EUropean Best Information through Regional Outcomes in Diabetes

Materials, Methods and Data Analysis of Diabetes Registers

The BIRO System and the EUBIROD Project

Fabrizio Carinci
Technical Coordinator

Special BIRO Academy Meeting
"Coordinated Information Delivery from Diabetes Registers to improve quality and outcomes in Europe"
Rome 4-5th June 2010

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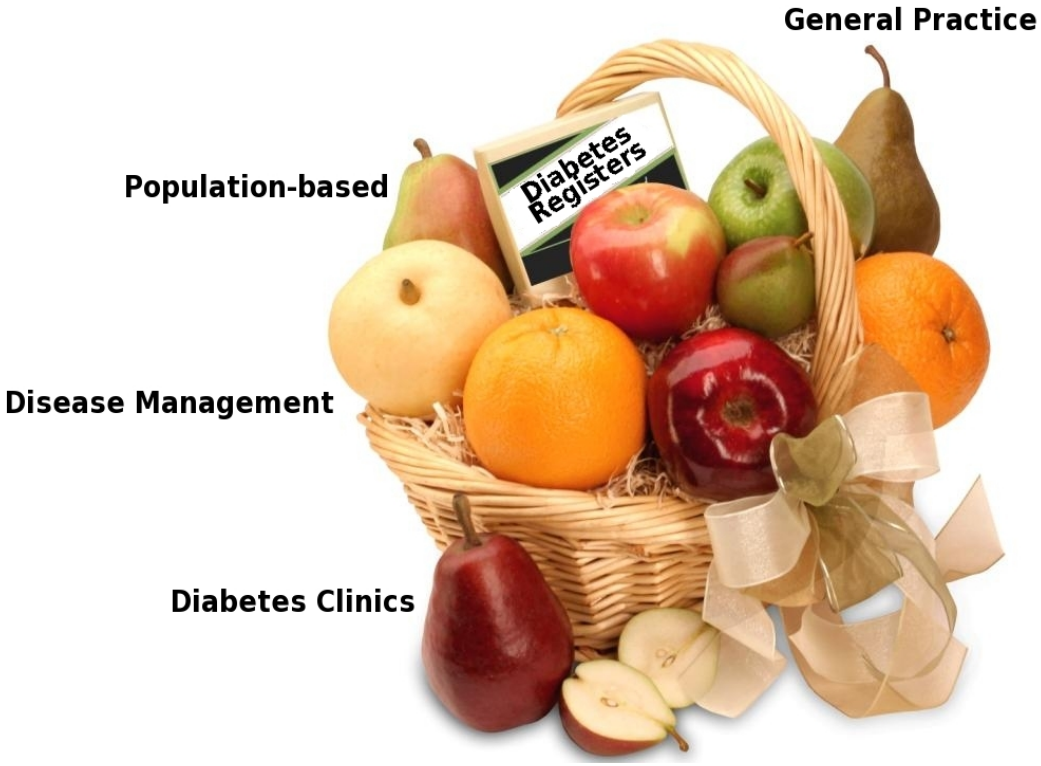
Diabetes Registers: different fruits



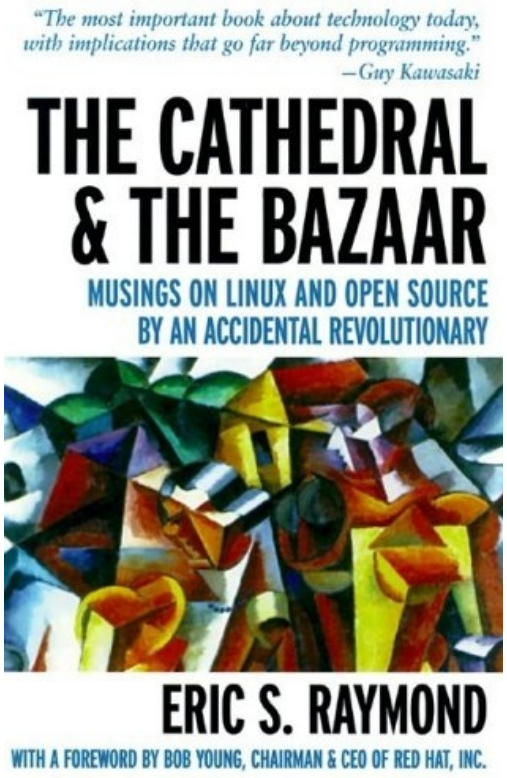
Types of Registers

“Population-based”

