The *eHID* Project

(electronic Health Indicator Data)

Workshop WONCA Florence 30 August 2006

Project funded by DG SANCO

The *eHID* Project

An Overview
Chair: Professor Mike Pringle

The *eHID* project team
WONCA, Florence
30 August 2006

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Presentations

1. Introduction to eHID – Cathy Elliott
2. Defining the denominator – Roberto Nardi
3. Issues with case identification – Gilles Hebbrecht and Didier Duhot
4. Data definitions and coding – Francois Schellevis

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The *eHID* Project

An Introduction to *eHID*

Cathy Elliott
Project Facilitator
University of Nottingham

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The *eHID* Project

- Funded by the European Commission Directorate - Public Health and Risk Assessment, Health and Consumer Protection. Strand I: Health Information Priority 2.2.5: eHealth.
- Start date 1 July 2004
- End date 30 June 2007

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eHID Project team

- Project Leader – Douglas Fleming

  Director RCGP Research Unit, Birmingham

- Scientific Officer – Mike Pringle

  Head of Community Health Sciences, University of Nottingham

- Research Associate - Cathy Elliott

  Division of Primary Care, University of Nottingham

- Project Monitor – Jose Marinho Falcão

  Instituto Nacional de Saude Dr Ricardo Jorge, Lisbon

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eHID Project Partners

- **Project partners**
  - **Belgium,** Viviane Van Casteren
  - **Denmark,** John Sahl Andersen
  - **France,** Gilles Hebbrecht
  - **Italy,** Roberto Nardi
  - **Netherlands,** Robert Verheij
  - **Portugal,** Isabel Falcão
  - **Spain,** Valeria Pacheco
  - **UK,** Mike Pringle and Douglas Fleming
- **Associate**
  - **Malta**, Jean Karl Soler

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eHID project meetings

- 2004 – Birmingham
- 2005 – Utrecht
  – Paris
- 2006 – Barcelona
- 2007 – Lisbon

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eHID Objectives

- To explore the provision of data derived from routine electronic records in primary care on 4 health indicators.
- To demonstrate continuity by providing separate data over two twelve month periods.
- To identify and disseminate information to appropriate professional groups on optimum recording practice for the use of the electronic medical record to provide prevalence and incidence data.

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Selected Health Indicators

- Incidence of diabetes
- Prevalence of diabetes
- Prevalence of ischaemic heart disease (IHD)
- Burden of mental illness

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eHID project site visits

- The Netherlands – LINH
- Belgium - Intego
- England – QRESEARCH and WRS
- France – OMG
- Italy – Health Search
- Spain – XIIAP
- Malta – Transhis
- Germany – part visit to MedVIP
- Scotland – part visit to SERVIS

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Network Differences

- Some only use data from GPs they have
- assessed as ‘good recorders’ , others use data from all GPs willing to provide it.
- Some pay GPs which may be an incentive to record well.
- Systems not automatically uploading data to the network have potential for gaps.
- Some systems allow retrospective data which may not be of such good quality due to advances in software.

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GP recording and software systems

- Most systems code diagnosis/GP assessment
- Some require GP to add code as extra step or allow free text.
- Any recording requiring extra effort for the GP is likely to affect data quality.
- Different disease classification systems not always directly comparable.
- Funding and purpose of software can affect data entry.
- Electronic patients records are structured in two ways - either based on diagnoses or consultation. The former may overestimate prevalence and the latter may understimate prevalence.

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Representativeness

- Networks are expected to undertake some work to determine whether their population is representative of the national (or regional) population.

- Age and gender as well as other individual variables such as socio-economic status and geographical area need to be considered.

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Health Systems

- Comprehensiveness of an individual's data will depend on the health system.
- Some health systems do not use GPs as the source of primary care for certain groups.

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Issues for harmonisation of data throughout Europe

- Defining the denominator
- Issues with case identification
- Data definitions and coding

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Defining the denominator
&
Diabetes Data

Roberto Nardi
Network Representative
Italy

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Incidence

Diabetes

- **First ever incidence**
- if available, first incidence is to be submitted for diabetes based on diagnosis alone
- **New episode incidence**
- if dataset defines new episodes of illness, then data for first ever and new episodes combined to be submitted.
- patients with diabetes can have complicating factor which may be recorded as a new episode of illness.

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Prevalence

Diabetes

A prevalent diabetic is identified from the family doctor's records from an entered diagnostic label and/or patient in receipt of a particular drug or particular investigation and who is known to be on the list of consulting patients in the year in question.

