

# Health Analysts' Special Interest Group

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## Health Modelling for Better Policy

University College Cork

2 July 2009



[www.inispho.org](http://www.inispho.org)  
[www.publichealth.ie](http://www.publichealth.ie)

# Health Analysts' Special Interest Group (HASIG)

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- Part of the All-Ireland CHAIN
- Aim to support health analysts:
  - share in your expertise and experience through a network of colleagues across CHAIN
  - professional development
  - make a more effective contribution to the health intelligence function

# Introduction

- Chronic diseases leading cause of mortality in the world
- WHO – chronic diseases represent 60% of all deaths
- Substantially reduce quality of life

# Partnership

- IPH, HRB Centre for Health and Diet Research (UCC/UCD) and Centre of Excellence for Public Health (NI)
  - Undertaking programme of research to model the impact of chronic conditions

# Research programme

1. Population Prevalence Modelling
  - Estimates the number of people in the population with a condition and how that might change over time
2. Irish Burden of Disease Study
  - Focusing on obesity related conditions and associated risk factors
3. Quantitative Impact Assessment Modeling
  - Assesses and compares the impact of alternative public health interventions.

# Research programme

Areas work form a coherent body of work looking at diseases and causes

1. Population Prevalence Modelling
  - Patterns of disease and risk factors
2. Burden of Disease
  - Burden of disease and risk factors
3. Quantitative HIA Modelling
  - Assess impact designed to ameliorate the burden

- Sensible and efficient to undertake suite of modelling exercises together
  - Mr. Steve Barron (IPH)  
Population Prevalence Modelling
  - Ms. Céline O'Keefe (UCC/IPH)  
Irish Burden of Disease Study
  - Dr. Aisling McLaughlin (CoE)  
Quantitative HIA modelling

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## How diabetes estimates and forecasts have contributed to policy and practice

University College Cork

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Lorraine Fahy

Research Analyst

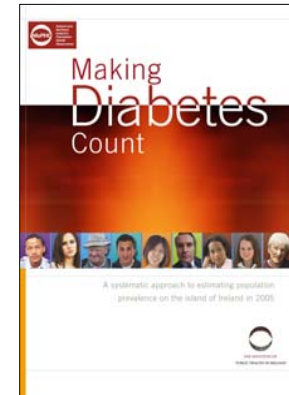


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# Diabetes population prevalence modelling

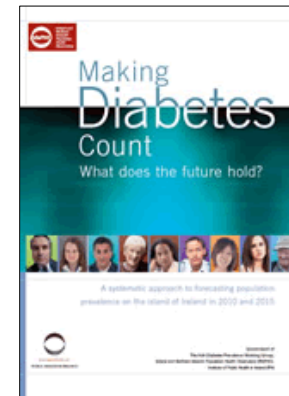
## Population prevalence estimates for 2005

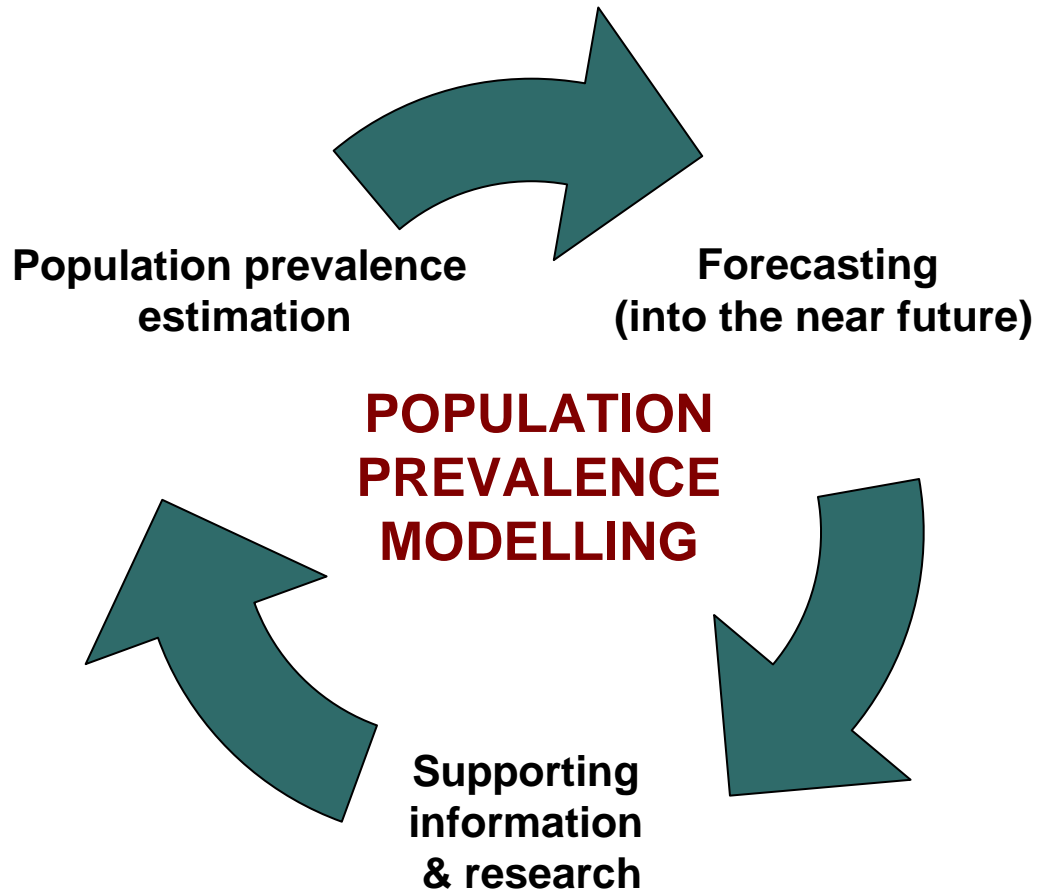
Deprivation adjusted sub-national population prevalence estimates for age, sex, ethnicity groups