“Disease Management”

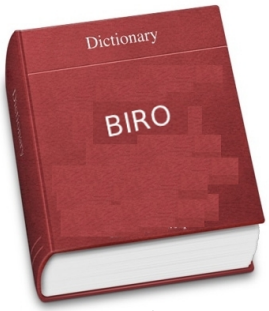
“Specialistic”

Unified model: cathedral or bazaar?

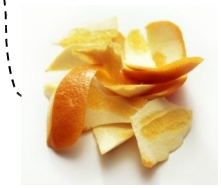


Coordination rather than unification: a pragmatic model

Recipe = Dictionary



Ingredients = Standardized Data



Discard Heterogeneity

Product = Indicators

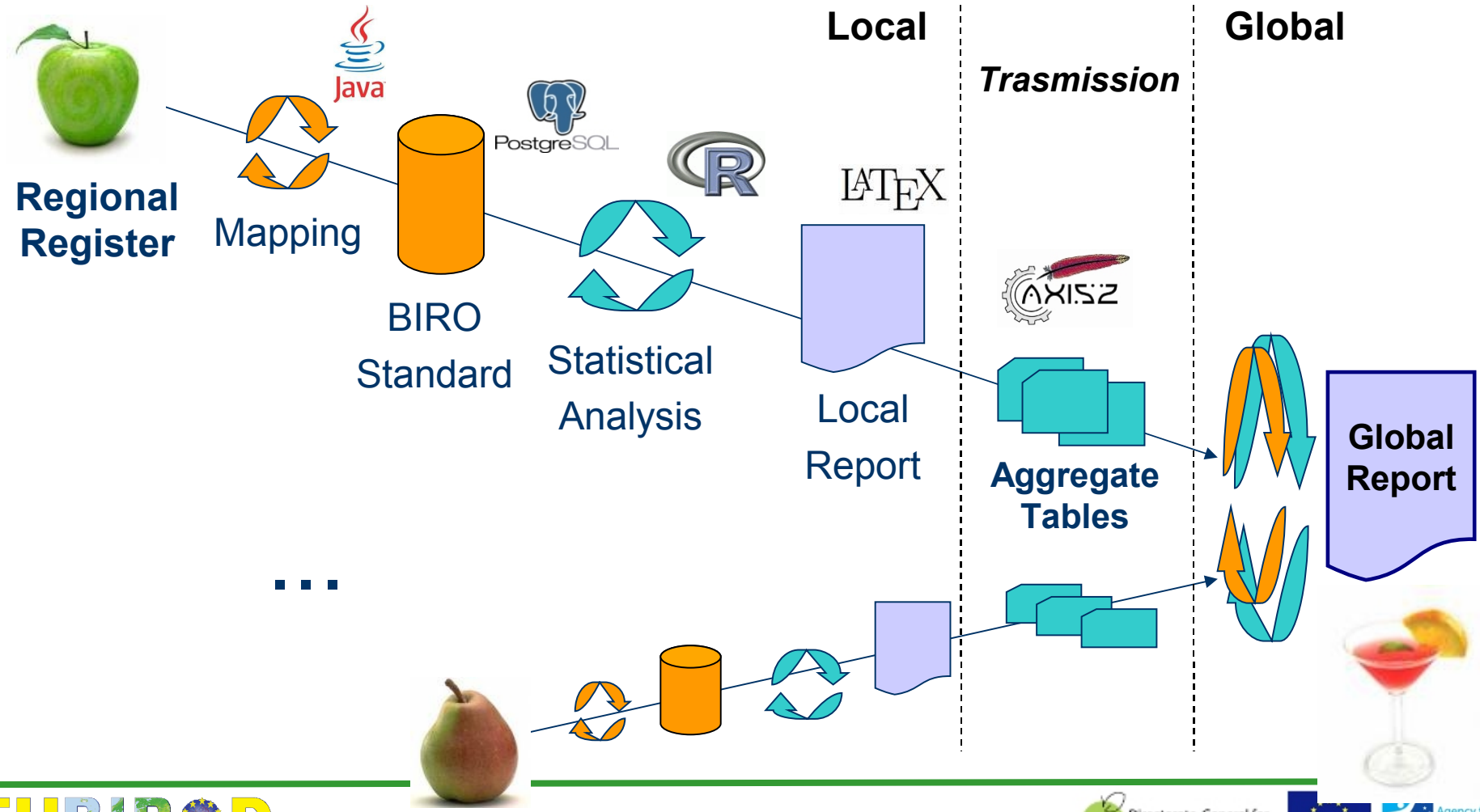
BIRO Infrastructure: “Privacy by Design”

