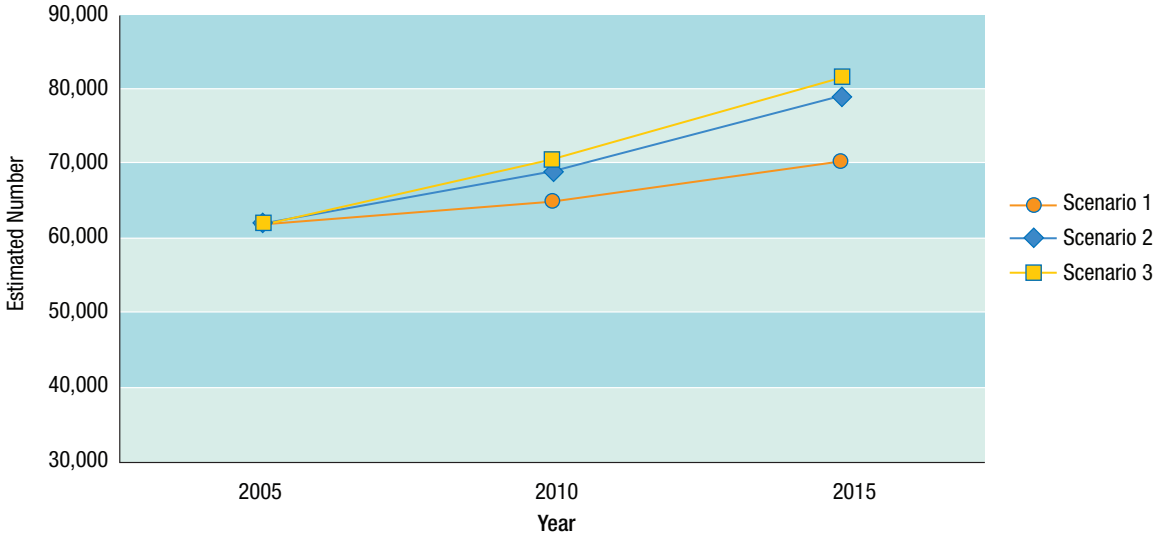


Figure 13: Forecasts of population prevalence of Type 2 diabetes in adults to 2010 and 2015, in the Republic of Ireland

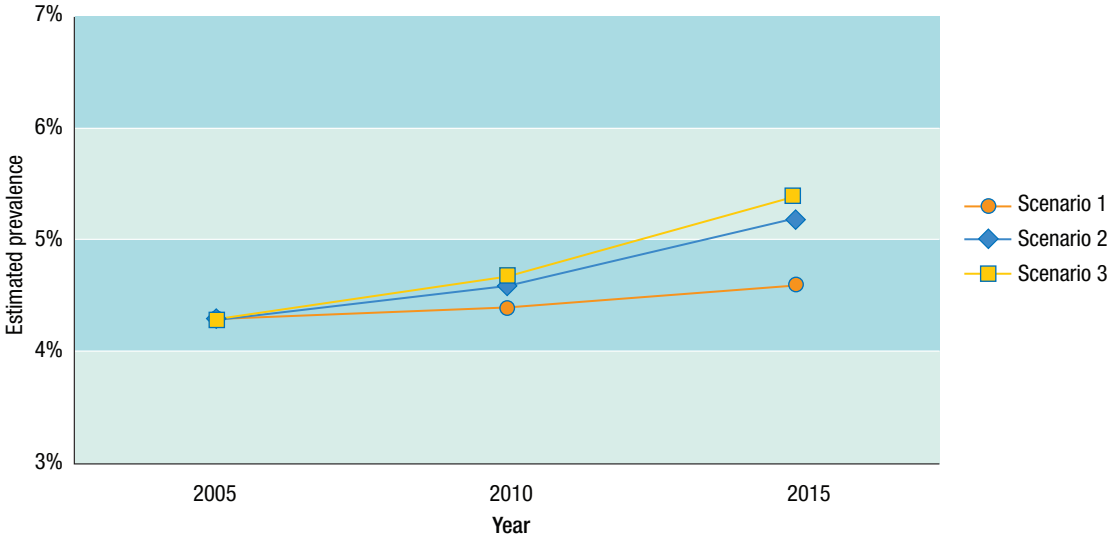
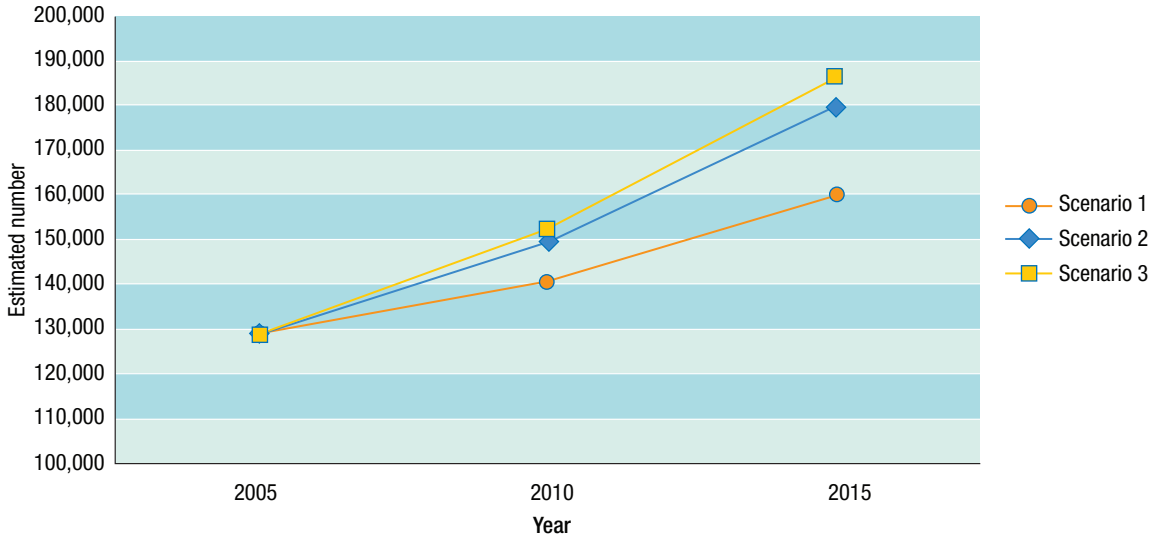


Figure 14: Forecasts of number of adults with Type 2 diabetes to 2010 and 2015, in the Republic of Ireland



The rate of increase of population prevalence is again greater in males than females reflecting the greater increase in obesity rates in males. However, the actual population prevalence of Type 2 diabetes remains higher in adult females than adult males in 2010 and 2015 (Figures 15 – 18).

Table 6: Forecasts of population prevalence of Type 2 diabetes in adult males to 2010 and 2015, by jurisdiction

	Northern Ireland			Republic of Ireland		
Scenario 1	Estimated population	Estimated number of cases	Estimated prevalence	Estimated population	Estimated number of cases	Estimated prevalence
2005	589,721	23,790	4.0%	1,469,300	51,719	3.5%
2010	618,626	25,542	4.1%	1,585,357	57,926	3.7%
2015	642,413	27,779	4.3%	1,706,745	66,652	3.9%
Scenario 2						
2005	589,721	23,790	4.0%	1,469,300	51,719	3.5%
2010	618,626	27,419	4.4%	1,585,357	62,183	3.9%
2015	642,413	31,862	5.0%	1,706,745	76,448	4.5%
Scenario 3						
2005	589,721	23,790	4.0%	1,469,300	51,719	3.5%
2010	618,626	28,739	4.6%	1,585,357	65,175	4.1%
2015	642,413	34,419	5.4%	1,706,745	82,585	4.8%

Table 7: Forecasts of population prevalence of Type 2 diabetes in adult females to 2010 and 2015, by jurisdiction

	Northern Ireland			Republic of Ireland		
Scenario 1	Estimated population	Estimated number of cases	Estimated prevalence	Estimated population	Estimated number of cases	Estimated prevalence
2005	641,226	38,497	6.0%	1,512,000	77,333	5.1%
2010	668,966	39,626	5.9%	1,637,619	82,576	5.0%
2015	693,439	42,685	6.2%	1,760,216	93,350	5.3%
Scenario 2						
2005	641,226	38,497	6.0%	1,512,000	77,333	5.1%
2010	668,966	41,798	6.2%	1,637,619	87,101	5.3%
2015	693,439	47,363	6.8%	1,760,216	103,581	5.9%
Scenario 3						
2005	641,226	38,497	6.0%	1,512,000	77,333	5.1%
2010	668,966	41,861	6.3%	1,637,619	87,232	5.3%
2015	693,439	47,348	6.8%	1,760,216	103,547	5.9%

Figure 15: Forecasts of population prevalence of Type 2 diabetes in adult males to 2010 and 2015, in Northern Ireland

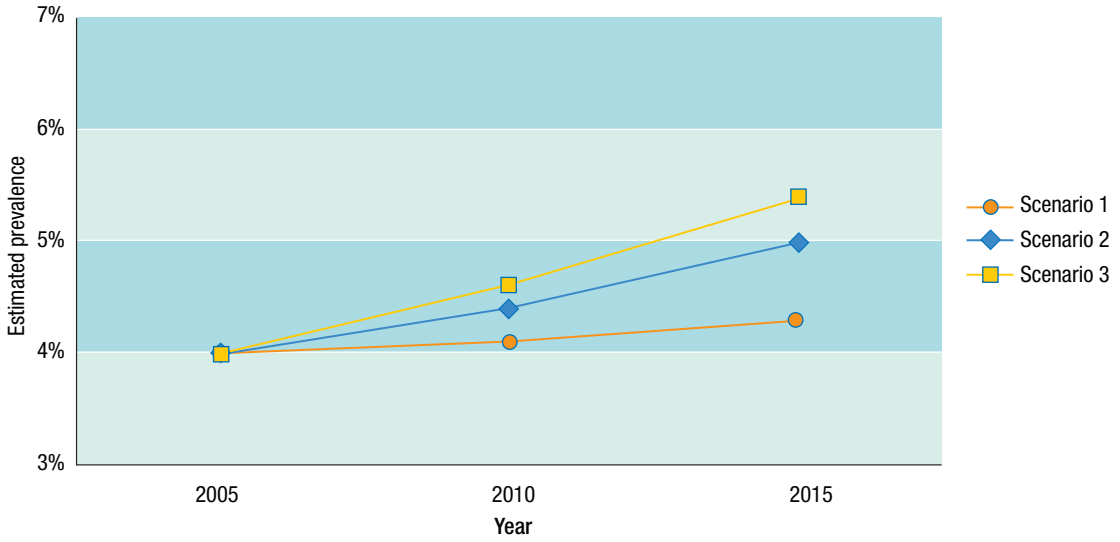


Figure 16: Forecasts of population prevalence of Type 2 diabetes in adult females to 2010 and 2015, in Northern Ireland

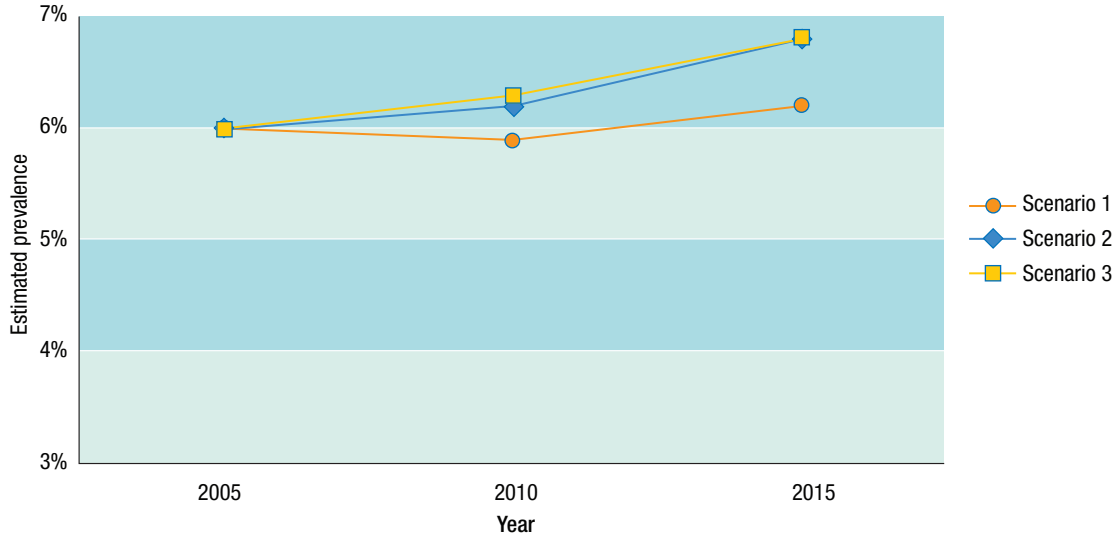


Figure 17: Forecasts of population prevalence of Type 2 diabetes in adult males to 2010 and 2015, in the Republic of Ireland