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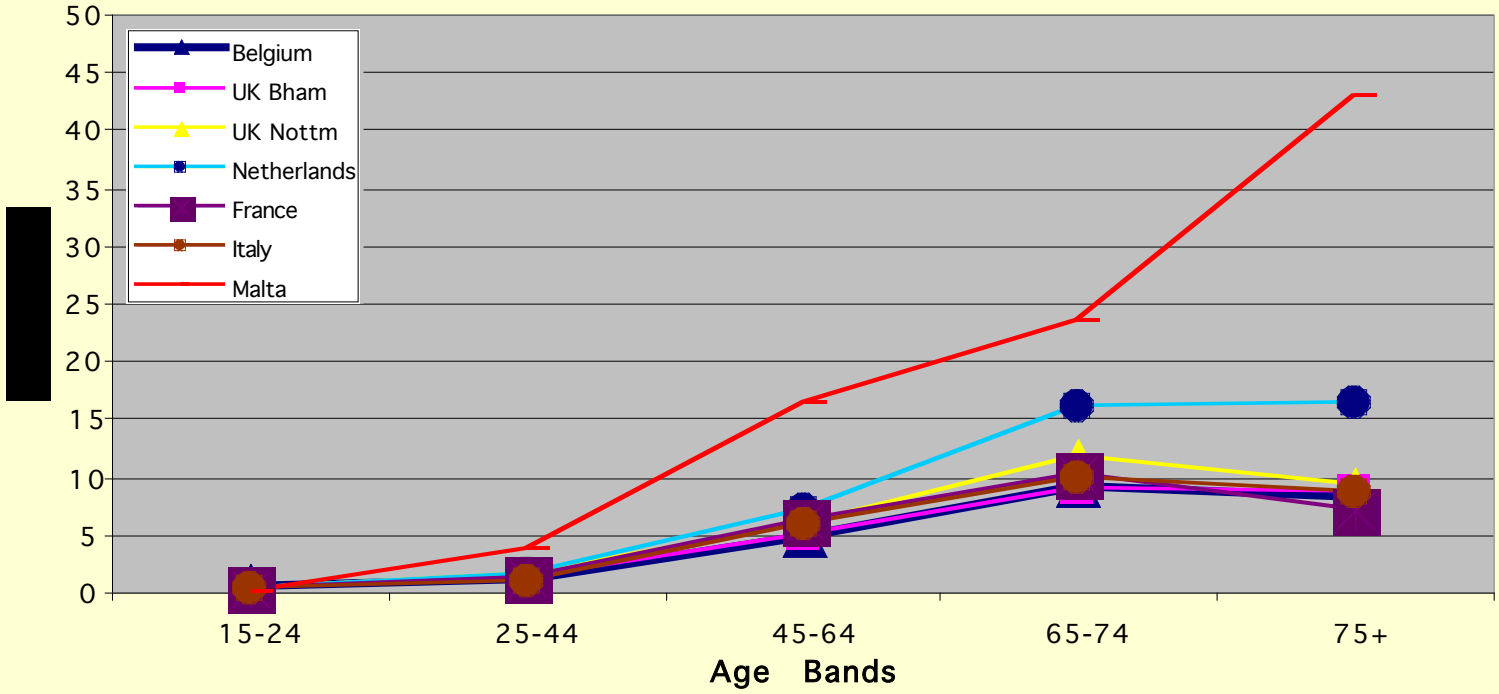
Diabetes Incidence 2004



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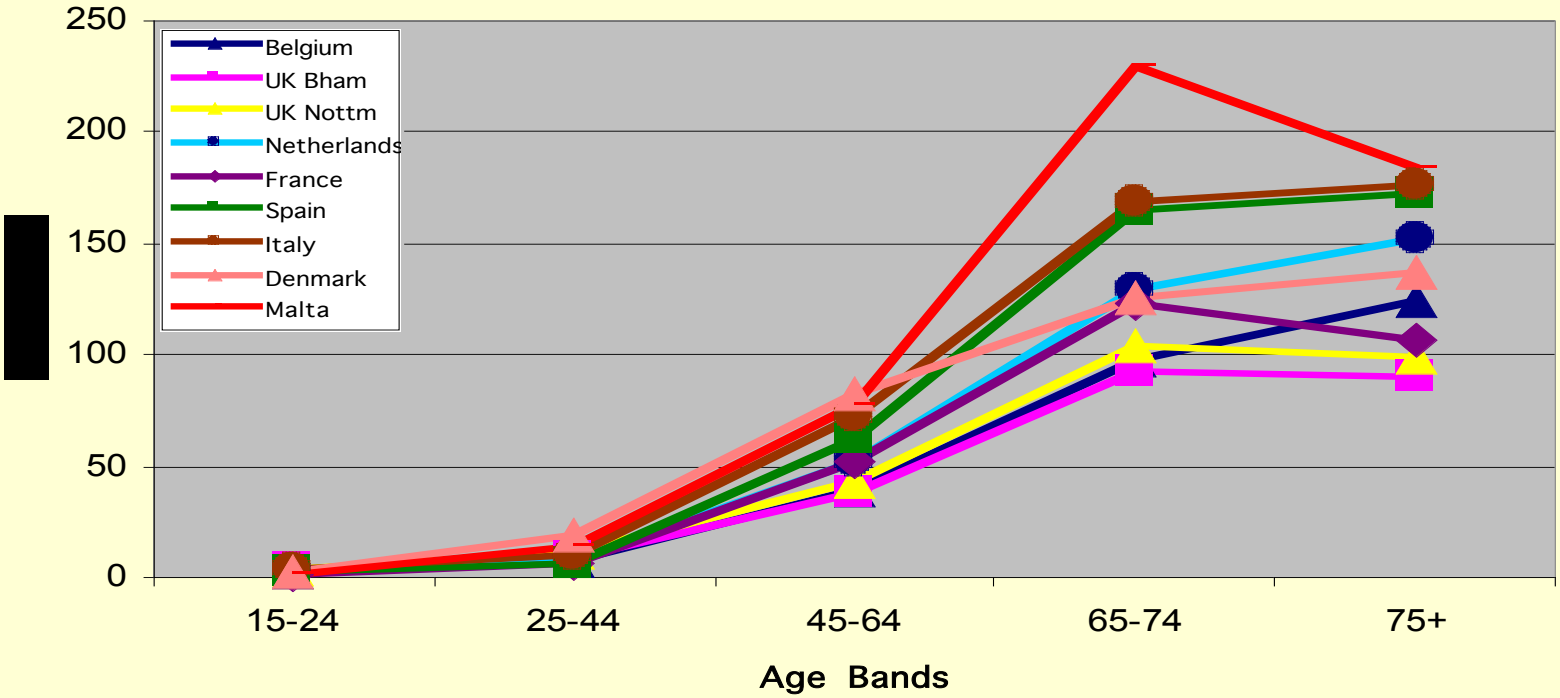
Diabetes Prevalence 2004



