B.I.R.O.

Best Information through Regional Outcomes

A Public Health Project funded by the European Commission, DG-SANCO 2005

WORK PACKAGE 14: DISSEMINATION

DELIVERABLE D14.3

PLENARY SESSION

VERS. 1.1

WP LEADER: UNIVERSITY OF PERUGIA

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Project Website

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1. Dissemination of BIRO Project

The BIRO approach and its outcomes have received maximum visibility across relevant stakeholder and the major prospective users of the information system. Several strategies have been put in place to disseminate the project.

The BIRO web site (www.biro-project.eu) was designed with the purpose of neatly explaining the project mission and its specific objectives, readily reporting activities, events, achieved results and easily sharing documents and meeting materials between the Partners.

Two brochures and two newsletters per year have been issued. The BIRO monograph, a book summarizing all BIRO achievements within each work package, has been printed in more than 100 copies.

Finally, at the end of the project, two conference events have been organized to disseminate the Project results. The first one, in Brussels, had an international visibility and was specially aimed at explaining the achievements to the Project sponsors of the European Commission while the second one, in Perugia, had a limited scope since it was aimed at presenting BIRO to the local Authorities, Institutions and stakeholders of Umbria region. During both conference events, copies of BIRO Monograph were distributed to Participants.

The aim of the present deliverable is to make a summary report of Brussels and Perugia plenary sessions, by collecting slides, pictures and press clippings.

2. Plenary session in Brussels

The official presentation of BIRO Project results in Brussels took take place at the Umbria Region Brussels Office - 14, Round-Point Schuman on 7th May 2009.

2.1. Agenda

10:30 – 11:00	Welcome cocktail
11:00 – 11:15	The BIRO Project *(Prof. Massimo Massi Benedetti)*
11:15 – 11:30	Diabetes Information for Policy in Europe *(Fred Storms)*
11:30 – 12:00	BIRO results *(Fabrizio Carinci)*
12:00 – 12:15	Using BIRO: the Cyprus experience *(George Olympios)*
12:15 – 12:30	Using BIRO: the Malta experience *(Prof. Joseph Azzopardi)*
12:30 – 13:00	Discussions / Questions

2.2. Summary report

A selected audience of relevant stakeholders in the field of European projects gathered in Brussels on 7th May 2009 for the official presentation of BIRO results. The meeting was held at the Umbria Region Brussels Office in Round-Point Schuman, thanks to the hospitality of the regional government and the continued assistance of the local office staff. Speakers on behalf of the Consortium included coordinators Prof. Massi Benedetti and Dr.Carinci (Italy), Prof. Azzopardi (Malta), Dr.Olympios (Cyprus) and Dr.Storms (Netherlands).

Participants included representatives of the European Commission (DG-SANCO, DG-RESEARCH, DG-INFSO), NGOs (Eurohealthnet, Health Consumer Powerhouse, European Heart Network, HOPE, Eucomed, PGEU), Research Institutes (Belgium Scientific Institute of Public Health, Denmark FOU).

Presentations included an overview of the whole project including scope and achievements, its relevance for clinical practice, and how to translate it into action for public health in Member States. The audience reacted very positively and looked at results particularly from the point of view of prospective implementation. Distinguished remarks deserve to be mentioned in this short summary.

According to G.Dargent (EC, EAHC, Luxembourg), BIRO represents an important project in the field of public health, as witnessed by the continued support offered by

the EUBIROD project. The successful delivery of this project can be important for the Agency. It can demonstrate the validity of connecting existing data sources as a sustainable strategy to public EU health information system

K.McCarthy (Public Health Sector, DG-RESEARCH, Brussels) commented that the project is interesting since it may have interesting features also for research, particularly in the field of dissemination. The possibility that results can be shared across Europe in a timely and relatively inexpensive way may constitute an innovative solution filling the gap between policy and practice. However, there must be clear evidence that the system can work in real life conditions. Publication of results of its usage in a high impact scientific journal may constitute a necessary step to raise the attention of the scientific community.