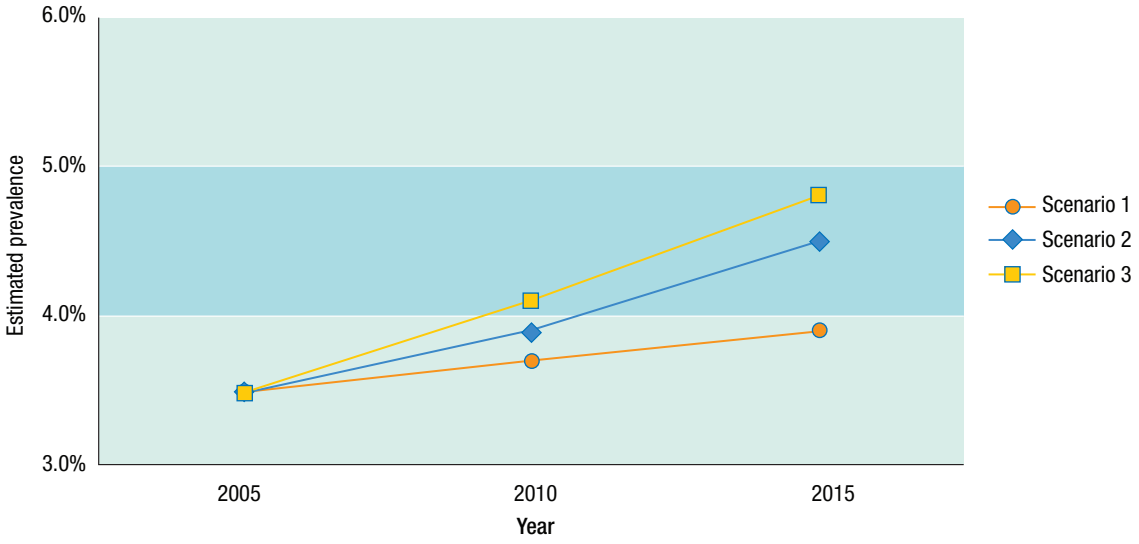
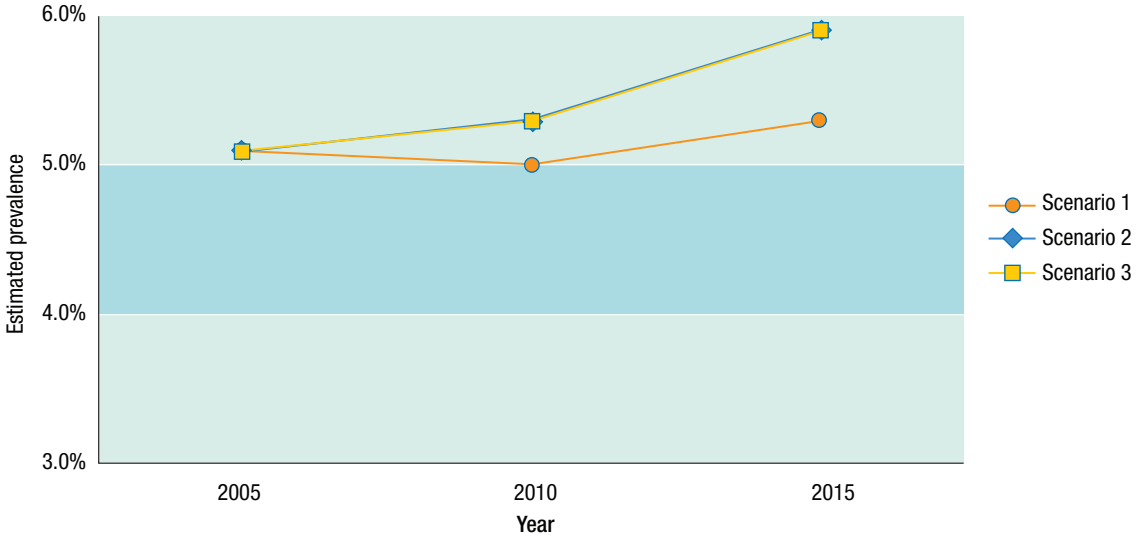


Figure 18: Forecasts of population prevalence of Type 2 diabetes in adult females to 2010 and 2015, in the Republic of Ireland



3.3 Type 1 diabetes

The PBS model estimated 0.4% of adults to have Type 1 diabetes in 2005. As Type 1 diabetes is unrelated to obesity the model does not incorporate obesity rates into its estimates for Type 1 diabetes. Hence the forecasts of Type 1 diabetes will reflect population change and are unaffected by obesity rates.

Thus we see that population changes between 2005 and 2015 will result in small estimated increases in the numbers of adults with Type 1 diabetes.

Table 8: Forecasts of population prevalence of Type 1 diabetes in adults to 2010 and 2015, by jurisdiction

	Northern Ireland			Republic of Ireland		
Scenario 1	Estimated population	Estimated number of cases	Estimated prevalence	Estimated population	Estimated number of cases	Estimated prevalence
2005	1,230,947	4,776	0.4%	2,981,300	12,011	0.4%
2010	1,287,592	4,897	0.4%	3,222,976	13,036	0.4%
2015	1,335,852	5,002	0.4%	3,466,961	13,915	0.4%

Studies suggest the incidence of Type 1 diabetes is increasing[11] and that this change is due to both demographics and environmental factors. Whilst the model takes demographic changes into account, it does not adjust for environmental changes and this represents an important limitation of the model in relation to Type 1 diabetes.

3.4 Detailed tables of forecasts of population prevalence.

Northern Ireland

Tables A - F:

Forecasts of population prevalence of adult diabetes (Type 1 and Type 2 combined) to 2010 and 2015, by Local Government District in Northern Ireland.

Tables G - L:

Forecasts of population prevalence of Type 2 diabetes in adults to 2010 and 2015, by Local Government District in Northern Ireland.

Republic of Ireland

Tables M - R:

Forecasts of population prevalence of adult diabetes (Type 1 and Type 2 combined) to 2010 and 2015, by Local Health Office Area.

Tables S - X:

Forecasts of population prevalence of Type 2 diabetes in adults to 2010 and 2015, by Local Health Office Area.

Scenario 1: Population change, BMI distribution remains at 2005 level

Table A: Forecasts of the population prevalence of adult diabetes (Type 1 and Type 2 combined) to 2010, by Local Government District

Area	Estimated number of cases			Estimated Prevalence		
	Persons	Male	Female	Persons	Male	Female
Northern Ireland	70,066	28,394	41,672	5.4%	4.6%	6.2%
EHSSB	27,508	10,803	16,705	5.5%	4.6%	6.3%
NHSSB	17,420	7,108	10,312	5.3%	4.5%	6.1%
SHSSB	13,038	5,408	7,630	5.4%	4.6%	6.2%
WHSSB	11,977	5,045	6,932	5.6%	4.8%	6.4%
EHSSB						
Ards	3,176	1,329	1,847	5.4%	4.7%	6.1%
Belfast	11,663	4,287	7,376	5.8%	4.7%	6.7%
Castlereagh	2,598	1,020	1,578	5.1%	4.3%	5.9%
Down	2,587	1,083	1,503	5.2%	4.4%	5.9%
Lisburn	4,073	1,671	2,402	5.0%	4.3%	5.7%
North down	3,144	1,258	1,886	5.2%	4.3%	6.0%
NHSSB						
Antrim	1,818	786	1,032	5.0%	4.3%	5.7%
Ballymena	2,399	961	1,439	5.3%	4.4%	6.1%
Ballymoney	1,193	484	709	5.4%	4.4%	6.4%
Carrickfergus	1,513	638	875	5.1%	4.4%	5.7%
Coleraine	2,424	957	1,467	5.7%	4.7%	6.6%
Cookstown	1,364	567	798	5.5%	4.7%	6.3%
Larne	1,365	556	809	5.7%	4.8%	6.6%
Magherafelt	1,389	585	804	4.5%	3.9%	5.1%
Moyle	744	301	443	6.0%	5.1%	6.8%
Newtownabbey	3,195	1,269	1,925	5.2%	4.5%	5.9%
SHSSB						
Armagh	2,230	920	1,311	5.4%	4.6%	6.1%
Banbridge	1,575	664	910	4.6%	4.0%	5.2%
Craigavon	3,457	1,412	2,045	5.5%	4.6%	6.3%
Dungannon	1,963	816	1,147	5.4%	4.6%	6.2%
Newry & mourne	3,789	1,587	2,202	5.7%	4.8%	6.5%
WHSSB						
Derry	4,424	1,825	2,599	5.6%	4.8%	6.3%
Fermanagh	2,495	1,071	1,424	5.6%	4.8%	6.4%
Limavady	1,250	545	705	4.9%	4.1%	5.6%
Omagh	1,926	810	1,116	5.3%	4.5%	6.1%
Strabane	1,860	780	1,080	6.5%	5.5%	7.5%

Scenario 1: Population change, BMI distribution remains at 2005 level

Table B: Forecasts of the population prevalence of adult diabetes (Type 1 and Type 2 combined) to 2015, by Local Government District

	Estimated number of cases			Estimated Prevalence		
Area	Persons	Male	Female	Persons	Male	Female
Northern Ireland	75,466	30,691	44,774	5.6%	4.8%	6.5%
EHSSB	28,861	11,419	17,442	5.6%	4.7%	6.4%
NHSSB	18,879	7,672	11,206	5.6%	4.7%	6.4%
SHSSB	14,325	5,972	8,353	5.6%	4.8%	6.4%
WHSSB	13,305	5,612	7,693	5.9%	5.1%	6.8%
EHSSB						
Ards	3,507	1,472	2,035	5.7%	5.0%	6.5%
Belfast	11,666	4,318	7,349	5.7%	4.7%	6.6%
Castlereagh	2,700	1,067	1,632	5.2%	4.3%	6.0%
Down	2,843	1,198	1,645	5.4%	4.6%	6.2%
Lisburn	4,399	1,803	2,596	5.2%	4.4%	5.9%
North down	3,353	1,355	1,998	5.4%	4.4%	6.2%
NHSSB						
Antrim	2,006	865	1,142	5.3%	4.5%	6.1%
Ballymena	2,570	1,028	1,542	5.5%	4.5%	6.4%
Ballymoney	1,324	535	789	5.7%	4.6%	6.7%
Carrickfergus	1,656	709	947	5.3%	4.7%	6.0%
Coleraine	2,613	1,025	1,588	6.1%	5.0%	7.1%
Cookstown	1,508	624	884	5.9%	5.0%	6.7%
Larne	1,465	589	876	6.0%	5.0%	6.9%
Magherafelt	1,536	646	889	4.7%	4.1%	5.3%
Moyle	790	316	475	6.2%	5.3%	6.9%
Newtownabbey	3,396	1,332	2,065	5.4%	4.7%	6.0%
SHSSB						
Armagh	2,452	1,010	1,442	5.7%	4.9%	6.4%
Banbridge	1,744	740	1,004	4.8%	4.2%	5.3%
Craigavon	3,749	1,542	2,207	5.6%	4.7%	6.6%
Dungannon	2,153	905	1,249	5.7%	4.9%	6.4%
Newry & mourne	4,202	1,766	2,436	6.0%	5.1%	6.8%
WHSSB						
Derry	4,942	2,025	2,917	6.0%	5.1%	6.7%
Fermanagh	2,731	1,188	1,542	5.9%	5.0%	6.8%
Limavady	1,410	615	794	5.1%	4.3%	6.0%
Omagh	2,143	904	1,239	5.6%	4.8%	6.5%
Strabane	2,058	863	1,195	6.9%	5.9%	7.9%

Scenario 2: Population change, obesity level increases at a linear rate and rates of underweight/normal BMI slow exponentially between 2005 and 2015[ii]

Table C: Forecasts of the population prevalence of adult diabetes (Type 1 and Type 2 combined) to 2010, by Local Government District