## Population prevalence forecasts for 2010 and 2015

Deprivation adjusted sub-national population prevalence forecasts for age, sex, ethnicity groups under three scenarios about changes in BMI profile

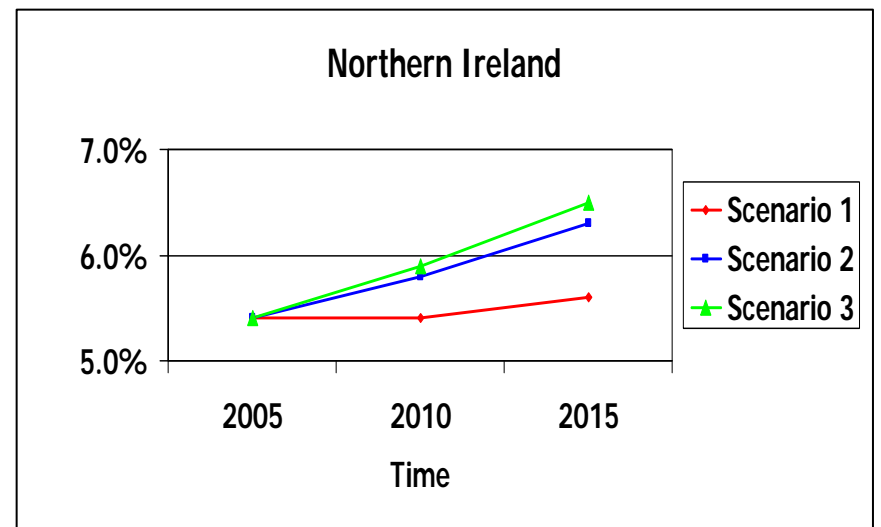
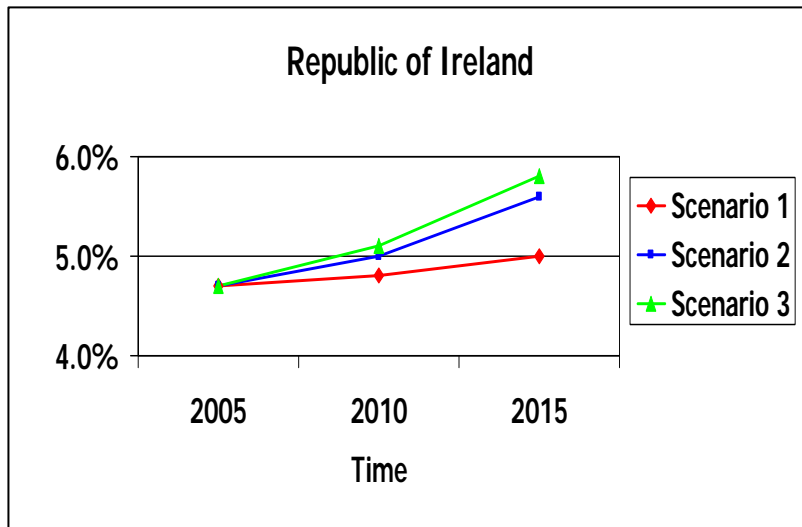