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Defining Denominators

Denominators are crucial

- must be known or estimated
- registered lists in some countries
- patients who consult multiple doctors
- anomalies for paediatric and gynaecology care
- temporary residents and mobile patients

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Defining Denominators

The Netherlands example:

- fixed patient lists
- all residents registered with one GP
- GP true generalist (including paediatric and gynaecological care)
- GP gatekeeper for secondary care and some primary care facilities (referral system)
- The GP network (LINH) has individual patient linkage, which makes it possible to exclude temporary patients from denominator as well as numerator.

→ No denominator problem in NL.

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Denominator
AGE

- **Registered Patient List**
  - 5 year bands, if possible, or
  - Age groups 0-14, 15-44, 45-64, 65 +

- **Patient Consulting Denominator (yearly contact group)**
  - 5 year bands for relevant year e.g. 2004

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Issues with case identification
&
Ischaemic Heart Disease Data

Gilles Hebbrecht
Network Representative
Didier Duhot
France

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Prevalence

IHD

A prevalent case of IHD is identified from the GPs records from an entered diagnosis and/or intervention specific procedure (e.g. coronary artery bypass graft) and/or patient in receipt of drugs such as nitrates which are specific to IHD.

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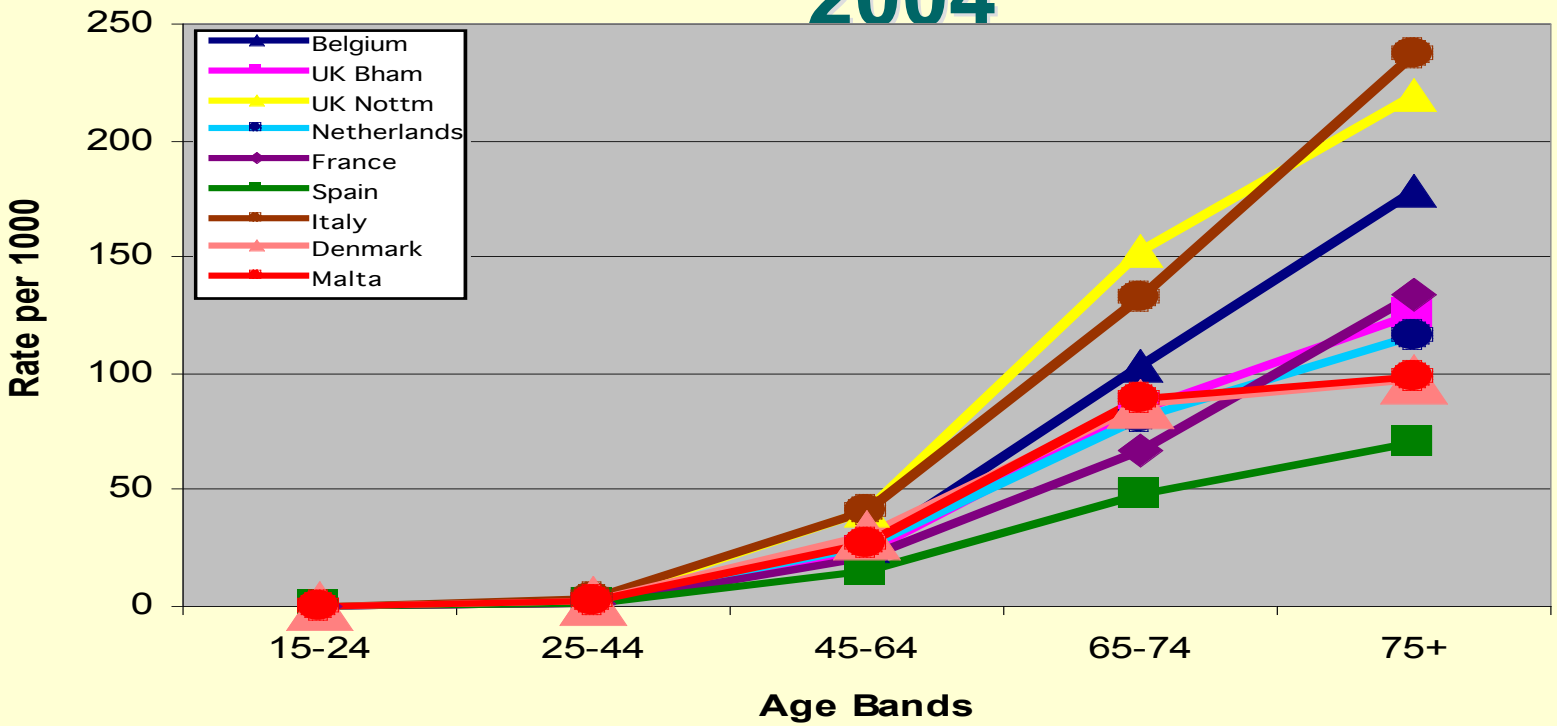
IHD Prevalence 2004



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Defining Cases

Cases need clear definition

- disease codes only?
- also search for drugs or pathology results?
- what about patients who do not consult their family doctor?
- what is the definition of an “active” case?
- who enters the data?
- are checks made for accuracy and validity?