Area	Estimated number of cases			Estimated Prevalence		
	Persons	Male	Female	Persons	Male	Female
Northern Ireland	74,114	30,271	43,843	5.8%	4.9%	6.6%
EHSSB	29,094	11,517	17,576	5.8%	4.9%	6.6%
NHSSB	18,426	7,577	10,849	5.6%	4.8%	6.4%
SHSSB	13,792	5,765	8,027	5.7%	4.9%	6.5%
WHSSB	12,673	5,379	7,293	5.9%	5.1%	6.7%
EHSSB						
Ards	3,361	1,418	1,943	5.7%	5.0%	6.4%
Belfast	12,333	4,571	7,762	6.1%	5.0%	7.0%
Castlereagh	2,747	1,087	1,660	5.4%	4.6%	6.2%
Down	2,736	1,155	1,581	5.5%	4.7%	6.2%
Lisburn	4,307	1,781	2,526	5.3%	4.6%	6.0%
North down	3,326	1,341	1,985	5.5%	4.6%	6.3%
NHSSB						
Antrim	1,923	837	1,086	5.3%	4.5%	6.0%
Ballymena	2,538	1,024	1,514	5.6%	4.7%	6.4%
Ballymoney	1,262	515	746	5.7%	4.7%	6.7%
Carrickfergus	1,601	680	921	5.4%	4.7%	6.0%
Coleraine	2,565	1,021	1,544	6.1%	5.1%	7.0%
Cookstown	1,443	604	839	5.9%	5.0%	6.7%
Larne	1,445	593	851	6.0%	5.1%	6.9%
Magherafelt	1,468	623	845	4.8%	4.1%	5.4%
Moyle	787	321	466	6.4%	5.5%	7.2%
Newtownabbey	3,378	1,353	2,025	5.5%	4.8%	6.2%
SHSSB						
Armagh	2,360	981	1,379	5.7%	4.9%	6.4%
Banbridge	1,665	708	957	4.9%	4.3%	5.4%
Craigavon	3,656	1,505	2,152	5.8%	4.9%	6.7%
Dungannon	2,077	870	1,207	5.7%	4.9%	6.5%
Newry & mourne	4,009	1,693	2,317	6.0%	5.2%	6.8%
WHSSB						
Derry	4,680	1,947	2,734	5.9%	5.2%	6.6%
Fermanagh	2,640	1,142	1,498	5.9%	5.1%	6.8%
Limavady	1,321	580	741	5.1%	4.4%	5.9%
Omagh	2,037	863	1,174	5.6%	4.8%	6.4%
Strabane	1,970	832	1,137	6.9%	5.9%	7.9%

[ii] Overweight proportion is calculated by subtraction

Scenario 2: Population change, obesity level increases at a linear rate and rates of underweight/normal BMI slow exponentially between 2005 and 2015[ii]

Table D: Forecasts of the population prevalence of adult diabetes (Type 1 and Type 2 combined) to 2015, by Local Government District

	Estimated number of cases			Estimated Prevalence		
Area	Persons	Male	Female	Persons	Male	Female
Northern Ireland	84,226	34,774	49,452	6.3%	5.4%	7.1%
EHSSB	32,199	12,936	19,263	6.2%	5.3%	7.1%
NHSSB	21,069	8,691	12,377	6.2%	5.3%	7.0%
SHSSB	15,991	6,766	9,225	6.3%	5.4%	7.1%
WHSSB	14,860	6,361	8,499	6.6%	5.7%	7.5%
EHSSB						
Ards	3,918	1,670	2,248	6.4%	5.6%	7.2%
Belfast	13,006	4,890	8,116	6.4%	5.3%	7.3%
Castlereagh	3,011	1,208	1,802	5.8%	4.9%	6.6%
Down	3,173	1,356	1,816	6.0%	5.2%	6.8%
Lisburn	4,907	2,041	2,866	5.8%	5.0%	6.5%
North down	3,741	1,534	2,207	6.0%	5.0%	6.9%
NHSSB						
Antrim	2,239	979	1,261	5.9%	5.1%	6.8%
Ballymena	2,867	1,164	1,703	6.1%	5.1%	7.0%
Ballymoney	1,478	606	872	6.3%	5.2%	7.4%
Carrickfergus	1,849	803	1,046	6.0%	5.3%	6.6%
Coleraine	2,918	1,163	1,755	6.8%	5.6%	7.9%
Cookstown	1,684	707	977	6.6%	5.6%	7.5%
Larne	1,636	668	969	6.7%	5.6%	7.6%
Magherafelt	1,711	730	981	5.3%	4.7%	5.9%
Moyle	883	358	525	6.9%	6.0%	7.6%
Newtownabbey	3,789	1,509	2,280	6.0%	5.3%	6.7%
SHSSB						
Armagh	2,738	1,145	1,592	6.4%	5.6%	7.0%
Banbridge	1,944	837	1,108	5.4%	4.8%	5.9%
Craigavon	4,184	1,746	2,438	6.3%	5.3%	7.2%
Dungannon	2,404	1,025	1,379	6.3%	5.5%	7.1%
Newry & mourne	4,692	2,002	2,690	6.7%	5.7%	7.5%
WHSSB						
Derry	5,518	2,296	3,222	6.7%	5.8%	7.4%
Fermanagh	3,051	1,348	1,704	6.6%	5.7%	7.5%
Limavady	1,573	696	877	5.7%	4.9%	6.6%
Omagh	2,392	1,024	1,369	6.3%	5.4%	7.2%
Strabane	2,300	980	1,320	7.8%	6.7%	8.8%

Scenario 3: Population change, obesity level increases at an exponential rate and rates of underweight/normal BMI slow exponentially between 2005 and 2015[iii]

Table E: Forecasts of the population prevalence of adult diabetes (Type 1 and Type 2 combined) to 2010, by Local Government District

Area	Estimated number of cases			Estimated Prevalence		
	Persons	Male	Female	Persons	Male	Female
Northern Ireland	75,497	31,590	43,906	5.9%	5.1%	6.6%
EHSSB	29,621	12,020	17,602	5.9%	5.1%	6.6%
NHSSB	18,771	7,906	10,865	5.7%	5.0%	6.4%
SHSSB	14,054	6,016	8,038	5.8%	5.1%	6.5%
WHSSB	12,918	5,614	7,304	6.0%	5.3%	6.7%
EHSSB						
Ards	3,426	1,480	1,946	5.8%	5.2%	6.4%
Belfast	12,544	4,771	7,773	6.2%	5.2%	7.1%
Castlereagh	2,797	1,134	1,663	5.5%	4.8%	6.2%
Down	2,789	1,205	1,584	5.6%	4.9%	6.2%
Lisburn	4,387	1,858	2,530	5.4%	4.8%	6.0%
North down	3,387	1,399	1,987	5.6%	4.8%	6.3%
NHSSB						
Antrim	1,961	873	1,088	5.4%	4.7%	6.0%
Ballymena	2,584	1,068	1,516	5.7%	4.9%	6.4%
Ballymoney	1,285	538	747	5.8%	4.9%	6.7%
Carrickfergus	1,631	709	922	5.5%	4.9%	6.0%
Coleraine	2,612	1,066	1,546	6.2%	5.3%	7.0%
Cookstown	1,471	631	840	6.0%	5.2%	6.7%
Larne	1,472	619	853	6.2%	5.3%	6.9%
Magherafelt	1,496	649	846	4.9%	4.3%	5.4%
Moyle	802	335	466	6.5%	5.7%	7.2%
Newtownabbey	3,440	1,412	2,028	5.6%	5.0%	6.2%
NHSSB						
Armagh	2,404	1,024	1,381	5.8%	5.1%	6.4%
Banbridge	1,697	738	959	5.0%	4.5%	5.5%
Craigavon	3,725	1,570	2,155	5.9%	5.1%	6.7%
Dungannon	2,117	908	1,208	5.8%	5.1%	6.5%
Newry & mourne	4,087	1,767	2,320	6.1%	5.4%	6.8%
WHSSB						
Derry	4,769	2,032	2,738	6.0%	5.4%	6.6%
Fermanagh	2,692	1,192	1,500	6.0%	5.3%	6.8%
Limavady	1,347	605	742	5.2%	4.6%	5.9%
Omagh	2,076	901	1,176	5.7%	5.0%	6.4%
Strabane	2,008	869	1,139	7.0%	6.2%	7.9%

[iii] Overweight proportion is calculated by subtraction

Scenario 3: Population change, obesity level increases at an exponential rate and rates of underweight/normal BMI slow exponentially between 2005 and 2015[iii]

Table F: Forecasts of the population prevalence of adult diabetes (Type 1 and Type 2 combined) to 2015, by Local Government District

	Estimated number of cases			Estimated Prevalence		
Area	Persons	Male	Female	Persons	Male	Female
Northern Ireland	86,769	37,332	49,437	6.5%	5.8%	7.1%
EHSSB	33,144	13,887	19,257	6.4%	5.7%	7.1%
NHSSB	21,704	9,330	12,373	6.4%	5.7%	7.0%
SHSSB	16,486	7,264	9,222	6.5%	5.8%	7.1%
WHSSB	15,327	6,831	8,496	6.8%	6.2%	7.5%
EHSSB						
Ards	4,041	1,793	2,248	6.6%	6.1%	7.2%
Belfast	13,362	5,248	8,113	6.5%	5.7%	7.3%
Castlereagh	3,098	1,297	1,802	6.0%	5.3%	6.6%
Down	3,271	1,456	1,816	6.2%	5.6%	6.8%
Lisburn	5,056	2,191	2,865	6.0%	5.4%	6.5%
North down	3,853	1,647	2,206	6.2%	5.4%	6.9%
NHSSB						
Antrim	2,310	1,050	1,260	6.1%	5.5%	6.8%
Ballymena	2,952	1,249	1,703	6.3%	5.5%	7.0%
Ballymoney	1,522	650	871	6.5%	5.6%	7.4%
Carrickfergus	1,908	862	1,046	6.2%	5.7%	6.6%
Coleraine	3,003	1,249	1,754	7.0%	6.0%	7.9%
Cookstown	1,735	759	977	6.8%	6.0%	7.5%
Larne	1,685	717	968	6.9%	6.1%	7.6%
Magherafelt	1,764	783	981	5.5%	5.0%	5.9%
Moyle	909	385	524	7.1%	6.5%	7.6%
Newtownabbey	3,899	1,620	2,279	6.2%	5.7%	6.7%
NHSSB						
Armagh	2,822	1,230	1,592	6.6%	6.0%	7.0%
Banbridge	2,005	898	1,107	5.5%	5.1%	5.9%
Craigavon	4,311	1,874	2,437	6.5%	5.7%	7.2%
Dungannon	2,479	1,101	1,379	6.5%	5.9%	7.1%
Newry & mourne	4,839	2,150	2,690	6.9%	6.2%	7.5%
WHSSB						
Derry	5,686	2,465	3,221	6.9%	6.2%	7.4%
Fermanagh	3,151	1,447	1,703	6.8%	6.1%	7.5%
Limavady	1,623	746	877	5.9%	5.3%	6.6%
Omagh	2,467	1,099	1,368	6.5%	5.8%	7.2%
Strabane	2,373	1,053	1,320	8.0%	7.2%	8.8%

Scenario 1: Population change, BMI distribution remains at 2005 level

Table G: Forecasts of population prevalence of Type 2 diabetes in adults to 2010, by Local Government District

Area	Estimated number of cases			Estimated Prevalence		
	Persons	Male	Female	Persons	Male	Female
NORTHERN IRELAND	65,169	25,542	39,626	5.1%	4.1%	5.9%
EHSSB	25,622	9,725	15,897	5.1%	4.1%	6.0%
NHSSB	16,175	6,377	9,798	4.9%	4.0%	5.8%
SHSSB	12,106	4,859	7,247	5.0%	4.1%	5.9%
WHSSB	11,143	4,550	6,592	5.2%	4.3%	6.1%
EHSSB						
Ards	2,958	1,201	1,758	5.0%	4.2%	5.8%
Belfast	10,906	3,871	7,035	5.4%	4.2%	6.4%
Castlereagh	2,411	912	1,499	4.8%	3.8%	5.6%
Down	2,396	970	1,426	4.8%	3.9%	5.6%
Lisburn	3,761	1,491	2,271	4.6%	3.8%	5.4%
North down	2,923	1,127	1,796	4.8%	3.8%	5.7%
NHSSB						
Antrim	1,674	698	977	4.6%	3.8%	5.4%
Ballymena	2,229	861	1,368	4.9%	3.9%	5.8%
Ballymoney	1,108	433	675	5.0%	4.0%	6.1%
Carrickfergus	1,401	572	829	4.7%	3.9%	5.4%
Coleraine	2,271	868	1,404	5.4%	4.3%	6.4%
Cookstown	1,268	510	758	5.1%	4.2%	6.0%
Larne	1,277	504	773	5.3%	4.3%	6.3%
Magherafelt	1,267	513	754	4.1%	3.4%	4.8%
Moyle	697	275	423	5.6%	4.7%	6.5%
Newtownabbey	2,967	1,141	1,825	4.9%	4.1%	5.6%
SHSSB						
Armagh	2,074	829	1,245	5.0%	4.2%	5.8%
Banbridge	1,441	586	855	4.2%	3.5%	4.9%
Craigavon	3,213	1,267	1,946	5.1%	4.1%	6.0%
Dungannon	1,824	735	1,090	5.0%	4.1%	5.9%
Newry & mourne	3,529	1,433	2,096	5.3%	4.4%	6.2%
WHSSB						
Derry	4,116	1,648	2,467	5.2%	4.4%	6.0%
Fermanagh	2,325	968	1,357	5.2%	4.3%	6.1%
Limavady	1,147	482	665	4.5%	3.6%	5.3%
Omagh	1,783	724	1,059	4.9%	4.0%	5.8%
Strabane	1,750	714	1,036	6.1%	5.1%	7.2%

Scenario 1: Population change, BMI distribution remains at 2005 level

Table H: Forecasts of population prevalence of Type 2 diabetes in adults to 2015, by Local Government District