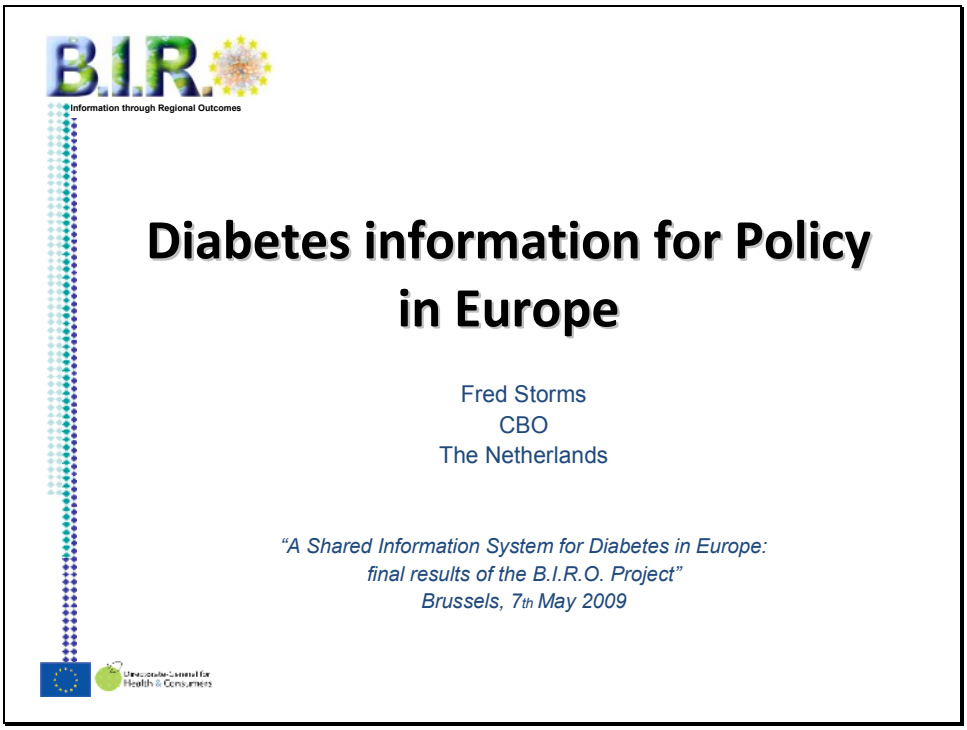
L.Montanari (EC DG-RESEARCH, UNIT D3) added that results obtained are also interesting for their general value beyond diabetes. The system seems to be customizable to solve the needs of different areas, particularly chronic diseases in general. Such results need also to be highlighted for future research applications.