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Data definitions and coding
&
Mental health problems

François Schellevis,
Robert Verheij
Representatives
Netherlands

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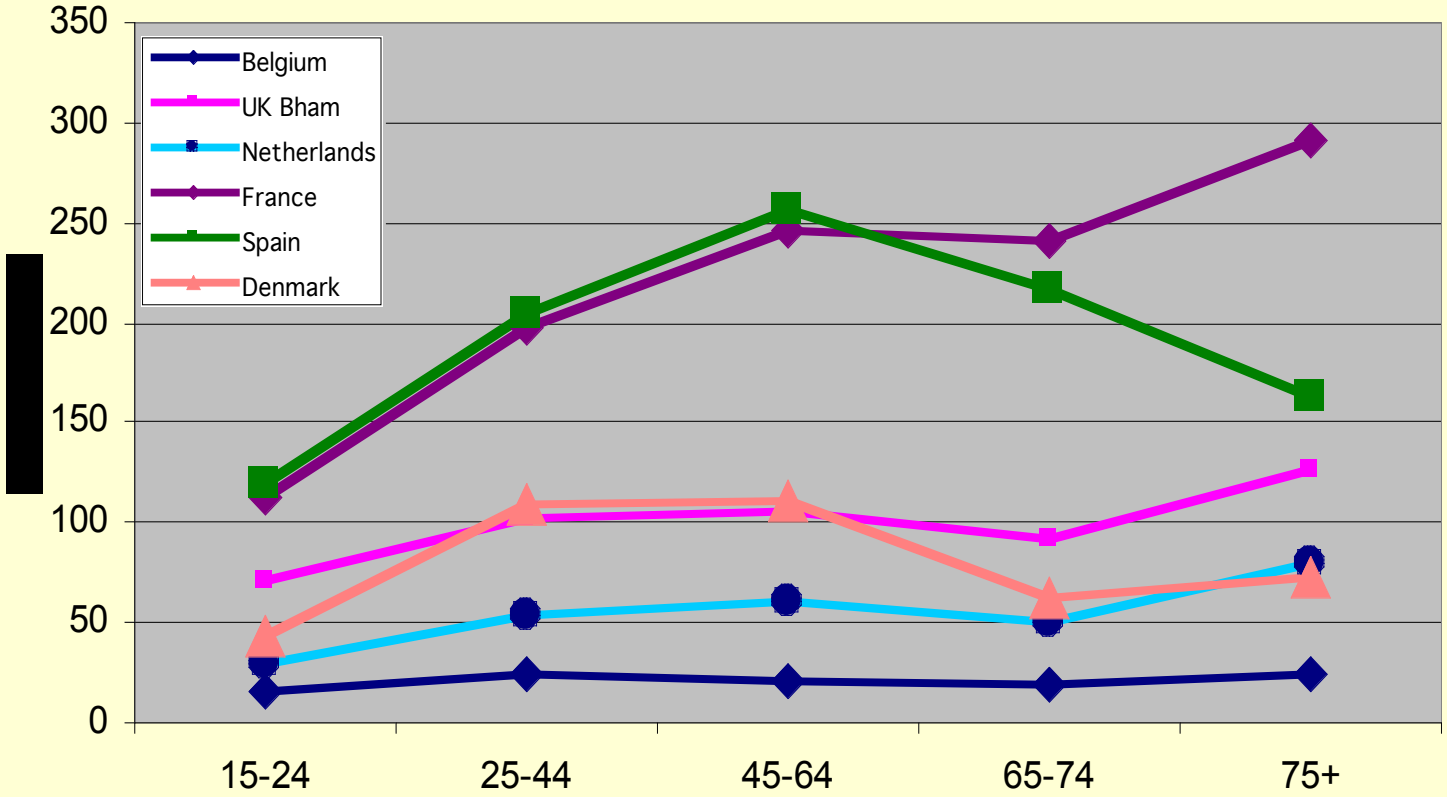
Prevalence of All Doctor Assessed Mental Illnesses



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Prevalence of All doctor Assessed Mental Illnesses

Are the Belgians ten times more mentally healthy than the French?

Are the elderly in Spain mentally more healthy than in France?