Law, ethics and medicine

Privacy impact assessment in the design of transnational public health information systems: the BIRO project

C T Di Iorio,[1] F Carinci,[1] J Azzopardi,[2] V Baglioni,[3] P Beck,[4] S Cunningham,[5] A Evripidou,[6] G Leese,[7] K F Loevaas,[8] G Olympios,[6] M Orsini Federici,[3] S Pruna,[9] P Palladino,[10] S Skeie,[8] P Taverner,[8] V Traynor,[6] M Massi Benedetti[3]

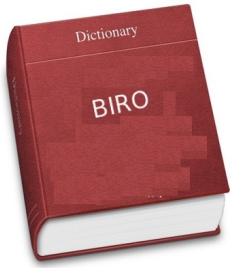
The complete BIRO model
www.biro-project.eu



BIRO Ingredients: Required Data

- **Core dataset (“Merge Table”)**
- **“Activity Table”** (transfer,death, residency change)
- **Structural profile** (n.physicians, nurses)
- **Population profile (catchment area)**

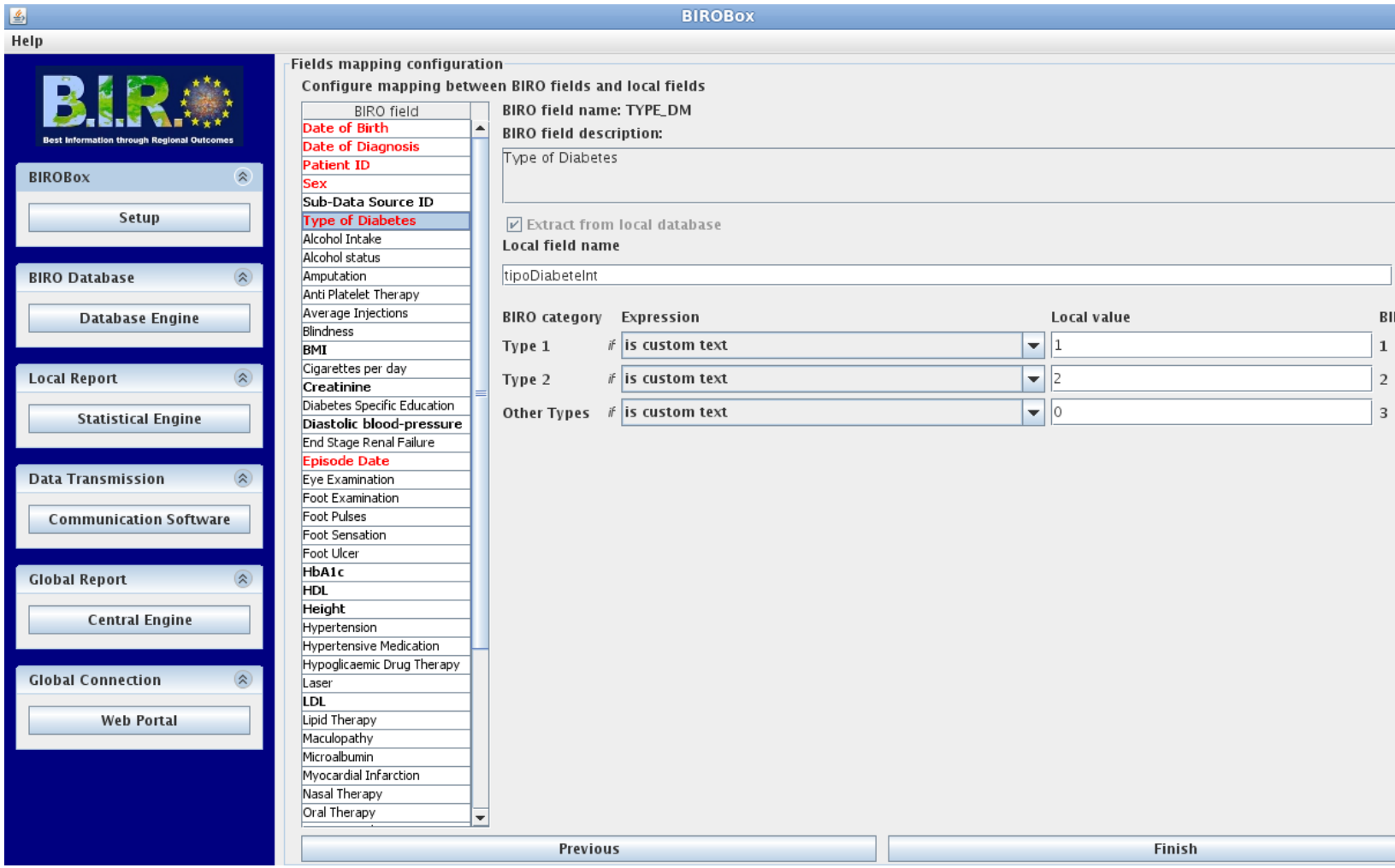
BIRO Core EU Dataset



N=48

1. ID Patient
2. ID Centre
3. Type of Diabetes
4. Sex
5. Date of Birth
6. Date of Diagnosis
7. Episode Date
8. Smoking Status
9. N.Cigarettes (x day)
10. Alcohol Intake (g/x day)
11. Weight
12. Height
13. BMI
14. Systolic Blood Pressure
15. Dyastolic Blood Pressure
16. HbA1c
17. Creatinine
18. Microalbumin
19. Total Cholesterol
20. HDL
21. Trygliceride
22. Eye Examination
23. Retinopathy Status
24. Maculopathy Status
25. Foot Examination
26. Foot Pulses
27. Foot vibration
28. End Stage Renal Failure
29. Renal Dyalisis
30. Renal Transplant
31. Stroke
32. Foot Ulceration
33. Acute Myocardial Infarction
34. Laser
35. Hypertension
36. Blindness
37. Amputation
38. Antihypertensive Medication
39. Hypoglicemic Drug Therapy
40. Oral Drug Therapy
41. Pump Therapy
42. Nasal Therapy
43. Average Injections (x day)
44. Self monitoring
45. Diabetes Specific Education
46. Lipid Lowering Therapy
47. Anti-platelet Therapy
48. Patient enrollment in DMP for diabetes

Common Interface: the “BIROBox”