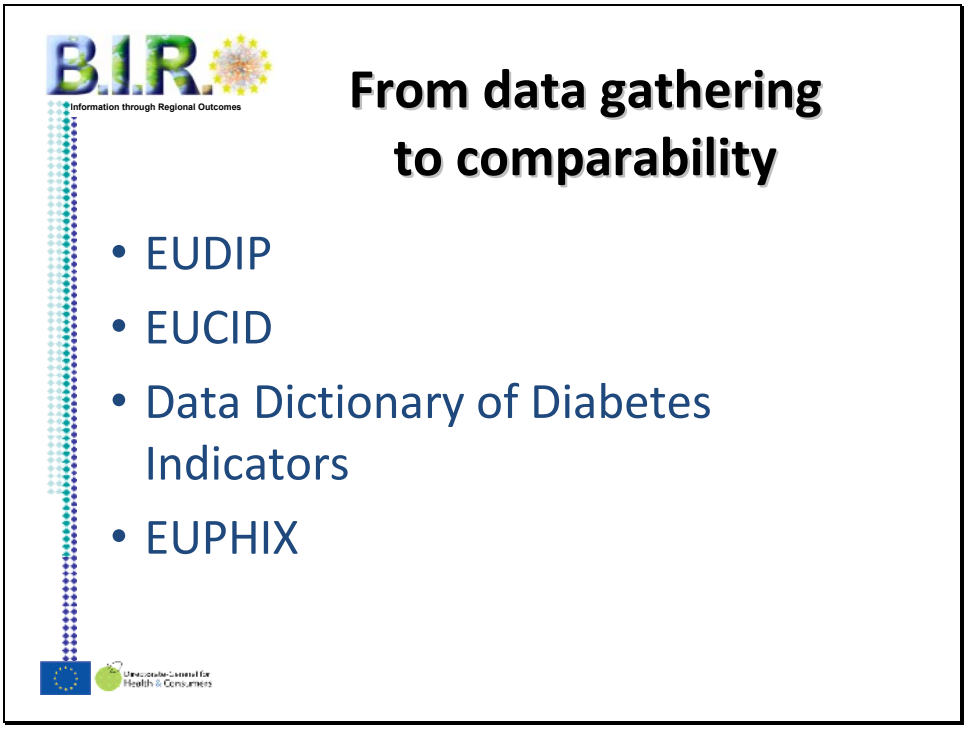
In a later communication, Roberto Giampieretti (European Commission, DG INFSO, Unit H1, "ICT for Health") made his congratulations to the project team for the results achieved. In particular, he reported that he found the overview of the project made by F.Carinci very interesting, with strong relevance to the activities carried out at the Directorate.

The meeting was preceded and followed by a cocktail reception, celebrating the successful end of the project. All participants received a printed hardcopy the BIRO Monograph, a complete, original publication of over 200 pages packaging all major results and including details on all the features of the BIRO system.

2.3. Presentations

2.3.1 Diabetes information for Policy in Europe





B.I.R. Information through Regional Outcomes

- Establishment of indicators monitoring diabetes mellitus and its morbidity
  - I. Risk factors for diabetes mellitus
  - II. Epidemiology of diabetes mellitus
  - III. Risk factors for diabetes complications
  - IV. Epidemiology of diabetes complications
- Final report 2002

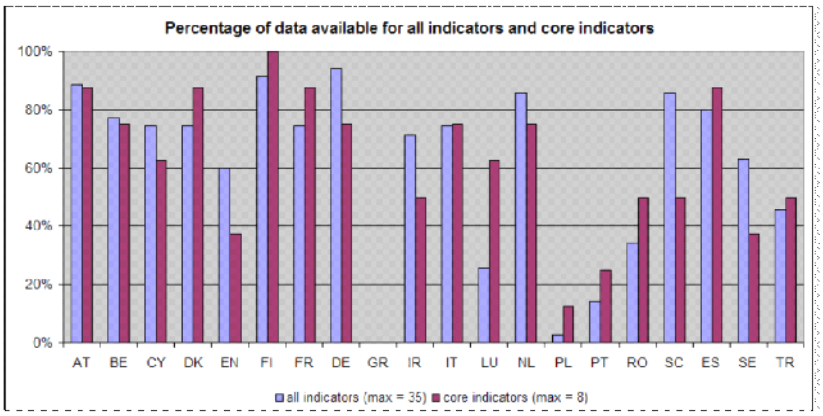
B.I.R. Information through Regional Outcomes

Indicators on Diabetes and risk factors for diabetes

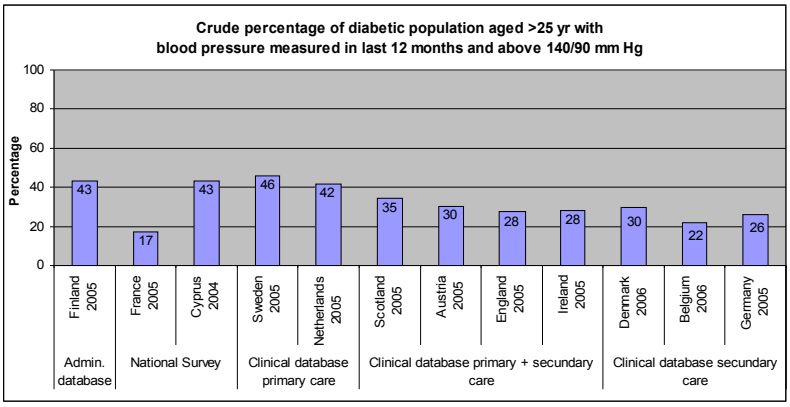
35 indicators
General population
Diabetes population
- Biochemical
- Physical
- Complications