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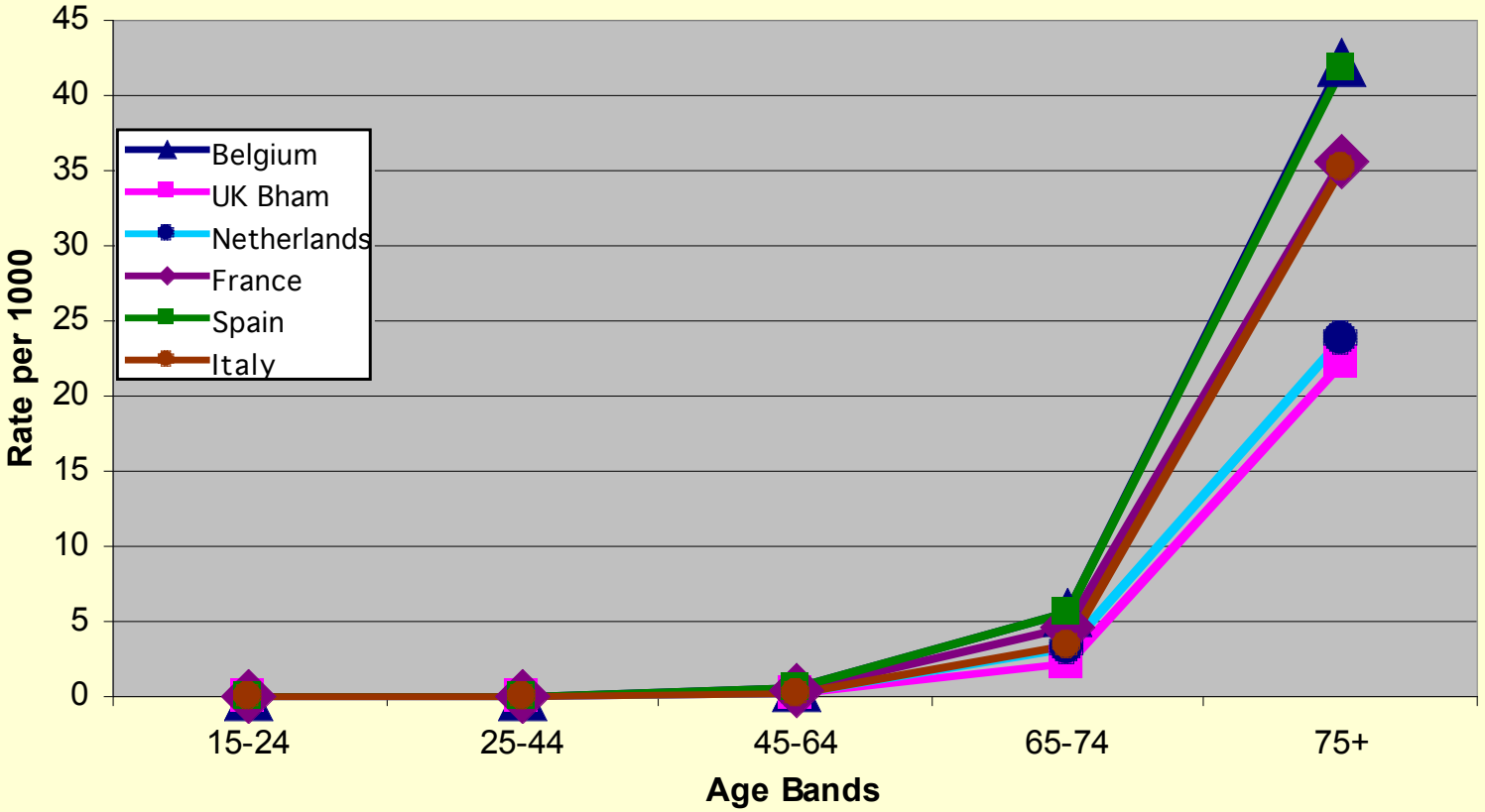
Prevalence of Dementia



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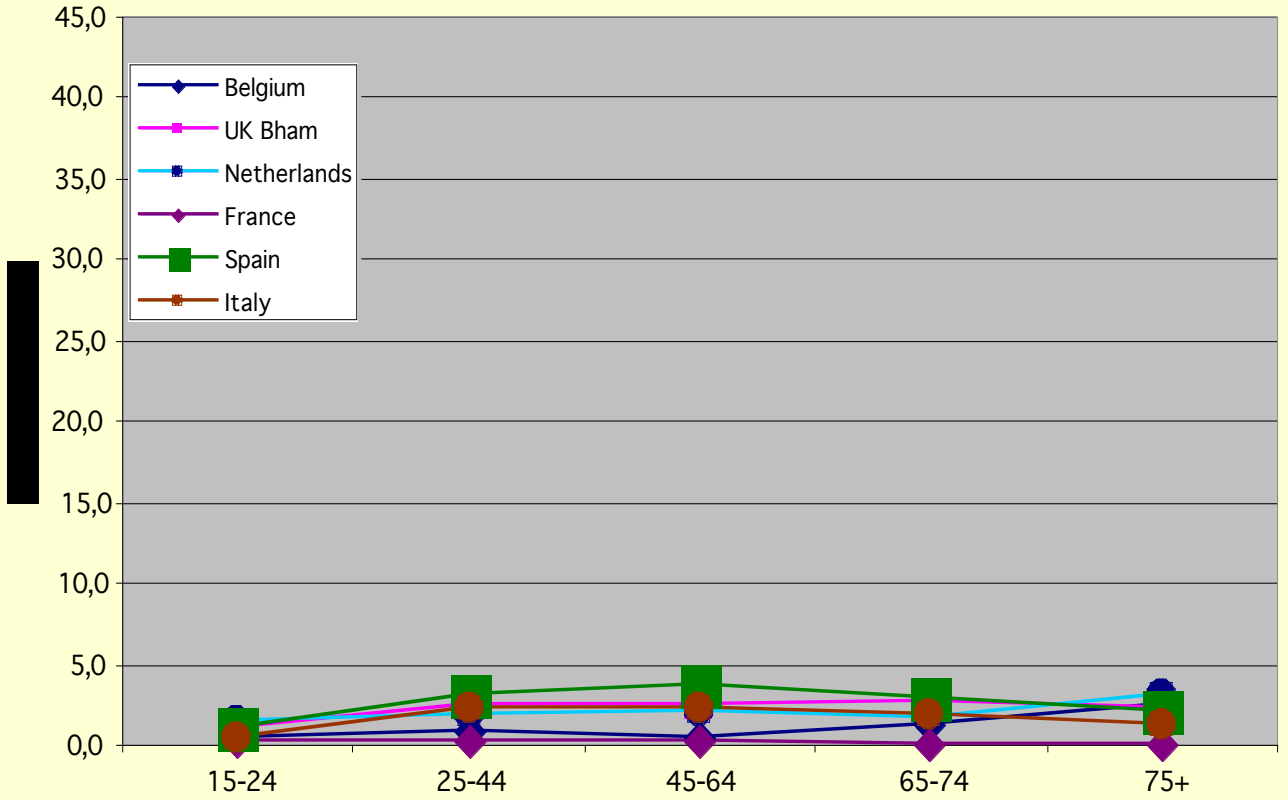
Prevalence of Schizophrenia (2)



