What do national health surveys tell us about the population prevalence of Diabetes?

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IPH population prevalence data

2006/07: Making Diabetes Count

2010: Making Chronic Conditions Count
Update diabetes plus four new conditions (Hypertension; Stroke; CHD; CAO)

2012: New estimates and forecasts
Update five previous conditions plus new musculoskeletal conditions
Population prevalence

The number of people living with diabetes (including diagnosed and undiagnosed cases)

- Describe patterns of disease in the population
- Identify undiagnosed cases (if appropriate clinical data are available)
- Plan and deliver prevention and effective management services in a rational way
- No agreed method for estimating population prevalence – IPH developed systematic approach
Method to estimate and forecast population prevalence

Reference study:
SLÁN 2007 (RoI); HSWB 2005/06 (NI)

1. What are the significant predictive factors for having the condition?
2. Subgroups defined by predictive factors
3. What is the risk in each subgroup defined by predictive factors?

How many people in the population are (or are projected to be) in each subgroup defined by predictive factors?

Data limitations?

Apply subgroup risks from reference study to population subgroup counts

Estimated number of cases and population prevalence in current and future population
Reference studies and outcomes

Republic of Ireland: Survey of Lifestyle, Attitudes and Nutrition (SLÁN) 2007

**Annual clinical diagnosis**: Number of adults aged 18+ who had diabetes in the previous 12 months that had been diagnosed by a doctor.

**Population prevalence**: Number of adults aged 45+ who reported having a doctor diagnosis of diabetes in the previous 12 months together with a clinical diagnosis.


**Lifetime clinical diagnosis**: Number of adults aged 18+ who have ever been told by a doctor that they have diabetes.
Factors in the initial model

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<tr>
<th>Diabetes: Reference studies and risk factors</th>
<th>Republic of Ireland</th>
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## Factors in the initial model and the final model

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What figures did we produce?

- Republic of Ireland
  - National and sub-national annual clinical diagnosis rates (18+ years)
  - National population prevalence (45+ years)

- Northern Ireland
  - National and sub-national lifetime clinical diagnosis rates (18+ years)

- For the years 2010, 2015, 2020

- 95% confidence intervals

- Disaggregated by age and sex
Diabetes findings

Current estimates
2010
Diabetes: Republic of Ireland, 2010

Population prevalence (adults aged 45+ years):

- More than 135,000 adults aged 45+ (8.9%)
- Increases with age
- Diagnosed diabetes rates similar for men (6.0%) and women (6.3%) aged 45+ years
- Approx. 30% of all diabetes is undiagnosed
- Undiagnosed diabetes rates higher among men (4.0%) than women (1.5%) aged 45+ years
Diabetes: Republic of Ireland, 2010

Annual clinical diagnosis rates (adults aged 18-44 years):

- More than 12,000 adults aged 18-44 years (0.7%)
- Increases with age
- Similar for men and women (0.7%)
Diabetes: Republic of Ireland, 2010

- Undiagnosed: No self-reported clinically diagnosed diabetes in the previous 12 months and not taking diabetes medication but having HbA1c levels $\geq 6.5\%$. No data available for 18-44 years.
- Diagnosed: Self-reported clinically diagnosed diabetes in the previous 12 months or reported taking diabetes medication
Annual clinical diagnosis rate (%) among adults aged 18+ years
Local Health Offices, Republic of Ireland 2010

Local differences reflect different age structures: areas with older populations have higher rates of clinical diagnosis.

Local differences not statistically significant
Number of adults aged 18+ years with an annual clinical diagnosis
Local Health Offices, Republic of Ireland 2010
Diabetes: Northern Ireland, 2010

Lifetime clinical diagnosis rates (adults aged 18+ years):

- Almost 55,000 adults aged 18+ years (4.0%)
- Increases with age
- Similar for men (3.8%) and women (4.2%)
- No data on undiagnosed
Diabetes: Northern Ireland, 2010

Lifetime clinical diagnosis rate (adults aged 18+ years)
Diabetes findings

Future forecasts
2015 and 2020
Increase in diabetes, Republic of Ireland 2010-2020

Population prevalence in 2020 (adults aged 45+ years):

- More than 175,000 adults aged 45+ years (9.1%) in 2020
- 30% increase – an additional 40,000 adults aged 45+ years – in ten years
- Ageing and increasing population
Increase in diabetes, Republic of Ireland 2010-2020

Annual clinical diagnosis rate (adults aged 18-44 years):

- More than 12,000 adults aged 18-44 years (0.73%) in 2020

- Marginal increase in rate but no increase in numbers as population aged 18-44 years expected to decrease
Increase in diabetes, Northern Ireland 2010-2020

Lifetime clinical diagnosis rate (adults aged 18+ years):

- 65,500 adults aged 18+ years (4.4%) in 2020
- 20% increase – an additional 11,000 adults aged 18+ years – in ten years
- Ageing and increasing population
Challenges

- Availability of data on risk factors
  - At local levels
  - Initial model v final model
  - Future trends

- Comparability of outcomes from different sources
  - Population prevalence and clinical diagnosis
  - Time periods
  - Self-report or physical measurement?
Dissemination

- Chronic Conditions Hub of the Health Well website
  www.chronicconditionshub.info
  - Information resources on diabetes
  - Six-page briefing
  - Detailed data tables
  - Technical documentation

- Development of diabetes web tool
Recommendations

- Greater focus on diabetes prevention, early detection, and effective management
- Greater emphasis on social determinants of health and life course perspective
- Better standardised disease and risk factors data at local level
- A standardised approach to population prevalence estimation & forecasting
- Chronic disease patient registers
Questions and discussion

www.chronicconditionshub.info