Represented as
- Bargraphs
- Age bands
- Maps
- Spiderwebs

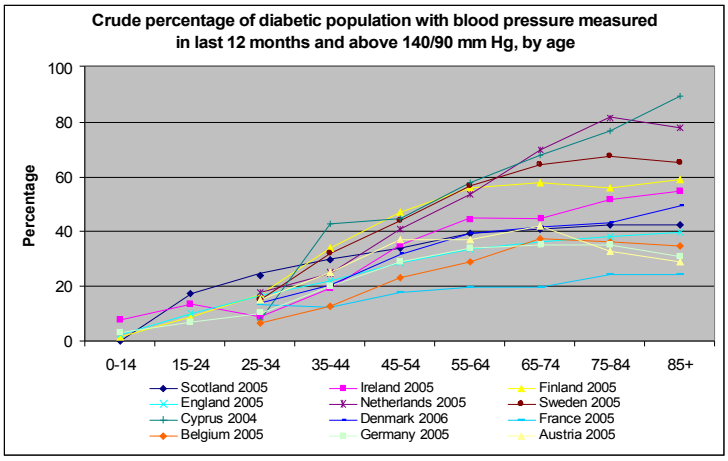
Data Availability



Elevated blood pressure

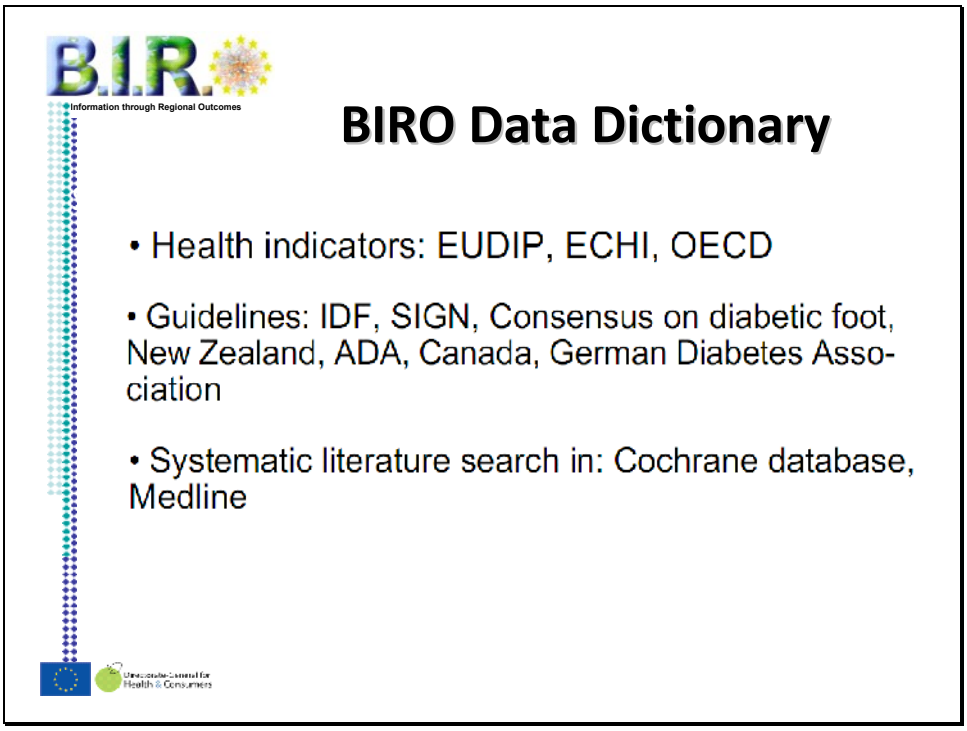


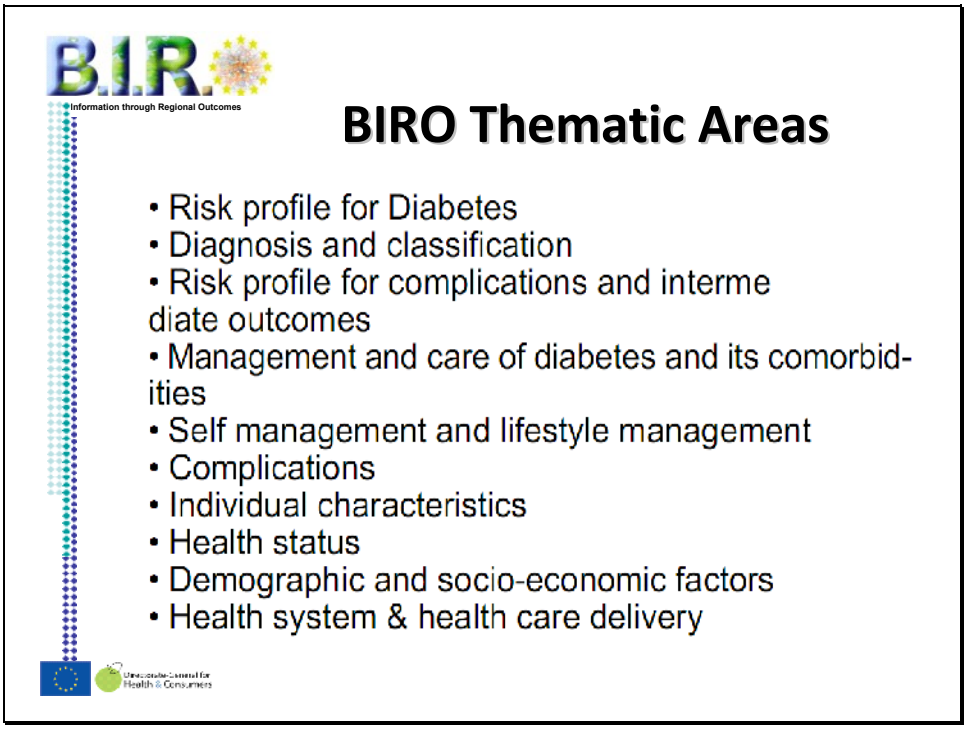
Elevated Blood Pressure by Age



Conclusions EUCID

- It is a joy to work with other professionals
- Data availability on diabetes and diabetes risk factors in Europe is suboptimal
- Data comparability is low
- Available estimations from IDF are at least suboptimal
- Clinical data originate almost all from regional databases
- EUBIROD is the way to go foreward


B.I.R.
Information through Regional Outcomes
BIRO Data Dictionary
• Health indicators: EUDIP, ECHI, OECD
• Guidelines: IDF, SIGN, Consensus on diabetic foot, New Zealand, ADA, Canada, German Diabetes Association
• Systematic literature search in: Cochrane database, Medline


B.I.R.
Information through Regional Outcomes
BIRO Thematic Areas
• Risk profile for Diabetes
• Diagnosis and classification
• Risk profile for complications and interme diate outcomes
• Management and care of diabetes and its comorbidities
• Self management and lifestyle management
• Complications
• Individual characteristics
• Health status
• Demographic and socio-economic factors
• Health system & health care delivery

BIRO Selection Process

- Indicator: “a measure used to determine, over time, performance of functions, processes and outcomes.”
- OECD defined selection:
  - Capture important performance aspect
  - Be sufficiently sound
  - Be feasible
- 3 Dimensions per indicator
  - Impact on health
  - Policy importance
  - Susceptibility to be influenced by health care system