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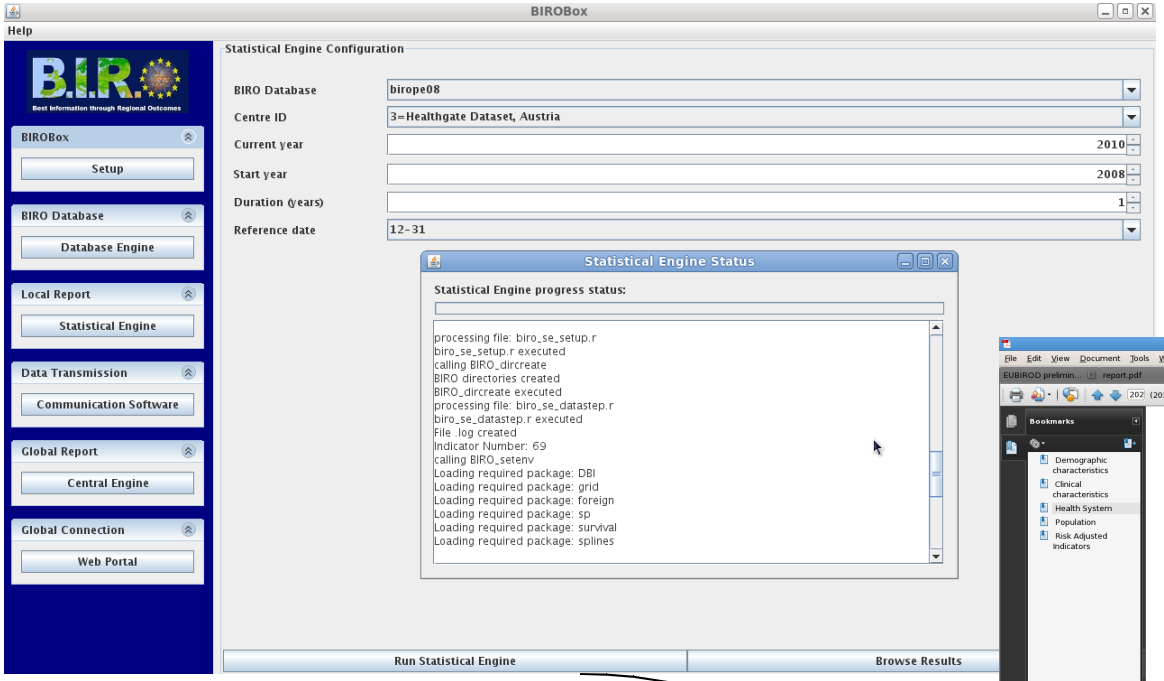
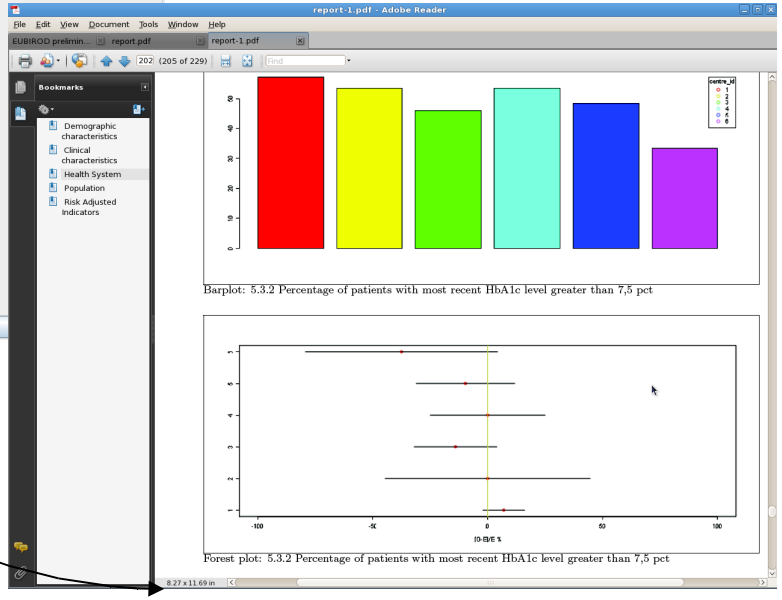
The BIRO System: Automated Diabetes Report Delivery





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BIRO Indicators (N=72)

Demographic Characteristics (N=2)

Clinical Characteristics (N=18)