Area	Estimated number of cases			Estimated Prevalence		
	Persons	Male	Female	Persons	Male	Female
NORTHERN IRELAND	70,464	27,779	42,685	5.3%	4.3%	6.2%
EHSSB	26,942	10,323	16,619	5.2%	4.2%	6.1%
NHSSB	17,620	6,936	10,685	5.2%	4.2%	6.1%
SHSSB	13,358	5,403	7,956	5.2%	4.3%	6.1%
WHSSB	12,448	5,102	7,346	5.5%	4.6%	6.5%
EHSSB						
Ards	3,289	1,343	1,946	5.4%	4.5%	6.2%
Belfast	10,892	3,893	6,999	5.3%	4.2%	6.3%
Castlereagh	2,511	959	1,552	4.8%	3.9%	5.7%
Down	2,644	1,079	1,565	5.0%	4.1%	5.9%
Lisburn	4,083	1,620	2,463	4.8%	4.0%	5.6%
North down	3,129	1,222	1,908	5.0%	4.0%	5.9%
NHSSB						
Antrim	1,862	776	1,086	4.9%	4.1%	5.8%
Ballymena	2,397	926	1,471	5.1%	4.1%	6.1%
Ballymoney	1,236	482	754	5.3%	4.1%	6.4%
Carrickfergus	1,542	642	901	5.0%	4.2%	5.7%
Coleraine	2,461	936	1,526	5.7%	4.5%	6.8%
Cookstown	1,410	565	844	5.5%	4.5%	6.4%
Larne	1,377	536	841	5.6%	4.5%	6.6%
Magherafelt	1,409	572	837	4.4%	3.7%	5.0%
Moyle	743	289	454	5.8%	4.9%	6.6%
Newtownabbey	3,169	1,207	1,962	5.1%	4.2%	5.7%
SHSSB						
Armagh	2,294	920	1,374	5.3%	4.5%	6.1%
Banbridge	1,604	659	945	4.4%	3.8%	5.0%
Craigavon	3,495	1,390	2,105	5.2%	4.2%	6.3%
Dungannon	2,010	820	1,189	5.3%	4.4%	6.1%
Newry & mourne	3,931	1,605	2,326	5.6%	4.6%	6.5%
WHSSB						
Derry	4,624	1,842	2,782	5.6%	4.7%	6.4%
Fermanagh	2,558	1,083	1,475	5.5%	4.6%	6.5%
Limavady	1,301	549	753	4.7%	3.9%	5.6%
Omagh	1,997	816	1,181	5.3%	4.3%	6.2%
Strabane	1,945	796	1,149	6.6%	5.4%	7.6%

Scenario 2: Population change, obesity level increases at a linear rate and rates of underweight/normal BMI slow exponentially between 2005 and 2015[iv]

Table I: Forecasts of population prevalence of Type 2 diabetes in adults to 2010, by Local Government District

Area	Estimated number of cases			Estimated Prevalence		
	Persons	Male	Female	Persons	Male	Female
NORTHERN IRELAND	69,217	27,419	41,798	5.4%	4.4%	6.2%
EHSSB	27,208	10,440	16,768	5.4%	4.4%	6.3%
NHSSB	17,181	6,846	10,335	5.2%	4.3%	6.1%
SHSSB	12,860	5,216	7,644	5.3%	4.4%	6.2%
WHSSB	11,838	4,885	6,953	5.5%	4.6%	6.4%
EHSSB						
Ards	3,143	1,289	1,854	5.3%	4.5%	6.1%
Belfast	11,576	4,155	7,421	5.7%	4.6%	6.7%
Castlereagh	2,560	979	1,581	5.1%	4.1%	5.9%
Down	2,545	1,041	1,504	5.1%	4.2%	5.9%
Lisburn	3,995	1,600	2,395	4.9%	4.1%	5.6%
North down	3,104	1,210	1,894	5.1%	4.1%	6.0%
NHSSB						
Antrim	1,779	749	1,030	4.9%	4.1%	5.7%
Ballymena	2,367	924	1,443	5.2%	4.2%	6.1%
Ballymoney	1,177	465	712	5.3%	4.3%	6.4%
Carrickfergus	1,488	614	875	5.0%	4.2%	5.7%
Coleraine	2,412	931	1,481	5.7%	4.6%	6.7%
Cookstown	1,347	547	800	5.5%	4.5%	6.4%
Larne	1,356	541	816	5.7%	4.7%	6.6%
Magherafelt	1,346	551	795	4.4%	3.7%	5.1%
Moyle	741	295	446	6.0%	5.0%	6.9%
Newtownabbey	3,151	1,225	1,925	5.2%	4.3%	5.9%
SHSSB						
Armagh	2,203	890	1,313	5.3%	4.5%	6.1%
Banbridge	1,531	629	902	4.5%	3.8%	5.1%
Craigavon	3,413	1,360	2,053	5.4%	4.4%	6.4%
Dungannon	1,938	789	1,149	5.4%	4.5%	6.2%
Newry & mourne	3,749	1,539	2,210	5.6%	4.7%	6.5%
WHSSB						
Derry	4,372	1,770	2,602	5.5%	4.7%	6.3%
Fermanagh	2,471	1,039	1,432	5.5%	4.6%	6.5%
Limavady	1,219	518	701	4.7%	3.9%	5.6%
Omagh	1,894	778	1,117	5.2%	4.3%	6.1%
Strabane	1,859	766	1,092	6.5%	5.4%	7.5%

[iv] Overweight proportion is calculated by subtraction

Scenario 2: Population change, obesity level increases at a linear rate and rates of underweight/normal BMI slow exponentially between 2005 and 2015[iv]

Table J: Forecasts of population prevalence of Type 2 diabetes in adults to 2015, by Local Government District

Area	Estimated number of cases			Estimated Prevalence		
	Persons	Male	Female	Persons	Male	Female
NORTHERN IRELAND	79,225	31,862	47,363	5.9%	5.0%	6.8%
EHSSB	30,280	11,840	18,441	5.9%	4.9%	6.8%
NHSSB	19,810	7,955	11,856	5.8%	4.9%	6.7%
SHSSB	15,024	6,197	8,828	5.9%	5.0%	6.8%
WHSSB	14,002	5,852	8,151	6.2%	5.3%	7.2%
EHSSB						
Ards	3,700	1,541	2,159	6.1%	5.2%	6.9%
Belfast	12,232	4,465	7,766	6.0%	4.8%	7.0%
Castlereagh	2,822	1,100	1,722	5.4%	4.5%	6.3%
Down	2,974	1,238	1,736	5.6%	4.8%	6.5%
Lisburn	4,591	1,858	2,733	5.4%	4.6%	6.2%
North down	3,518	1,401	2,117	5.6%	4.6%	6.6%
NHSSB						
Antrim	2,095	890	1,205	5.6%	4.7%	6.5%
Ballymena	2,694	1,062	1,632	5.7%	4.7%	6.7%
Ballymoney	1,389	553	837	5.9%	4.7%	7.1%
Carrickfergus	1,735	736	999	5.6%	4.9%	6.3%
Coleraine	2,766	1,073	1,693	6.4%	5.2%	7.6%
Cookstown	1,585	648	937	6.2%	5.2%	7.1%
Larne	1,548	615	933	6.3%	5.2%	7.3%
Magherafelt	1,585	657	928	4.9%	4.2%	5.5%
Moyle	836	332	504	6.5%	5.6%	7.3%
Newtownabbey	3,562	1,384	2,177	5.7%	4.9%	6.4%
SHSSB						
Armagh	2,580	1,055	1,524	6.0%	5.2%	6.7%
Banbridge	1,805	756	1,049	5.0%	4.3%	5.6%
Craigavon	3,930	1,594	2,336	5.9%	4.8%	6.9%
Dungannon	2,261	941	1,320	5.9%	5.1%	6.8%
Newry & mourne	4,421	1,840	2,581	6.3%	5.3%	7.2%
WHSSB						
Derry	5,200	2,113	3,087	6.3%	5.4%	7.1%
Fermanagh	2,879	1,242	1,637	6.2%	5.3%	7.2%
Limavady	1,465	629	835	5.3%	4.4%	6.3%
Omagh	2,246	936	1,310	5.9%	4.9%	6.9%
Strabane	2,188	913	1,275	7.4%	6.3%	8.5%

Scenario 3: Population change, obesity level increases at an exponential rate and rates of underweight/normal BMI slow exponentially between 2005 and 2015[v]

Table K: Forecasts of population prevalence of Type 2 diabetes in adults, to 2010 by Local Government District

Area	Estimated number of cases			Estimated Prevalence		
	Persons	Male	Female	Persons	Male	Female
NORTHERN IRELAND	70,600	28,739	41,861	5.5%	4.6%	6.3%
EHSSB	27,736	10,942	16,793	5.5%	4.6%	6.3%
NHSSB	17,526	7,175	10,350	5.3%	4.5%	6.1%
SHSSB	13,122	5,467	7,656	5.4%	4.6%	6.2%
WHSSB	12,084	5,120	6,964	5.6%	4.8%	6.4%
EHSSB						
Ards	3,208	1,351	1,857	5.5%	4.8%	6.1%
Belfast	11,787	4,355	7,432	5.9%	4.8%	6.7%
Castlereagh	2,609	1,026	1,583	5.2%	4.3%	5.9%
Down	2,598	1,091	1,506	5.2%	4.4%	5.9%
Lisburn	4,076	1,677	2,399	5.0%	4.3%	5.7%
North down	3,165	1,268	1,897	5.2%	4.3%	6.0%
NHSSB						
Antrim	1,817	785	1,032	5.0%	4.2%	5.7%
Ballymena	2,414	969	1,445	5.3%	4.4%	6.1%
Ballymoney	1,200	487	713	5.4%	4.5%	6.4%
Carrickfergus	1,519	643	876	5.1%	4.4%	5.7%
Coleraine	2,459	976	1,483	5.8%	4.8%	6.7%
Cookstown	1,375	574	801	5.6%	4.7%	6.4%
Larne	1,383	567	817	5.8%	4.9%	6.6%
Magherafelt	1,374	577	797	4.5%	3.8%	5.1%
Moyle	756	309	447	6.1%	5.3%	6.9%
Newtownabbey	3,212	1,284	1,928	5.3%	4.6%	5.9%
SHSSB						
Armagh	2,248	933	1,315	5.4%	4.7%	6.1%
Banbridge	1,563	659	904	4.6%	4.0%	5.1%
Craigavon	3,482	1,426	2,056	5.5%	4.6%	6.4%
Dungannon	1,978	827	1,151	5.5%	4.7%	6.2%
Newry and mourne	3,826	1,613	2,214	5.7%	4.9%	6.5%
WHSSB						
Derry	4,461	1,855	2,606	5.6%	4.9%	6.3%
Fermanagh	2,523	1,089	1,434	5.6%	4.8%	6.5%
Limavady	1,245	542	702	4.8%	4.1%	5.6%
Omagh	1,933	815	1,118	5.3%	4.5%	6.1%
Strabane	1,897	803	1,094	6.6%	5.7%	7.6%

[v] Overweight proportion is calculated by subtraction

Scenario 3: Population change, obesity level increases at an exponential rate and rates of underweight/normal BMI slow exponentially between 2005 and 2015[v]

Table L: Forecasts of population prevalence of Type 2 diabetes in adults, to 2015 by Local Government District

Area	Estimated number of cases			Estimated Prevalence		
	Persons	Male	Female	Persons	Male	Female
NORTHERN IRELAND	81,767	34,419	47,348	6.1%	5.4%	6.8%
EHSSB	31,225	12,790	18,435	6.0%	5.3%	6.8%
NHSSB	20,445	8,593	11,852	6.0%	5.3%	6.7%
SHSSB	15,519	6,694	8,825	6.1%	5.4%	6.8%
WHSSB	14,470	6,321	8,148	6.4%	5.7%	7.2%
EHSSB						
Ards	3,823	1,665	2,158	6.3%	5.6%	6.9%
Belfast	12,588	4,824	7,764	6.2%	5.2%	6.9%
Castlereagh	2,910	1,188	1,722	5.6%	4.8%	6.3%
Down	3,073	1,337	1,736	5.8%	5.1%	6.5%
Lisburn	4,740	2,007	2,732	5.6%	4.9%	6.2%
North down	3,630	1,514	2,116	5.8%	5.0%	6.6%
NHSSB						
Antrim	2,166	962	1,205	5.8%	5.0%	6.5%
Ballymena	2,779	1,147	1,631	5.9%	5.1%	6.7%
Ballymoney	1,433	597	836	6.1%	5.1%	7.1%
Carrickfergus	1,794	795	999	5.8%	5.2%	6.3%
Coleraine	2,852	1,159	1,693	6.6%	5.6%	7.6%
Cookstown	1,637	701	937	6.4%	5.6%	7.1%
Larne	1,597	665	932	6.5%	5.6%	7.3%
Magherafelt	1,637	709	928	5.1%	4.6%	5.5%
Moyle	862	358	504	6.7%	6.0%	7.3%
Newtownabbey	3,672	1,495	2,177	5.9%	5.2%	6.4%
SHSSB						
Armagh	2,664	1,140	1,524	6.2%	5.6%	6.7%
Banbridge	1,865	816	1,049	5.1%	4.7%	5.6%
Craigavon	4,057	1,722	2,335	6.1%	5.2%	6.9%
Dungannon	2,336	1,017	1,319	6.1%	5.5%	6.8%
Newry and mourne	4,568	1,988	2,580	6.5%	5.7%	7.2%
WHSSB						
Derry	5,368	2,282	3,086	6.5%	5.8%	7.1%
Fermanagh	2,978	1,341	1,636	6.4%	5.7%	7.2%
Limavady	1,515	680	835	5.5%	4.8%	6.3%
Omagh	2,321	1,011	1,310	6.1%	5.3%	6.9%
Strabane	2,261	986	1,275	7.6%	6.8%	8.5%