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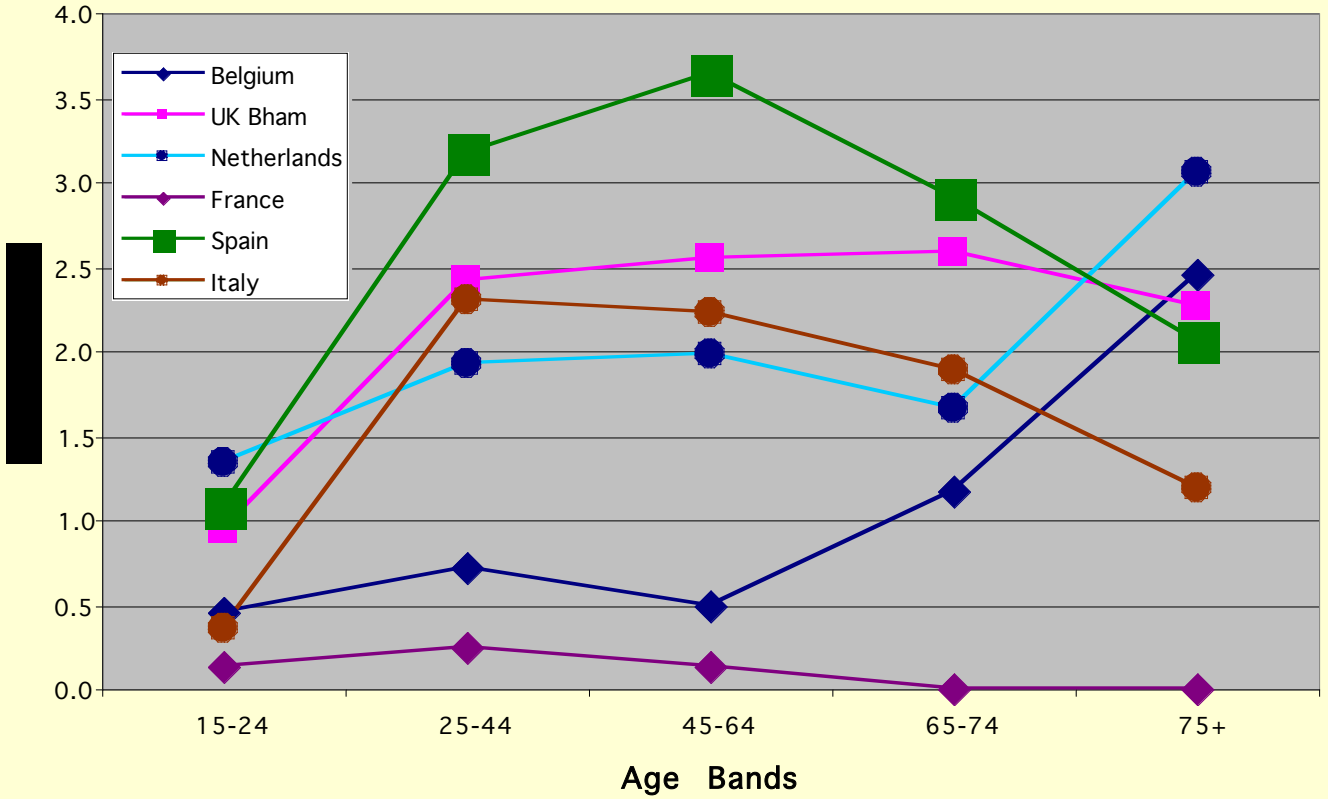
Prevalence of Schizophrenia