BIRO Indicators selected: epidemiology and structure

- Epidemiology:
  - Annual incidence in children of type 1 diabetes
  - Prevalence of diabetes mellitus
  - Age at diagnosis with 10 year age bands
- Structural indicators (regional):
  - Hospital beds per 100.000 population
  - Physicians employed per 100.000 population
  - Number of Diabetologists per 100.000 population
  - Number of doctors taking care of diabetes per 100.000
  - Number of diabetes nurses per 100.000 population
  - Number of physicians in DMP per 1000 diabetes
  - Portion of diabetes patients in DMP

BIRO Indicators: process

- Examined during last 12 months:
  - HbA1c
  - Total/HDL cholesterol
  - Micro-albuminurea
  - Eye examination
  - Foot examination
  - Smoking status
  - Serum creatinine
  - Blood pressure

- Elevated RR and med.
- Portion with RR med.
- Number anti RR med. Used
- Number lipid med.
- At least once education
- Number on self monit.
- Oral medication
- Portion Oral/insulin
- Pump therapy %
- Number insulin injections
- Number diet only
- Diagnosed CVD and antiplatelet

BIRO Indicators: intermediate outcomes

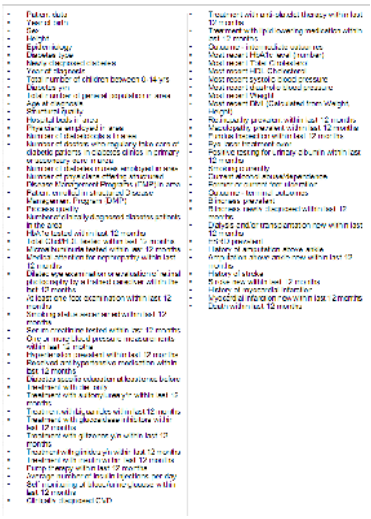
- % HbA1c most recent > 9.0
- % HbA1c most recent <7.5
- % Total/HDL Cholesterol < 4.5
- % RR <140/90
- % BMI > 30
- % with fundus inspection with prol.ret. or maculop.
- % laser treatment ever
- % of tested with micro-albuminurea
- % of current smokers
- % with current alcohol abuse/dependence
- % former or current foot ulceration

BIRO Indicators: final outcome

- Annual incidence of blindness
- Annual incidence of dialysis/transplantation
- ESRD prevalence
- Annual incidence of amputations above ankle
- Annual incidence of stroke
- Annual incidence of MI
- Annual death rate in diabetes adjusted for standard European population

BIRO data items needed

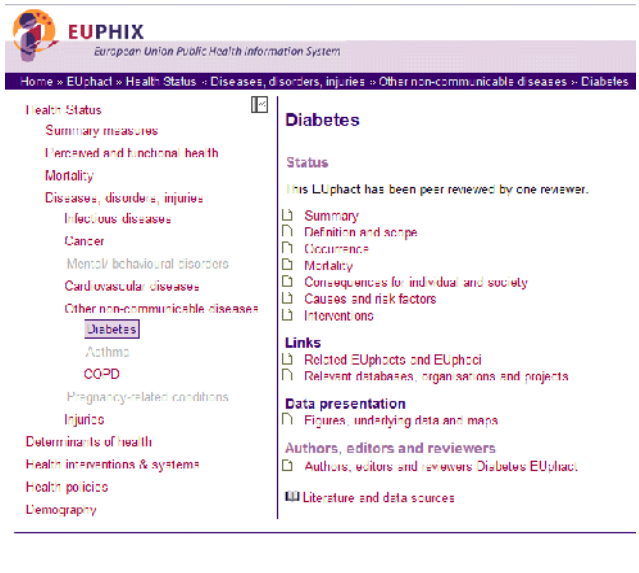
- Indicator needs data
- Data clearly defined in Data-Dictionary
- Information gathering by BIRO system
- New indicators (and consequently data) can be defined by partners in EUBIROD project