Scenario 1: Population change, BMI distribution remains at 2005 level

Table M: Forecasts of the population prevalence of adult diabetes (Type 1 and Type 2 combined) to 2010, by Local Health Office Area

Area	Estimated number of cases			Estimated Prevalence		
	Persons	Male	Female	Persons	Male	Female
Republic of Ireland	153,538	65,643	87,895	4.8%	4.1%	5.4%
Dublin Mid Leinster	42,720	17,997	24,723	4.5%	3.9%	5.0%
Dublin North East	31,435	13,399	18,035	4.6%	3.9%	5.1%
Southern	40,695	17,473	23,222	5.0%	4.4%	5.7%
Western	38,714	16,792	21,922	5.1%	4.4%	5.7%
Dublin Mid Leinster						
Area 01	5,124	2,022	3,102	4.7%	4.0%	5.3%
Area 02	3,704	1,441	2,263	4.0%	3.3%	4.6%
Area 03	4,945	1,990	2,955	4.3%	3.6%	4.9%
Area 04	5,769	2,413	3,356	4.9%	4.3%	5.5%
Area 05	4,048	1,721	2,327	4.0%	3.5%	4.6%
Kildare	5,631	2,566	3,065	3.7%	3.4%	4.0%
Laois/Offaly	4,969	2,205	2,764	5.0%	4.4%	5.7%
Longford/Westmeath	4,086	1,768	2,319	4.9%	4.2%	5.6%
Wicklow	4,223	1,807	2,416	4.8%	4.2%	5.3%
Dublin North East						
Area 06	5,730	2,352	3,378	4.4%	3.7%	5.0%
Area 07	5,456	2,175	3,281	5.0%	4.2%	5.8%
Area 08	7,020	3,057	3,962	4.2%	3.8%	4.6%
Cavan/Monaghan	4,444	1,961	2,483	5.1%	4.4%	5.8%
Louth	4,123	1,742	2,381	5.0%	4.3%	5.7%
Meath	4,648	2,081	2,567	4.0%	3.6%	4.5%
Southern						
Carlow/Kilkenny	5,009	2,197	2,813	4.9%	4.3%	5.6%
Kerry	6,088	2,638	3,450	5.6%	4.8%	6.4%
North Cork	3,095	1,321	1,774	5.2%	4.4%	6.0%
North Lee	5,472	2,366	3,106	4.6%	4.0%	5.2%
South Lee	6,062	2,514	3,548	4.3%	3.8%	4.9%
Tipperary (S.R.)	3,533	1,521	2,012	5.5%	4.7%	6.3%
Waterford	4,304	1,836	2,468	5.2%	4.5%	5.9%
West Cork	2,160	945	1,215	5.2%	4.5%	6.0%
Wexford	4,977	2,147	2,830	5.3%	4.6%	5.9%
Western						
Clare	3,917	1,722	2,195	4.8%	4.2%	5.3%
Donegal	6,494	2,836	3,658	6.0%	5.2%	6.7%
Galway	7,849	3,423	4,427	4.5%	4.0%	4.9%
Limerick	6,596	2,821	3,775	4.8%	4.1%	5.4%
Mayo	5,373	2,305	3,068	5.5%	4.8%	6.2%
Roscommon	2,280	1,000	1,280	5.1%	4.4%	5.8%
Sligo/Leitrim	3,689	1,602	2,087	5.3%	4.7%	6.0%
Tipperary (N.R.)	2,506	1,082	1,424	5.2%	4.5%	5.9%

Scenario 1: Population change, BMI distribution remains at 2005 level

Table N: Forecasts of the population prevalence of adult diabetes (Type 1 and Type 2 combined) to 2015, by Local Health Office Area

Area	Estimated number of cases			Estimated Prevalence		
	Persons	Male	Female	Persons	Male	Female
Republic of Ireland	173,917	74,927	98,990	5.0%	4.4%	5.6%
Dublin Mid Leinster	49,168	20,949	28,219	4.7%	4.1%	5.3%
Dublin North East	35,900	15,468	20,432	4.8%	4.2%	5.4%
Southern	45,608	19,669	25,939	5.3%	4.6%	6.0%
Western	43,254	18,855	24,400	5.3%	4.7%	5.9%
Dublin Mid Leinster						
Area 01	5,842	2,340	3,501	4.9%	4.2%	5.5%
Area 02	4,208	1,663	2,545	4.2%	3.6%	4.8%
Area 03	5,610	2,293	3,317	4.6%	3.9%	5.3%
Area 04	6,565	2,784	3,781	5.2%	4.6%	5.8%
Area 05	4,594	1,980	2,614	4.3%	3.8%	4.8%
Kildare	6,728	3,073	3,655	4.0%	3.7%	4.3%
Laois/Offaly	5,629	2,522	3,107	5.3%	4.6%	6.0%
Longford/Westmeath	4,625	2,022	2,603	5.1%	4.4%	5.8%
Wicklow	5,087	2,184	2,903	5.1%	4.6%	5.7%
Dublin North East						
Area 06	6,511	2,712	3,799	4.7%	4.0%	5.3%
Area 07	6,212	2,515	3,697	5.3%	4.5%	6.1%
Area 08	7,989	3,525	4,464	4.5%	4.0%	4.9%
Cavan/Monaghan	4,955	2,204	2,751	5.3%	4.6%	6.0%
Louth	4,592	1,953	2,639	5.2%	4.5%	5.9%
Meath	5,580	2,505	3,075	4.3%	3.9%	4.8%
Southern						
Carlow/Kilkenny	5,637	2,478	3,159	5.2%	4.6%	5.8%
Kerry	6,814	2,972	3,842	5.9%	5.1%	6.6%
North Cork	3,461	1,486	1,974	5.5%	4.7%	6.3%
North Lee	6,096	2,649	3,447	4.9%	4.3%	5.5%
South Lee	6,757	2,816	3,940	4.6%	4.0%	5.1%
Tipperary (S.R.)	3,983	1,719	2,264	5.8%	5.0%	6.6%
Waterford	4,848	2,073	2,774	5.5%	4.7%	6.2%
West Cork	2,420	1,066	1,355	5.5%	4.8%	6.2%
Wexford	5,607	2,424	3,182	5.6%	4.9%	6.2%
Western						
Clare	4,368	1,930	2,438	5.0%	4.5%	5.6%
Donegal	7,246	3,192	4,054	6.2%	5.5%	6.9%
Galway	8,783	3,839	4,944	4.7%	4.2%	5.1%
Limerick	7,349	3,157	4,191	5.1%	4.4%	5.7%
Mayo	6,023	2,593	3,430	5.6%	5.0%	6.3%
Roscommon	2,557	1,125	1,432	5.2%	4.5%	5.8%
Sligo/Leitrim	4,115	1,803	2,312	5.5%	4.8%	6.2%
Tipperary (N.R.)	2,800	1,214	1,586	5.5%	4.7%	6.2%

Scenario 2: Population change, obesity level increases at a linear rate and rates of underweight/normal BMI slow exponentially between 2005 and 2015 [vi]

Table O: Forecasts of population prevalence of adult diabetes (Type 1 and Type 2 combined) to 2010, by Local Health Office Area

Area	Estimated number of cases			Estimated Prevalence		
	Persons	Male	Female	Persons	Male	Female
Republic of Ireland	162,320	69,899	92,420	5.0%	4.4%	5.6%
Dublin Mid Leinster	45,138	19,149	25,988	4.7%	4.1%	5.3%
Dublin North East	33,221	14,260	18,960	4.8%	4.2%	5.4%
Southern	43,039	18,616	24,423	5.3%	4.6%	6.0%
Western	40,950	17,894	23,056	5.4%	4.7%	6.0%
Dublin Mid Leinster						
Area 01	5,414	2,152	3,262	4.9%	4.2%	5.5%
Area 02	3,910	1,532	2,378	4.2%	3.5%	4.8%
Area 03	5,222	2,116	3,106	4.5%	3.8%	5.2%
Area 04	6,099	2,570	3,529	5.2%	4.5%	5.8%
Area 05	4,273	1,829	2,444	4.3%	3.7%	4.8%
Kildare	5,944	2,726	3,219	3.9%	3.6%	4.3%
Laois/Offaly	5,255	2,349	2,907	5.3%	4.6%	6.0%
Longford/Westmeath	4,321	1,883	2,438	5.2%	4.5%	5.9%
Wicklow	4,464	1,925	2,540	5.1%	4.5%	5.6%
Dublin North East						
Area 06	6,052	2,501	3,550	4.6%	3.9%	5.3%
Area 07	5,767	2,316	3,451	5.3%	4.4%	6.1%
Area 08	7,416	3,252	4,164	4.5%	4.0%	4.9%
Cavan/Monaghan	4,701	2,090	2,612	5.4%	4.7%	6.1%
Louth	4,360	1,855	2,504	5.3%	4.6%	6.0%
Meath	4,910	2,213	2,697	4.3%	3.8%	4.7%
Southern						
Carlow/Kilkenny	5,298	2,340	2,958	5.2%	4.6%	5.9%
Kerry	6,443	2,813	3,630	5.9%	5.2%	6.7%
North Cork	3,274	1,408	1,866	5.5%	4.7%	6.3%
North Lee	5,784	2,519	3,265	4.9%	4.3%	5.4%
South Lee	6,405	2,675	3,730	4.6%	4.0%	5.1%
Tipperary (S.R.)	3,738	1,621	2,117	5.8%	5.1%	6.6%
Waterford	4,553	1,957	2,596	5.5%	4.8%	6.2%
West Cork	2,286	1,007	1,279	5.5%	4.8%	6.3%
Wexford	5,265	2,288	2,977	5.6%	4.9%	6.3%
Western						
Clare	4,143	1,834	2,308	5.1%	4.5%	5.6%
Donegal	6,874	3,026	3,849	6.3%	5.6%	7.0%
Galway	8,297	3,644	4,653	4.7%	4.3%	5.2%
Limerick	6,974	3,005	3,969	5.0%	4.4%	5.7%
Mayo	5,685	2,458	3,227	5.8%	5.1%	6.5%
Roscommon	2,412	1,066	1,346	5.4%	4.7%	6.1%
Sligo/Leitrim	3,903	1,708	2,195	5.6%	5.0%	6.3%
Tipperary (N.R.)	2,651	1,153	1,498	5.5%	4.8%	6.2%

[vi] Overweight proportion is calculated by subtraction

Scenario 2: Population change, obesity level increases at a linear rate and rates of underweight/normal BMI slow exponentially between 2005 and 2015 [vi]

Table P: Forecasts of population prevalence of adult diabetes (Type 1 and Type 2 combined) to 2015, by Local Health Office Area

Area	Estimated number of cases			Estimated Prevalence		
	Persons	Male	Female	Persons	Male	Female
Republic of Ireland	193,944	84,723	109,221	5.6%	5.0%	6.2%
Dublin Mid Leinster	54,781	23,658	31,123	5.3%	4.7%	5.9%
Dublin North East	40,011	17,474	22,536	5.4%	4.8%	6.0%
Southern	50,894	22,261	28,633	5.9%	5.2%	6.6%
Western	48,274	21,344	26,930	5.9%	5.3%	6.5%
Dublin Mid Leinster						
Area 01	6,509	2,645	3,864	5.4%	4.7%	6.1%
Area 02	4,680	1,874	2,806	4.7%	4.0%	5.3%
Area 03	6,244	2,586	3,658	5.1%	4.4%	5.8%
Area 04	7,321	3,149	4,172	5.8%	5.2%	6.4%
Area 05	5,111	2,231	2,880	4.8%	4.2%	5.3%
Kildare	7,486	3,462	4,024	4.4%	4.1%	4.8%
Laois/Offaly	6,283	2,854	3,429	5.9%	5.2%	6.6%
Longford/Westmeath	5,159	2,287	2,872	5.7%	5.0%	6.4%
Wicklow	5,675	2,471	3,204	5.7%	5.2%	6.3%
Dublin North East						
Area 06	7,248	3,060	4,189	5.2%	4.5%	5.8%
Area 07	6,927	2,845	4,082	5.9%	5.1%	6.8%
Area 08	8,899	3,978	4,920	5.0%	4.5%	5.4%
Cavan/Monaghan	5,531	2,495	3,036	5.9%	5.2%	6.7%
Louth	5,121	2,209	2,912	5.8%	5.1%	6.5%
Meath	6,216	2,826	3,389	4.8%	4.4%	5.3%
Southern						
Carlow/Kilkenny	6,290	2,804	3,486	5.8%	5.1%	6.5%
Kerry	7,612	3,368	4,244	6.6%	5.8%	7.3%
North Cork	3,863	1,683	2,180	6.1%	5.3%	6.9%
North Lee	6,796	2,993	3,802	5.4%	4.8%	6.0%
South Lee	7,526	3,181	4,345	5.1%	4.5%	5.7%
Tipperary (S.R.)	4,448	1,948	2,500	6.4%	5.6%	7.3%
Waterford	5,410	2,347	3,063	6.1%	5.4%	6.8%
West Cork	2,703	1,207	1,496	6.1%	5.4%	6.8%
Wexford	6,259	2,746	3,514	6.2%	5.5%	6.9%
Western						
Clare	4,874	2,184	2,690	5.6%	5.1%	6.2%
Donegal	8,098	3,620	4,478	6.9%	6.2%	7.6%
Galway	9,790	4,339	5,451	5.2%	4.8%	5.6%
Limerick	8,197	3,571	4,625	5.6%	5.0%	6.3%
Mayo	6,725	2,938	3,787	6.3%	5.6%	6.9%
Roscommon	2,854	1,273	1,581	5.8%	5.1%	6.4%
Sligo/Leitrim	4,595	2,042	2,553	6.2%	5.5%	6.9%
Tipperary (N.R.)	3,126	1,375	1,751	6.1%	5.4%	6.8%