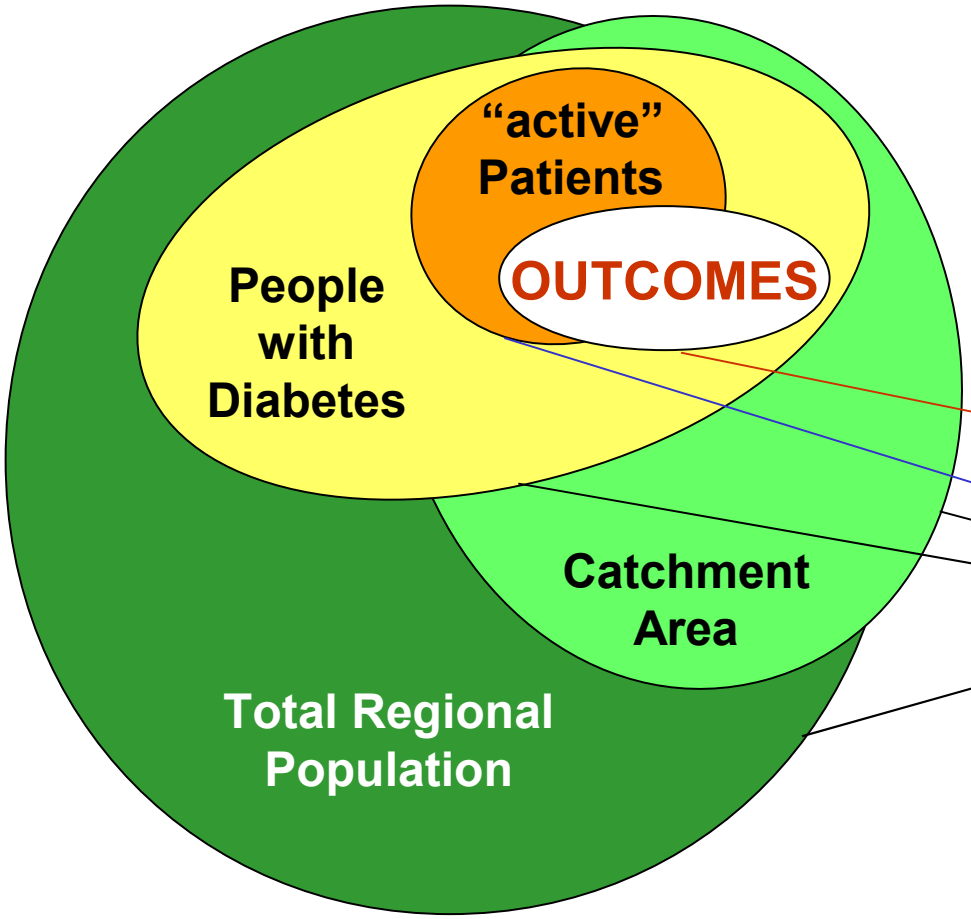
Health System (N=21)

Population (N=3)

Standardized / Risk Adjusted (N=28)

- Epidemiological (N=2)
- Process (N=16)
- Intermediate Outcomes (N=7)
- Terminal Outcomes (N=3)

Statistical Engine
Adjusting and controlling for bias



INDICATORS

Numerator

Denominator

DATA

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www.eubirod.eu

University of Perugia (I)
Serectrix snc (I)
University of Dundee (GB)
Joanneum Research (A)
NOKLUS (N)
Paulescu Institute (RO)
University of Malta (M)
Republic of Cyprus (CY)
Sahlgrenska Institute (S)
University of Debrecen (H)
Institute of Public Health (B)
IDF (B)
Adelaide Meath Hospital (IRL)
CBO (NL)
Centre Hospitalier (LUX)
University of Ljubljana (SLO)
IMABIS Foundation (E)
Medical University Silesia (PL)
Havelhoe Hospital (D)
Hillerod University Hospital (DK)
Vuk Vrhovak University (HR)

BIRO

11/2005 **9/2008** 5/2009 **8/2011**

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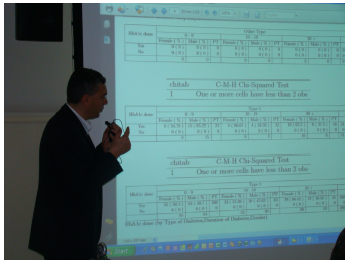
Objectives of the BIRO Project
complete, refine, measure, disseminate



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The Tayside Diabetes Register

R.Mc Alpine, U.Dundee, Scotland, UK

First BIRO Academy Residential Course, Kuwait City, Kuwait, 2nd May 2009

Slides

The Tayside area is located north of Edinburgh and is a good proxy for the population of Scotland, including a mix of agricultural and industrial lifestyles. The DARTS project conducted in 1996 was mainly an audit and research study aimed at monitoring quality of care for diabetic patients through electronic record linkage. In ten years, this study produced a wealth of knowledge on the topic and secured funds for the activity of a large team that is now managing not only the local network on a continuous basis, but the Scottish Diabetes Register.

In this presentation, **Ritchie McAlpine**, data facilitator for the Tayside Diabetes Network, briefs the results of such experience from a particular position in between the information technology group and the actual needs of real patients. Nowadays, the "SCI-DC" Collaboration includes data from about anything done on diabetic patients, from clinics to practices, biochemistry, demography, eye screening, etc., which is automatically transformed into audit tables.

News

BIRO Monograph available in the **BIRO Monograph Section**

BIROBox ver. 1.0.5 available in the **Software Section**

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