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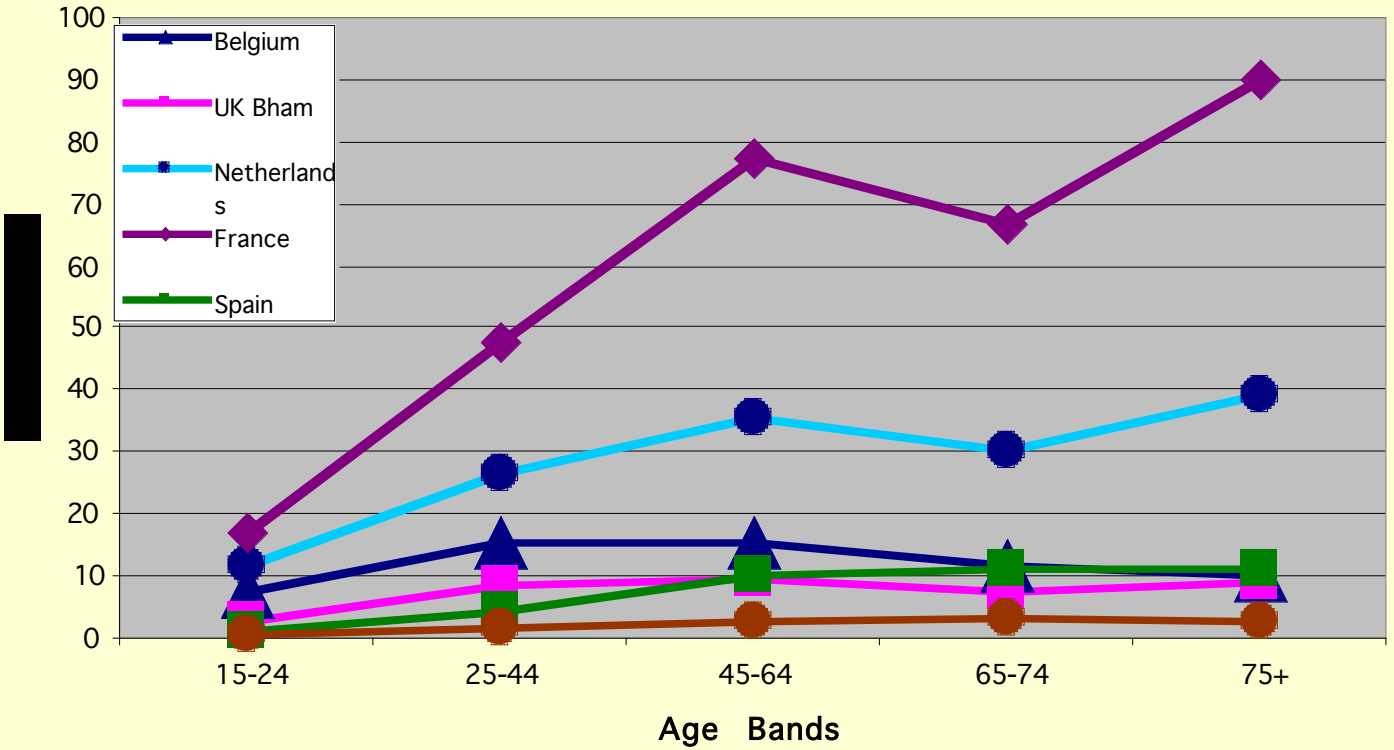
Prevalence of Affective Psychoses



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Possible explanations for differences

- Help seeking behaviour
- Labelling of health problems (probably especially important in mental health problems)
- Prescription related diagnoses included?
- **Disease classification and coding**
- Use of diagnostic criteria
- Technical: multiple diagnoses, data extraction specifications
- Duration of registration
- Health system:
  - does the GP see all patients with mental disorders?
  - are specialists' diagnoses included?

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Coding Issues

Different classification and coding systems in use throughout Europe

- ICPC-1 – The Netherlands
- ICPC-2 – Belgium, Spain and Malta
- ICD-9 – Italy and Spain
- ICD-10 – Spain
- DCR - France
- Read codes - UK

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Coding issues

- **Implications**
  - Accurate cross referencing or conversion
  - Some more detailed than others
  - Coding content dictated codes used
- **Inter-country variations**
  - Cultural issues in disease classification
  - Different diagnostic criteria

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Conclusion

Differences between the classification and coding systems in use conceal cultural differences in help seeking behaviour, disease labelling, differences related to the health care system, etc.

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Conclusion

Therefore, the Belgians are not less mentally healthy than the French, they only think so …