Scenario 3: Population change, obesity level increases at an exponential rate and rates of underweight/normal BMI slow exponentially between 2005 and 2015[vii]

Table Q: Forecasts of population prevalence of adult diabetes (Type 1 and Type 2 combined) to 2010, by Local Health Office Area

Area	Estimated number of cases			Estimated Prevalence		
	Persons	Male	Female	Persons	Male	Female
Republic of Ireland	165,443	72,891	92,552	5.1%	4.6%	5.7%
Dublin Mid Leinster	45,984	19,959	26,025	4.8%	4.3%	5.3%
Dublin North East	33,853	14,866	18,987	4.9%	4.4%	5.4%
Southern	43,877	19,419	24,458	5.4%	4.8%	6.0%
Western	41,757	18,669	23,089	5.5%	4.9%	6.0%
Dublin Mid Leinster						
Area 01	5,511	2,244	3,267	5.0%	4.4%	5.6%
Area 02	3,976	1,595	2,381	4.3%	3.7%	4.8%
Area 03	5,315	2,204	3,111	4.6%	3.9%	5.2%
Area 04	6,214	2,680	3,534	5.3%	4.7%	5.8%
Area 05	4,352	1,904	2,448	4.3%	3.9%	4.8%
Kildare	6,061	2,838	3,223	4.0%	3.7%	4.3%
Laois/Offaly	5,361	2,450	2,911	5.4%	4.8%	6.0%
Longford/Westmeath	4,405	1,963	2,442	5.3%	4.7%	5.9%
Wicklow	4,551	2,007	2,544	5.2%	4.7%	5.6%
Dublin North East						
Area 06	6,162	2,606	3,555	4.7%	4.1%	5.3%
Area 07	5,871	2,415	3,456	5.4%	4.6%	6.1%
Area 08	7,558	3,389	4,170	4.5%	4.2%	4.9%
Cavan/Monaghan	4,795	2,180	2,615	5.5%	4.9%	6.2%
Louth	4,443	1,935	2,508	5.4%	4.8%	6.0%
Meath	5,006	2,305	2,701	4.4%	4.0%	4.7%
Southern						
Carlow/Kilkenny	5,403	2,441	2,962	5.3%	4.8%	5.9%
Kerry	6,571	2,936	3,635	6.0%	5.4%	6.7%
North Cork	3,337	1,469	1,869	5.6%	4.9%	6.3%
North Lee	5,896	2,626	3,270	5.0%	4.5%	5.4%
South Lee	6,523	2,788	3,735	4.7%	4.2%	5.1%
Tipperary (S.R.)	3,812	1,692	2,120	5.9%	5.3%	6.6%
Waterford	4,641	2,042	2,599	5.6%	5.0%	6.2%
West Cork	2,331	1,051	1,281	5.7%	5.0%	6.3%
Wexford	5,369	2,388	2,981	5.7%	5.2%	6.3%
Western						
Clare	4,225	1,913	2,312	5.2%	4.7%	5.6%
Donegal	7,013	3,159	3,854	6.4%	5.8%	7.0%
Galway	8,459	3,800	4,660	4.8%	4.5%	5.2%
Limerick	7,109	3,134	3,975	5.1%	4.6%	5.7%
Mayo	5,797	2,565	3,232	5.9%	5.3%	6.5%
Roscommon	2,460	1,112	1,348	5.5%	4.9%	6.1%
Sligo/Leitrim	3,980	1,782	2,198	5.8%	5.2%	6.3%
Tipperary (N.R.)	2,703	1,203	1,501	5.6%	5.0%	6.2%

[vii] Overweight proportion is calculated by subtraction

Scenario 3: Population change, obesity level increases at an exponential rate and rates of underweight/normal BMI slow exponentially between 2005 and 2015[vii]

Table R: Forecasts of population prevalence of adult diabetes (Type 1 and Type 2 combined) to 2015, by Local Health Office Area

Area	Estimated number of cases			Estimated Prevalence		
	Persons	Male	Female	Persons	Male	Female
Republic of Ireland	200,047	90,860	109,187	5.8%	5.3%	6.2%
Dublin Mid Leinster	56,469	25,355	31,113	5.4%	5.0%	5.9%
Dublin North East	41,261	18,731	22,530	5.5%	5.1%	6.0%
Southern	52,509	23,885	28,624	6.1%	5.6%	6.6%
Western	49,826	22,904	26,921	6.1%	5.7%	6.5%
Dublin Mid Leinster						
Area 01	6,698	2,836	3,862	5.6%	5.1%	6.1%
Area 02	4,811	2,006	2,805	4.8%	4.3%	5.3%
Area 03	6,427	2,770	3,656	5.3%	4.7%	5.8%
Area 04	7,548	3,378	4,170	6.0%	5.5%	6.4%
Area 05	5,267	2,388	2,879	4.9%	4.5%	5.3%
Kildare	7,728	3,705	4,023	4.6%	4.4%	4.8%
Laois/Offaly	6,490	3,062	3,428	6.1%	5.6%	6.6%
Longford/Westmeath	5,324	2,453	2,871	5.9%	5.4%	6.4%
Wicklow	5,853	2,650	3,203	5.9%	5.5%	6.3%
Dublin North East						
Area 06	7,465	3,278	4,187	5.3%	4.8%	5.8%
Area 07	7,132	3,051	4,081	6.1%	5.4%	6.8%
Area 08	9,181	4,262	4,919	5.1%	4.9%	5.4%
Cavan/Monaghan	5,712	2,677	3,036	6.1%	5.6%	6.6%
Louth	5,281	2,370	2,911	6.0%	5.5%	6.5%
Meath	6,416	3,028	3,388	5.0%	4.7%	5.3%
Southern						
Carlow/Kilkenny	6,494	3,008	3,485	6.0%	5.5%	6.4%
Kerry	7,860	3,617	4,243	6.8%	6.2%	7.3%
North Cork	3,985	1,806	2,180	6.3%	5.7%	6.9%
North Lee	7,011	3,209	3,801	5.6%	5.2%	6.0%
South Lee	7,752	3,409	4,344	5.3%	4.9%	5.7%
Tipperary (S.R.)	4,590	2,091	2,499	6.7%	6.1%	7.3%
Waterford	5,581	2,519	3,062	6.3%	5.8%	6.8%
West Cork	2,791	1,296	1,496	6.3%	5.8%	6.8%
Wexford	6,460	2,947	3,512	6.4%	5.9%	6.9%
Western						
Clare	5,032	2,343	2,689	5.8%	5.4%	6.2%
Donegal	8,366	3,889	4,477	7.1%	6.6%	7.6%
Galway	10,101	4,652	5,449	5.4%	5.1%	5.6%
Limerick	8,455	3,831	4,624	5.8%	5.4%	6.3%
Mayo	6,940	3,154	3,786	6.5%	6.0%	6.9%
Roscommon	2,947	1,366	1,580	6.0%	5.5%	6.4%
Sligo/Leitrim	4,744	2,192	2,552	6.4%	5.9%	6.8%
Tipperary (N.R.)	3,226	1,476	1,750	6.3%	5.8%	6.8%

Scenario 1: Population change, BMI distribution remains at 2005 level

Table S: Forecasts of the population prevalence for Type 2 diabetes in adults to 2010, by Local Health Office Area

Area	Estimated number of cases			Estimated Prevalence		
	Persons	Male	Female	Persons	Male	Female
Republic of Ireland	140,502	57,926	82,576	4.4%	3.7%	5.0%
Dublin Mid Leinster	38,777	15,678	23,098	4.0%	3.4%	4.7%
Dublin North East	28,595	11,719	16,876	4.1%	3.5%	4.8%
Southern	37,470	15,551	21,919	4.6%	3.9%	5.4%
Western	35,685	14,997	20,688	4.7%	4.0%	5.4%
Dublin Mid Leinster						
Area 01	4,694	1,776	2,918	4.3%	3.5%	5.0%
Area 02	3,333	1,229	2,104	3.6%	2.8%	4.3%
Area 03	4,463	1,710	2,753	3.9%	3.1%	4.6%
Area 04	5,289	2,135	3,154	4.5%	3.8%	5.2%
Area 05	3,612	1,464	2,148	3.6%	3.0%	4.2%
Kildare	4,981	2,177	2,804	3.3%	2.9%	3.7%
Laois/Offaly	4,567	1,960	2,607	4.6%	3.9%	5.4%
Longford/Westmeath	3,750	1,564	2,185	4.5%	3.7%	5.2%
Wicklow	3,866	1,598	2,269	4.4%	3.7%	5.0%
Dublin North East						
Area 06	5,178	2,030	3,148	4.0%	3.2%	4.7%
Area 07	5,023	1,923	3,100	4.6%	3.7%	5.5%
Area 08	6,326	2,650	3,676	3.8%	3.3%	4.3%
Cavan/Monaghan	4,098	1,749	2,349	4.7%	3.9%	5.5%
Louth	3,788	1,544	2,244	4.6%	3.8%	5.4%
Meath	4,167	1,792	2,375	3.6%	3.1%	4.1%
Southern						
Carlow/Kilkenny	4,603	1,953	2,650	4.5%	3.8%	5.3%
Kerry	5,664	2,382	3,283	5.2%	4.4%	6.1%
North Cork	2,861	1,179	1,683	4.8%	3.9%	5.7%
North Lee	4,984	2,076	2,908	4.2%	3.5%	4.8%
South Lee	5,502	2,190	3,312	3.9%	3.3%	4.5%
Tipperary (S.R.)	3,280	1,368	1,912	5.1%	4.3%	6.0%
Waterford	3,976	1,642	2,335	4.8%	4.0%	5.6%
West Cork	2,002	848	1,154	4.9%	4.1%	5.7%
Wexford	4,604	1,925	2,679	4.9%	4.2%	5.6%
Western						
Clare	3,590	1,527	2,063	4.4%	3.7%	5.0%
Donegal	6,064	2,580	3,484	5.6%	4.8%	6.4%
Galway	7,144	3,014	4,130	4.1%	3.5%	4.6%
Limerick	6,044	2,495	3,550	4.4%	3.7%	5.1%
Mayo	4,992	2,078	2,913	5.1%	4.3%	5.9%
Roscommon	2,105	893	1,212	4.7%	3.9%	5.5%
Sligo/Leitrim	3,420	1,441	1,979	5.0%	4.2%	5.7%
Tipperary (N.R.)	2,317	967	1,350	4.8%	4.0%	5.6%

Scenario 1: Population change, BMI distribution remains at 2005 level

Table T: Forecasts of the population prevalence for Type 2 diabetes in adults to 2015, by Local Health Office Area