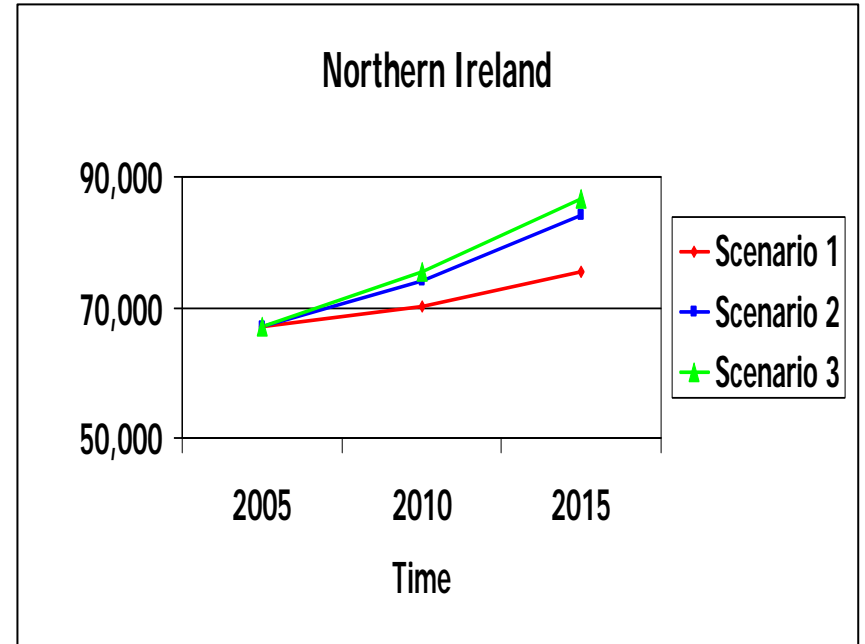
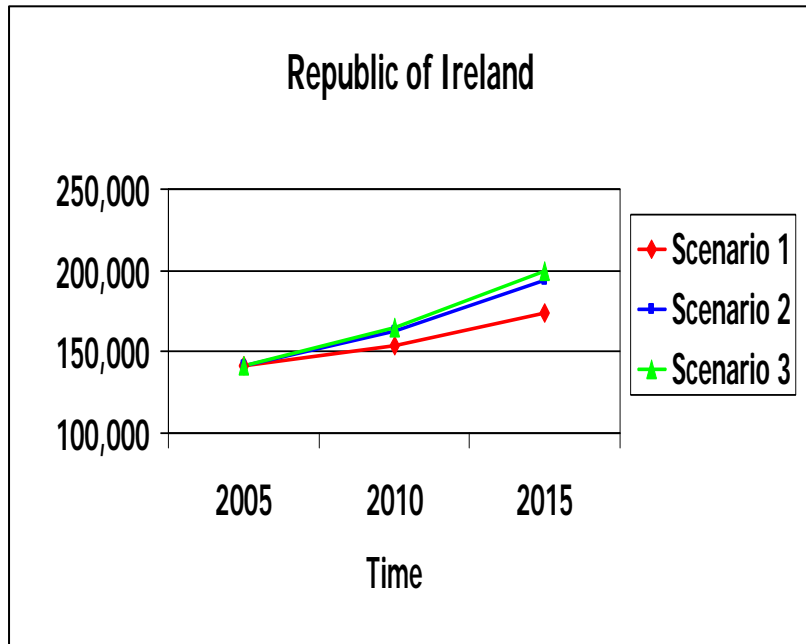
## Key Findings – Adults (20+ Years)

|   | <b>20 years and over</b>   |                   |                         |                   |
|---|----------------------------|-------------------|-------------------------|-------------------|
|   | <b>Republic of Ireland</b> |                   | <b>Northern Ireland</b> |                   |
|   | <b>Number</b>              | <b>Prevalence</b> | <b>Number</b>           | <b>Prevalence</b> |
| <b>Population change &amp; static obesity</b>                   |                            |                   |                         |                   |
| <b>2005 base</b>  | 141,063                    | 4.7%              | 67,063                  | 5.4%              |
| <b>2010</b>   | 153,538                    | 4.8%              | 70,066                  | 5.4%              |
| <b>2015</b>   | 173,917                    | 5.0%              | 75,466                  | 5.6%              |
| <b>Population change &amp; linearly increasing obesity</b>      |                            |                   |                         |                   |
| <b>2010</b>   | 162,320                    | 5.0%              | 74,114                  | 5.8%              |
| <b>2015</b>   | 193,944                    | 5.6%              | 84,226                  | 6.3%              |
| <b>Population change &amp; exponentially increasing obesity</b> |                            |                   |                         |                   |
| <b>2010</b>   | 165,443                    | 5.1%              | 75,459                  | 5.9%              |
| <b>2015</b>   | 200,047                    | 5.8%              | 86,769                  | 6.5%              |

# Changes in prevalence rates



# Changes in numbers of people



# Benefits of prevalence estimates

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- First time to systematically estimate population prevalence across the island of Ireland
- Single methodology applied to RoI and NI
- Disaggregated by age, sex, ethnicity at national and sub-national level

# Importance of prevalence estimates

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- Policy makers:
  - plan for the future
  - better use of financial resources
- Service planning and delivery:
  - Primary prevention
  - Early identification
  - Disease management
- Drive information improvements

# Uses of estimates in policy & practice

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- Strong support and interest from CMO office, DoHC (RoI) and DHSSPS (NI)
- Support from Diabetes Expert Advisory Group (RoI)
  - The Diabetes EAG propose that an Irish based population survey on Diabetes prevalence rates be commissioned to augment the IPH publication “Making Diabetes Count”.

# Uses of estimates in policy & practice

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- Northern Ireland Audit Office
  - Report: Obesity and Type 2 Diabetes in Northern Ireland
- Forecasts used in HSE's acute bed requirements study (RoI)
- Media – figures quoted
- Ad-hoc queries, reports



# Questions