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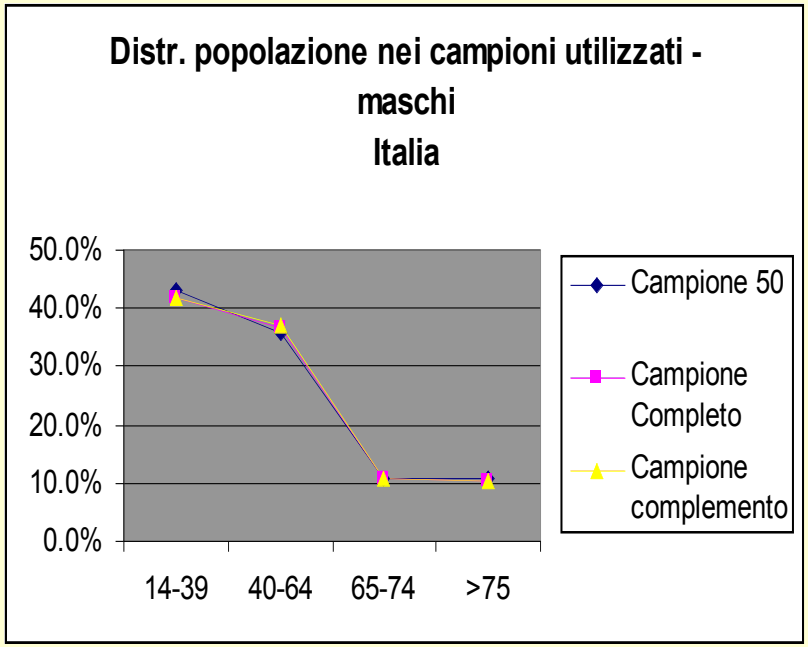
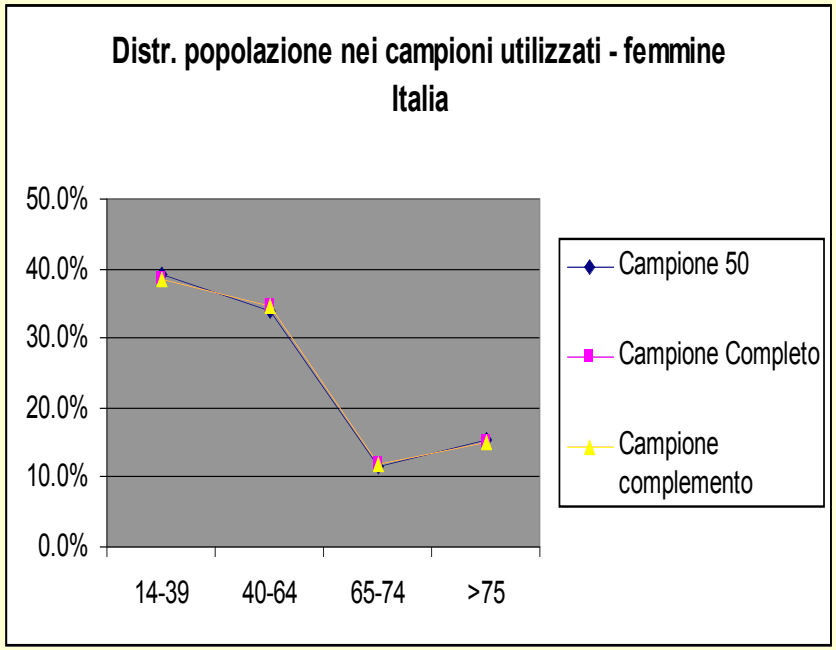
Grafici – Italia





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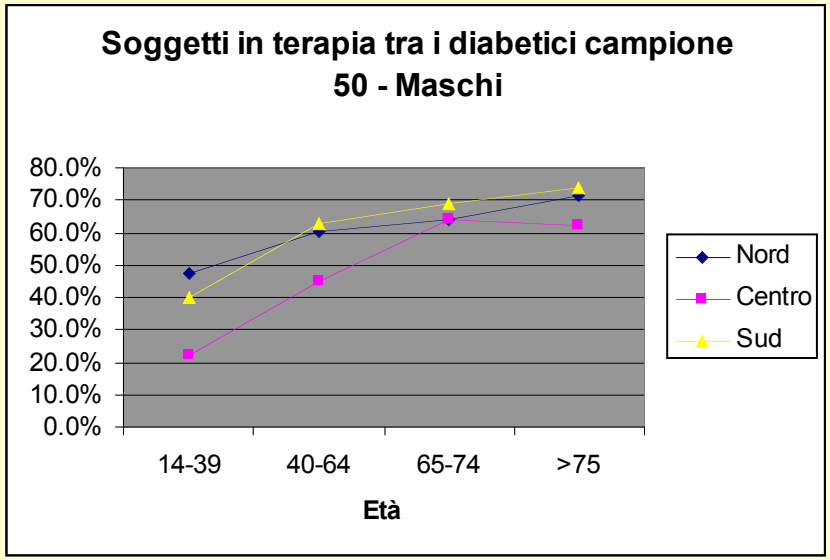
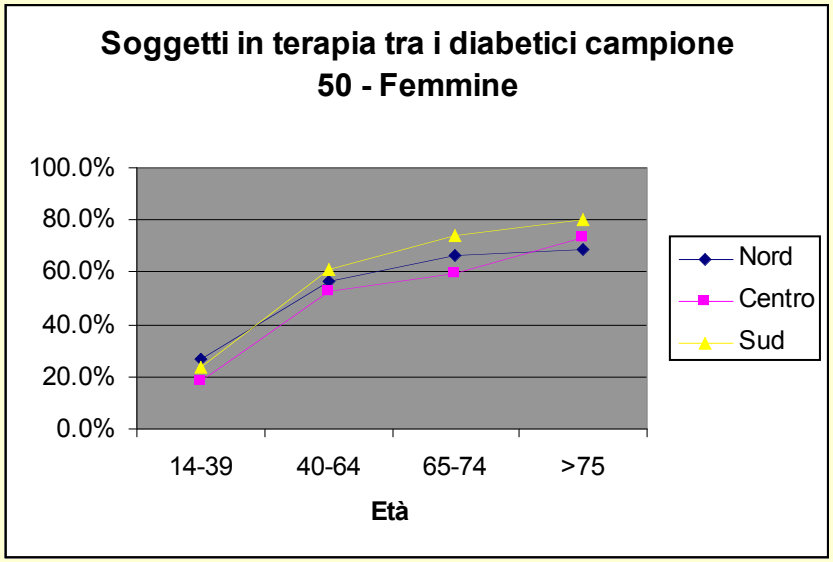
Diabete – Grafici terapie Nord Centro Sud





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