Area	Estimated number of cases			Estimated Prevalence		
	Persons	Male	Female	Persons	Male	Female
Republic of Ireland	160,002	66,652	93,350	4.6%	3.9%	5.3%
Dublin Mid Leinster	44,926	18,435	26,492	4.3%	3.6%	5.0%
Dublin North East	32,853	13,652	19,201	4.4%	3.7%	5.1%
Southern	42,211	17,637	24,575	4.9%	4.1%	5.6%
Western	40,025	16,941	23,083	4.9%	4.2%	5.5%
Dublin Mid Leinster						
Area 01	5,378	2,073	3,305	4.5%	3.7%	5.2%
Area 02	3,813	1,435	2,379	3.8%	3.1%	4.5%
Area 03	5,103	1,996	3,107	4.2%	3.4%	4.9%
Area 04	6,052	2,484	3,567	4.8%	4.1%	5.4%
Area 05	4,130	1,704	2,426	3.9%	3.2%	4.5%
Kildare	6,015	2,646	3,370	3.6%	3.1%	4.0%
Laois/Offaly	5,199	2,258	2,941	4.9%	4.1%	5.6%
Longford/Westmeath	4,264	1,802	2,461	4.7%	4.0%	5.5%
Wicklow	4,693	1,951	2,742	4.7%	4.1%	5.4%
Dublin North East						
Area 06	5,925	2,367	3,558	4.2%	3.5%	5.0%
Area 07	5,753	2,245	3,508	4.9%	4.0%	5.8%
Area 08	7,245	3,084	4,161	4.0%	3.5%	4.5%
Cavan/Monaghan	4,584	1,976	2,608	4.9%	4.1%	5.7%
Louth	4,235	1,741	2,494	4.8%	4.0%	5.6%
Meath	5,051	2,186	2,865	3.9%	3.4%	4.5%
Southern						
Carlow/Kilkenny	5,206	2,218	2,987	4.8%	4.1%	5.5%
Kerry	6,367	2,701	3,666	5.5%	4.6%	6.3%
North Cork	3,215	1,336	1,879	5.1%	4.2%	6.0%
North Lee	5,587	2,345	3,242	4.5%	3.8%	5.1%
South Lee	6,172	2,477	3,695	4.2%	3.5%	4.8%
Tipperary (S.R.)	3,714	1,556	2,157	5.4%	4.5%	6.3%
Waterford	4,500	1,866	2,634	5.1%	4.3%	5.9%
West Cork	2,253	963	1,290	5.1%	4.3%	5.9%
Wexford	5,210	2,188	3,022	5.2%	4.4%	5.9%
Western						
Clare	4,026	1,726	2,300	4.6%	4.0%	5.3%
Donegal	6,785	2,916	3,869	5.8%	5.0%	6.6%
Galway	8,022	3,400	4,622	4.2%	3.7%	4.7%
Limerick	6,776	2,818	3,958	4.7%	3.9%	5.4%
Mayo	5,607	2,347	3,260	5.3%	4.5%	6.0%
Roscommon	2,366	1,009	1,357	4.8%	4.1%	5.5%
Sligo/Leitrim	3,827	1,629	2,197	5.1%	4.4%	5.9%
Tipperary (N.R.)	2,602	1,095	1,507	5.1%	4.3%	5.9%

Scenario 2: Population change, obesity level increases at a linear rate and rates of underweight/normal BMI slow exponentially between 2005 and 2015[viii]

Table U: Forecasts of the population prevalence for Type 2 diabetes in adults to 2010, by Local Health Office Area

Area	Estimated number of cases			Estimated Prevalence		
	Persons	Male	Female	Persons	Male	Female
Republic of Ireland	149,283	62,183	87,101	4.6%	3.9%	5.3%
Dublin Mid Leinster	41,195	16,831	24,364	4.3%	3.6%	5.0%
Dublin North East	30,381	12,581	17,801	4.4%	3.7%	5.1%
Southern	39,814	16,694	23,121	4.9%	4.2%	5.7%
Western	37,921	16,099	21,822	5.0%	4.3%	5.6%
Dublin Mid Leinster						
Area 01	4,985	1,907	3,078	4.5%	3.7%	5.2%
Area 02	3,539	1,320	2,219	3.8%	3.0%	4.5%
Area 03	4,740	1,836	2,904	4.1%	3.3%	4.9%
Area 04	5,619	2,292	3,327	4.8%	4.1%	5.4%
Area 05	3,837	1,571	2,266	3.8%	3.2%	4.4%
Kildare	5,295	2,337	2,957	3.5%	3.1%	3.9%
Laois/Offaly	4,854	2,104	2,750	4.9%	4.2%	5.7%
Longford/Westmeath	3,984	1,679	2,305	4.8%	4.0%	5.5%
Wicklow	4,108	1,715	2,393	4.7%	4.0%	5.3%
Dublin North East						
Area 06	5,500	2,179	3,321	4.2%	3.4%	4.9%
Area 07	5,334	2,064	3,270	4.9%	3.9%	5.8%
Area 08	6,723	2,845	3,878	4.0%	3.5%	4.5%
Cavan/Monaghan	4,355	1,878	2,478	5.0%	4.2%	5.8%
Louth	4,025	1,658	2,367	4.9%	4.1%	5.7%
Meath	4,429	1,924	2,505	3.9%	3.3%	4.4%
Southern						
Carlow/Kilkenny	4,891	2,096	2,795	4.8%	4.1%	5.5%
Kerry	6,019	2,557	3,462	5.5%	4.7%	6.4%
North Cork	3,040	1,265	1,775	5.1%	4.2%	6.0%
North Lee	5,296	2,229	3,067	4.5%	3.8%	5.1%
South Lee	5,844	2,351	3,493	4.2%	3.5%	4.8%
Tipperary (S.R.)	3,486	1,469	2,017	5.4%	4.6%	6.3%
Waterford	4,225	1,762	2,463	5.1%	4.3%	5.9%
West Cork	2,128	910	1,217	5.2%	4.4%	6.0%
Wexford	4,892	2,067	2,825	5.2%	4.5%	5.9%
Western						
Clare	3,815	1,639	2,176	4.7%	4.0%	5.3%
Donegal	6,445	2,770	3,675	5.9%	5.1%	6.7%
Galway	7,592	3,236	4,356	4.3%	3.8%	4.8%
Limerick	6,422	2,678	3,744	4.6%	3.9%	5.3%
Mayo	5,304	2,231	3,073	5.4%	4.6%	6.2%
Roscommon	2,237	959	1,278	5.0%	4.2%	5.8%
Sligo/Leitrim	3,634	1,547	2,088	5.3%	4.5%	6.0%
Tipperary (N.R.)	2,462	1,038	1,424	5.1%	4.3%	5.9%

[viii] Overweight proportion is calculated by subtraction

Scenario 2: Population change, obesity level increases at a linear rate and rates of underweight/normal BMI slow exponentially between 2005 and 2015[viii]

Table V: Forecasts of the population prevalence for Type 2 diabetes in adults to 2015, by Local Health Office Area

Area	Estimated number of cases			Estimated Prevalence		
	Persons	Male	Female	Persons	Male	Female
Republic of Ireland	180,028	76,448	103,581	5.2%	4.5%	5.9%
Dublin Mid Leinster	50,539	21,144	29,395	4.9%	4.2%	5.5%
Dublin North East	36,964	15,659	21,305	5.0%	4.3%	5.6%
Southern	47,497	20,229	27,268	5.5%	4.7%	6.3%
Western	45,044	19,431	25,613	5.5%	4.8%	6.2%
Dublin Mid Leinster						
Area 01	6,045	2,377	3,667	5.1%	4.2%	5.8%
Area 02	4,285	1,646	2,639	4.3%	3.5%	5.0%
Area 03	5,736	2,289	3,448	4.7%	3.9%	5.5%
Area 04	6,808	2,849	3,958	5.4%	4.7%	6.0%
Area 05	4,647	1,955	2,692	4.3%	3.7%	5.0%
Kildare	6,773	3,034	3,739	4.0%	3.6%	4.4%
Laois/Offaly	5,853	2,589	3,263	5.5%	4.7%	6.3%
Longford/Westmeath	4,799	2,067	2,731	5.3%	4.5%	6.1%
Wicklow	5,280	2,238	3,042	5.3%	4.7%	6.0%
Dublin North East						
Area 06	6,663	2,715	3,948	4.8%	4.0%	5.5%
Area 07	6,468	2,575	3,893	5.6%	4.6%	6.5%
Area 08	8,154	3,537	4,617	4.5%	4.0%	5.0%
Cavan/Monaghan	5,161	2,267	2,894	5.5%	4.7%	6.3%
Louth	4,764	1,997	2,767	5.4%	4.6%	6.2%
Meath	5,686	2,507	3,179	4.4%	3.9%	5.0%
Southern						
Carlow/Kilkenny	5,859	2,544	3,315	5.4%	4.7%	6.1%
Kerry	7,166	3,098	4,068	6.2%	5.3%	7.0%
North Cork	3,618	1,533	2,085	5.7%	4.8%	6.6%
North Lee	6,287	2,690	3,597	5.0%	4.4%	5.7%
South Lee	6,941	2,841	4,100	4.7%	4.0%	5.3%
Tipperary (S.R.)	4,179	1,785	2,394	6.1%	5.2%	6.9%
Waterford	5,063	2,140	2,923	5.7%	4.9%	6.5%
West Cork	2,536	1,105	1,431	5.7%	4.9%	6.5%
Wexford	5,863	2,509	3,353	5.8%	5.0%	6.6%
Western						
Clare	4,531	1,979	2,552	5.2%	4.6%	5.8%
Donegal	7,638	3,345	4,293	6.5%	5.7%	7.3%
Galway	9,028	3,900	5,128	4.8%	4.3%	5.2%
Limerick	7,624	3,232	4,392	5.3%	4.5%	5.9%
Mayo	6,310	2,692	3,618	5.9%	5.2%	6.6%
Roscommon	2,663	1,157	1,505	5.4%	4.7%	6.1%
Sligo/Leitrim	4,307	1,869	2,438	5.8%	5.0%	6.5%
Tipperary (N.R.)	2,928	1,256	1,673	5.7%	4.9%	6.5%

Scenario 3: Population change, obesity level increases at an exponential rate and rates of underweight/normal BMI slow exponentially between 2005 and 2015[ix]

Table W: Forecasts of the population prevalence for Type 2 diabetes in adults to 2010, by Local Health Office Area

Area	Estimated number of cases			Estimated Prevalence		
	Persons	Male	Female	Persons	Male	Female
Republic of Ireland	152,407	65,175	87,232	4.7%	4.1%	5.3%
Dublin Mid Leinster	42,042	17,640	24,401	4.4%	3.8%	5.0%
Dublin North East	31,014	13,186	17,828	4.5%	3.9%	5.1%
Southern	40,652	17,497	23,156	5.0%	4.4%	5.7%
Western	38,729	16,874	21,855	5.1%	4.5%	5.7%
Dublin Mid Leinster						
Area 01	5,081	1,998	3,083	4.6%	3.9%	5.2%
Area 02	3,606	1,383	2,223	3.9%	3.2%	4.5%
Area 03	4,832	1,924	2,908	4.2%	3.4%	4.9%
Area 04	5,734	2,402	3,332	4.9%	4.2%	5.4%
Area 05	3,916	1,647	2,269	3.9%	3.3%	4.5%
Kildare	5,412	2,450	2,962	3.6%	3.2%	3.9%
Laois/Offaly	4,959	2,205	2,754	5.0%	4.4%	5.7%
Longford/Westmeath	4,069	1,760	2,308	4.9%	4.2%	5.5%
Wicklow	4,194	1,797	2,396	4.8%	4.2%	5.3%
Dublin North East						
Area 06	5,610	2,284	3,326	4.3%	3.6%	4.9%
Area 07	5,438	2,163	3,275	5.0%	4.1%	5.8%
Area 08	6,865	2,982	3,884	4.1%	3.7%	4.6%
Cavan/Monaghan	4,450	1,968	2,482	5.1%	4.4%	5.8%
Louth	4,108	1,738	2,371	5.0%	4.3%	5.7%
Meath	4,525	2,016	2,509	3.9%	3.5%	4.4%
Southern						
Carlow/Kilkenny	4,997	2,197	2,799	4.9%	4.3%	5.6%
Kerry	6,148	2,680	3,468	5.7%	4.9%	6.4%
North Cork	3,104	1,326	1,777	5.2%	4.4%	6.0%
North Lee	5,408	2,336	3,072	4.6%	4.0%	5.1%
South Lee	5,962	2,464	3,499	4.3%	3.7%	4.8%
Tipperary (S.R.)	3,559	1,540	2,020	5.6%	4.8%	6.3%
Waterford	4,313	1,847	2,466	5.2%	4.5%	5.9%
West Cork	2,173	954	1,219	5.3%	4.6%	6.0%
Wexford	4,996	2,166	2,830	5.3%	4.7%	5.9%
Western						
Clare	3,897	1,718	2,180	4.8%	4.2%	5.3%
Donegal	6,583	2,903	3,680	6.0%	5.4%	6.7%
Galway	7,754	3,391	4,362	4.4%	4.0%	4.9%
Limerick	6,556	2,807	3,750	4.7%	4.1%	5.3%
Mayo	5,416	2,339	3,077	5.5%	4.9%	6.2%
Roscommon	2,285	1,005	1,280	5.1%	4.4%	5.8%
Sligo/Leitrim	3,712	1,621	2,091	5.4%	4.7%	6.0%
Tipperary (N.R.)	2,514	1,088	1,426	5.2%	4.5%	5.9%

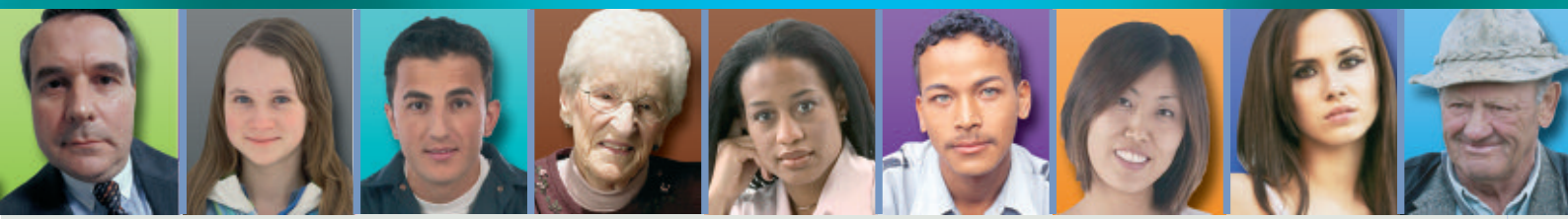
[ix] Overweight proportion is calculated by subtraction

Scenario 3: Population change, obesity level increases at an exponential rate and rates of underweight/normal BMI slow exponentially between 2005 and 2015[ix]

Table X: Forecasts of the population prevalence for Type 2 diabetes in adults to 2015, by Local Health Office Area

Area	Estimated number of cases			Estimated Prevalence		
	Persons	Male	Female	Persons	Male	Female
Republic of Ireland	186,132	82,585	103,547	5.4%	4.8%	5.9%
Dublin Mid Leinster	52,227	22,842	29,385	5.0%	4.5%	5.5%
Dublin North East	38,214	16,916	21,298	5.1%	4.6%	5.6%
Southern	49,112	21,853	27,259	5.7%	5.1%	6.3%
Western	46,596	20,991	25,605	5.7%	5.2%	6.2%
Dublin Mid Leinster						
Area 01	6,234	2,568	3,666	5.2%	4.6%	5.8%
Area 02	4,416	1,778	2,638	4.4%	3.8%	5.0%
Area 03	5,919	2,473	3,446	4.8%	4.2%	5.5%
Area 04	7,035	3,078	3,957	5.6%	5.0%	6.0%
Area 05	4,803	2,112	2,691	4.5%	4.0%	5.0%
Kildare	7,016	3,278	3,738	4.2%	3.9%	4.4%
Laois/Offaly	6,060	2,797	3,262	5.7%	5.1%	6.3%
Longford/Westmeath	4,964	2,233	2,730	5.5%	4.9%	6.1%
Wicklow	5,459	2,418	3,041	5.5%	5.0%	6.0%
Dublin North East						
Area 06	6,880	2,933	3,947	4.9%	4.3%	5.5%
Area 07	6,673	2,782	3,891	5.7%	4.9%	6.5%
Area 08	8,437	3,821	4,616	4.7%	4.3%	5.0%
Cavan/Monaghan	5,342	2,449	2,893	5.7%	5.1%	6.3%
Louth	4,923	2,157	2,766	5.6%	5.0%	6.2%
Meath	5,886	2,708	3,178	4.6%	4.2%	5.0%
Southern						
Carlow/Kilkenny	6,062	2,749	3,313	5.6%	5.0%	6.1%
Kerry	7,413	3,346	4,067	6.4%	5.8%	7.0%
North Cork	3,740	1,656	2,084	5.9%	5.2%	6.6%
North Lee	6,502	2,906	3,596	5.2%	4.7%	5.7%
South Lee	7,168	3,069	4,099	4.9%	4.4%	5.3%
Tipperary (S.R.)	4,321	1,928	2,393	6.3%	5.6%	6.9%
Waterford	5,234	2,312	2,922	5.9%	5.3%	6.5%
West Cork	2,624	1,193	1,431	5.9%	5.3%	6.5%
Wexford	6,063	2,711	3,352	6.0%	5.5%	6.6%
Western						
Clare	4,689	2,138	2,551	5.4%	5.0%	5.8%
Donegal	7,905	3,613	4,292	6.7%	6.2%	7.3%
Galway	9,340	4,213	5,127	4.9%	4.6%	5.2%
Limerick	7,882	3,491	4,390	5.4%	4.9%	5.9%
Mayo	6,525	2,908	3,616	6.1%	5.6%	6.6%
Roscommon	2,755	1,250	1,505	5.6%	5.1%	6.1%
Sligo/Leitrim	4,456	2,019	2,438	6.0%	5.4%	6.5%
Tipperary (N.R.)	3,028	1,356	1,672	5.9%	5.3%	6.5%

4 Research and data issues and recommendations



4. Research and data issues and recommendations

In compiling the forecasts a number of issues relating to the availability of data, which were highlighted in the previous report[1], were again evident. These are highlighted with recommendations:

4.1 A systematic approach to monitoring population prevalence

Population prevalence estimation should be recognised as a key component of the information needed for better prevention, care and monitoring of diabetes.

Recommendation 1:

A systematic approach to the development and use of population prevalence estimates and forecasts, at national and sub-national level, should be developed on the island. Further development of the PBS Model is recommended.

4.2 Diabetes registers

The PBS Model estimates the population prevalence of diabetes, diagnosed and undiagnosed, in an area. High quality registers record diagnosed cases of diabetes. Comparison between the two allows the percentage of undiagnosed cases to be estimated which will help target screening and health promotion activities. In addition high quality registers aid service delivery.

Recommendation 2:

High quality diabetes registers should be established and maintained on the island of Ireland, North and South, with a view to creating national and All-Ireland registers.

4.3 Research in the Island of Ireland

In order to develop good estimates and forecasts, high quality population studies are required. Currently there are limited population studies available across the island of Ireland and hence studies from other countries within the UK have been used within the PBS Model. Research is needed to enhance existing knowledge about diabetes on the island and hence further develop the PBS Model.

Recommendation 3:

All-Ireland cross-sectoral population studies should be undertaken to estimate:

- The prevalence of Type 1 and Type 2 diabetes amongst children (0-19 years)
- The prevalence of Type 1 and Type 2 diabetes amongst adults (20+ years)

4.4 Ethnicity data in the Republic of Ireland

Ethnicity is important when estimating the population prevalence of diabetes due to the higher occurrence of the condition in "Asian" and "Black" populations. Hence ethnicity is one of the factors used in the PBS Model to estimate the population prevalence of diabetes. Ethnicity is available in Northern Ireland, although it is not included in population projections.

In the Republic of Ireland ethnicity data was collected in the most recent census in April 2006. However, detailed information on ethnicity, and in population projections from this census is not yet available.

Recommendation 4:

Ethnicity should be included in all subsequent censuses in Northern Ireland and the Republic of Ireland, and methods explored to include ethnicity as a factor in population projections in both jurisdictions.

4.5 Monitoring obesity

Overweight and obesity are major risk factors for Type 2 diabetes. Current data on overweight and obesity rates in both jurisdictions do not allow trends to be calculated.

Recommendation 5:

A comprehensive All-Ireland system for monitoring the prevalence of overweight/obesity and the factors which influence it should be established.

References

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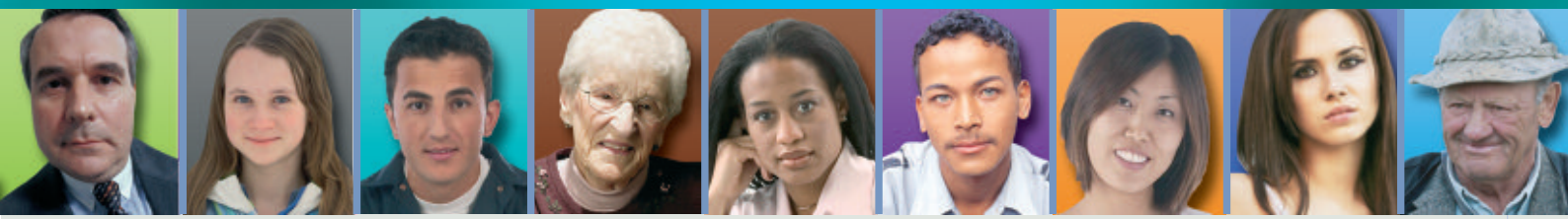
Appendices



Appendix 1
Membership of the Irish Diabetes Prevalence Working Group

Name	Organisation
Brew Atkinson	Northern Ireland Consultant Group in Endocrinology and Diabetes
Naresh Chada	Department of Health, Social Services and Public Safety
Anna Clarke	Diabetes Federation of Ireland
John Devlin	Department of Health and Children
Jayne Murray	Diabetes UK Northern Ireland
Eleanor McCardle	HSE North Western Area
David Merrick	Yorkshire and Humber Public Health Observatory
Tom O'Dowd/ Susan Smith	Trinity College Dublin
Ivan Perry	University College Cork
Ann Shannon	HSE North Western Area
Bernadette Cullen	Eastern Health and Social Services Board
Diarmuid Smith	Irish Endocrine Society
Kevin Balanda	Institute of Public Health in Ireland. (Former member and Chair)
Angela Jordan (Chair)	Institute of Public Health in Ireland
Lorraine Fahy	Institute of Public Health in Ireland
Adele Graham	Institute of Public Health in Ireland
Lindi Gatchell (Administrative support)	Institute of Public Health in Ireland
Ulrike Klein (Administrative support)	Institute of Public Health in Ireland

Appendix 2

Population Projections

The Northern Ireland population projections for 2010 and 2015 were obtained from the Northern Ireland Statistics and Research Agency (Table 9). The population projections were available at national and sub-national levels.

Table 9: Population projections to 2010 and 2015 for Northern Ireland

Northern Ireland Population Projections						
Age group	All Persons	All Persons	Males	Males	Females	Females
	2010	2015	2010	2015	2010	2015
0-4	105,922	107,447	54,139	54,926	51,783	52,521
5-9	108,124	106,762	55,022	54,301	53,102	52,461
10-14	118,478	108,444	60,662	54,974	57,816	53,470
15-19	124,598	117,508	63,851	60,387	60,747	57,121
20-24	127,578	119,743	66,252	61,983	61,326	57,760
25-29	121,113	127,026	60,373	64,541	60,740	62,485
30-34	107,207	121,218	52,188	59,672	55,019	61,546
35-39	118,197	107,152	57,273	51,474	60,924	55,678
40-44	127,605	117,171	61,820	56,164	65,785	61,007
45-49	126,201	126,074	61,113	60,776	65,088	65,298
50-54	112,002	124,536	54,664	60,039	57,338	64,497
55-59	97,432	109,841	48,720	53,344	48,712	56,497
60-64	92,218	94,237	44,610	46,684	47,608	47,553
65-69	78,930	87,436	37,718	41,776	41,212	45,660
70-74	63,265	72,619	29,202	34,007	34,063	38,612
75-79	49,714	54,961	21,385	24,446	28,329	30,515
80-84	35,951	38,715	13,756	15,750	22,195	22,965
85+	30,179	35,123	9,552	11,757	20,627	23,366
All Ages	1,744,714	1,776,013	852,300	867,001	892,414	909,012

The projections are not broken down by ethnicity and, for the purpose of the PBS model, the ethnic profile from the 2001 census were applied to the 2010 and 2015 population projections.

The Republic of Ireland population projections for 2010 and 2015 were obtained from the Central Statistics Office (Table 10). The population projections from the CSO are based on a variety of fertility and migration assumptions and the scenario utilised for the model was the most likely scenario (M1F2). This scenario largely assumes a continuation of recent demographic trends.

Table 10: Population projections to 2010 and 2015 for the Republic of Ireland

Republic of Ireland Population Projections						
Age group	All Persons	All Persons	Males	Males	Females	Females
	2010	2015	2010	2015	2010	2015
0-4	325,487	332,731	167,694	171,428	157,793	161,303
5-9	312,703	338,348	160,402	174,076	152,301	164,272
10-14	289,210	320,114	147,734	163,679	141,476	156,435
15-19	272,137	287,494	139,323	146,746	132,814	140,748
20-24	284,152	264,671	140,827	131,106	143,325	133,565
25-29	362,510	322,927	179,238	158,558	183,272	164,369
30-34	376,569	394,919	188,830	196,058	187,739	198,861
35-39	349,409	393,794	175,819	198,284	173,590	195,510
40-44	314,011	358,468	158,541	181,231	155,470	177,237
45-49	296,029	318,812	147,822	161,318	148,207	157,494
50-54	265,947	298,314	132,847	149,133	133,100	149,181
55-59	241,942	265,571	121,557	132,478	120,385	133,093
60-64	218,670	238,677	109,259	119,119	109,411	119,558
65-69	165,759	210,700	82,071	103,934	83,688	106,766
70-74	129,383	153,141	61,951	74,207	67,432	78,934
75-79	98,243	111,204	44,277	51,063	53,966	60,141
80-84	66,753	74,041	26,040	30,980	40,713	43,061
85+	53,599	61,722	16,278	19,276	37,321	42,446
All Ages	4,422,513	4,745,648	2,200,510	2,362,674	2,222,003	2,382,974

Population projections are available at national level but not all at sub-national levels in the Republic of Ireland and to estimate population projections for sub-national levels, an uplift factor was calculated for each Regional Authority from the 2002 census to 2010 and from the 2002 census to 2015. This uplift factor was then applied to each Local Health Office Area belonging to each Regional Authority.