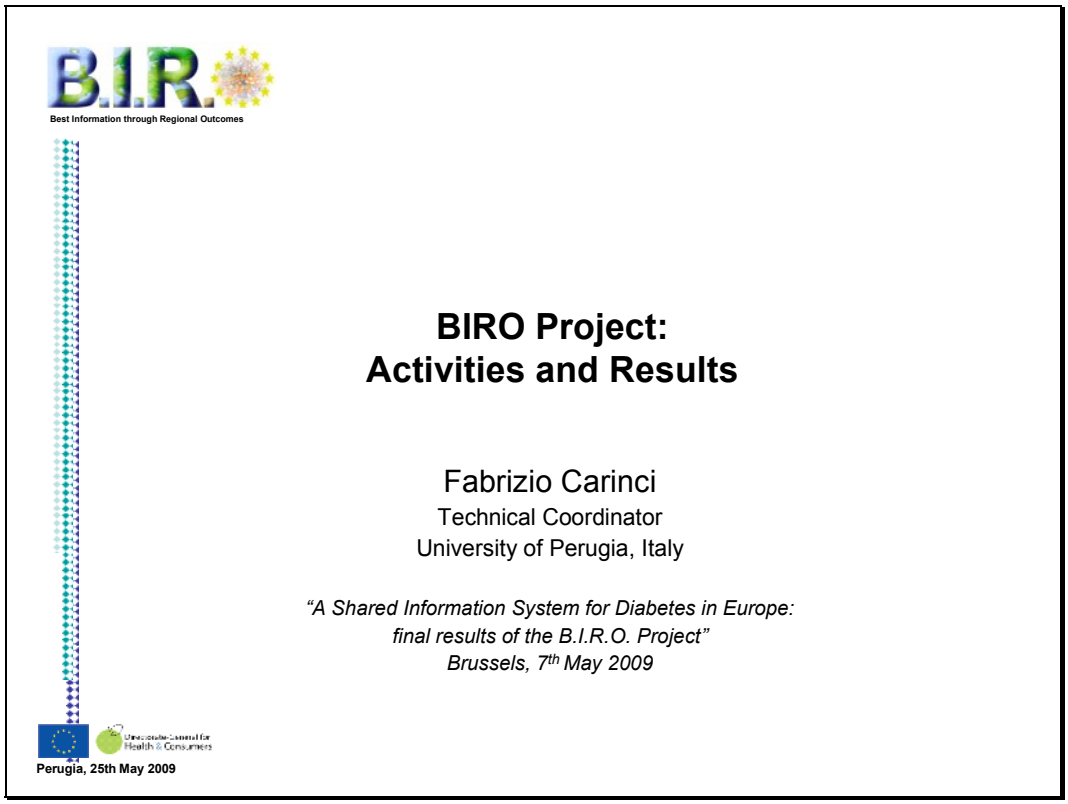
EUPHIX

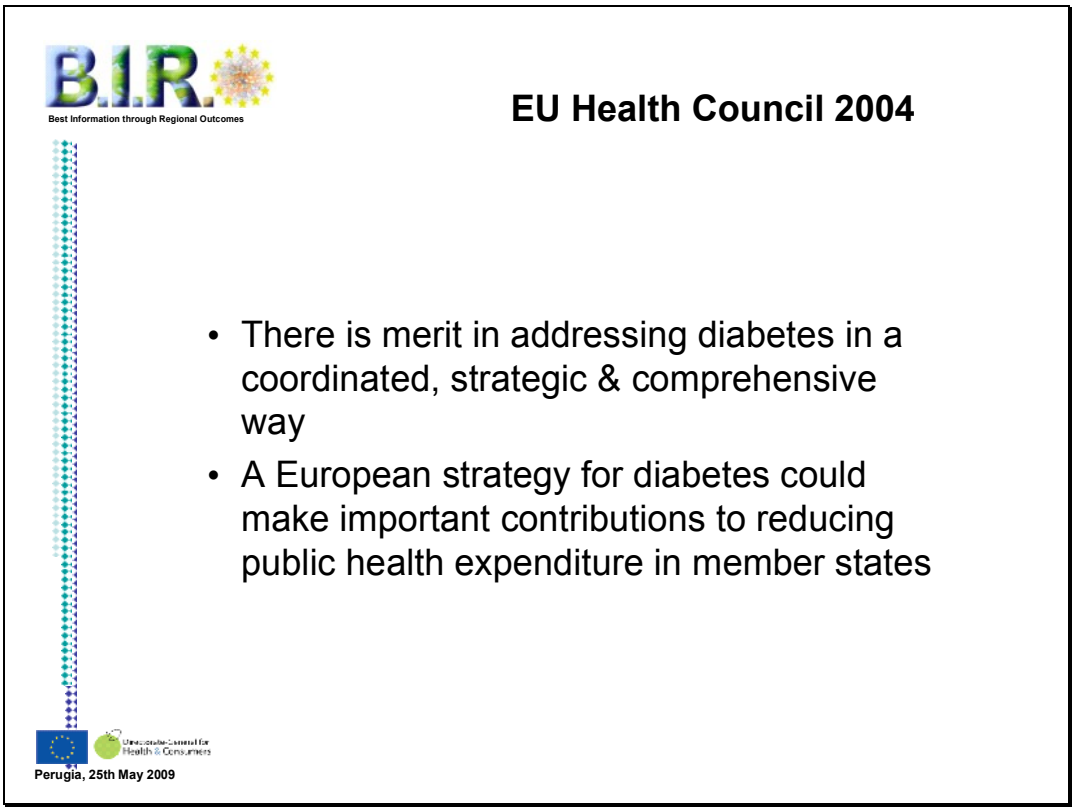
- EUPHIX is a web-based knowledge system for health professionals, policy makers and others. It presents structured European public health information, giving a special insight into similarities and differences between EU Member States.
- No data production but data gathering
- Hosted by: rivm

EUPHIX Diabetes Data



2.3.2 BIRO Results





Best Information through Regional Outcomes

Increasing interest in the EU

- The EU Health Commissioner's statement in 2004 that he would *"give his full attention to the growing diabetes epidemic"*
- Austrian Presidency decision to make Type 2 diabetes one of its two key public health priorities

Perugia, 25th May 2009

Best Information through Regional Outcomes

"Best Information through Regional Outcomes"

- Three years project in the field of diabetes funded by the Health Information Strand, Public Health Program, DG-SANCO
  - Start: 1st December 2005
  - Total cost: 1.2Mn€
  - Total contribution by the European Union: 715,000€
- ***Aim: "to provide European health systems with an ad hoc, evidence and population-based diabetes information system"***
- Seven partners from academia and governmental institutions, sharing an extensive experience in diabetes research/chronic care management
- Novel strategy for the routine collection of base parameters and the regular production of European summary indicators. The proposal targets better collection and integration of national and international data targeting regional networks, optimizing precision at the lowest cost through the active involvement of local users

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BIRO Consortium

Department of Internal Medicine University of Perugia, Italy	COORDINATION, MANAGEMENT, DISSEMINATION PRIVACY IMPACT ASSESSMENT DATABASE/STATISTICAL/CENTRAL ENGINES
Division of Medicine and Therapeutics University of Dundee, Scotland, UK	COMMON DATASET DATA DICTIONARY
Joanneum Research, Graz, Austria	CLINICALREVIEW COMMUNICATION SOFTWARE
Department of Medicine, University of Bergen, Norway	REPORTS TEMPLATE WEB PORTAL
Institute of Diabetes "Paulescu", Bucharest, Romania	TECHNOLOGY TRANSFER
Department of Medicine, University of Malta, Malta	EVALUATION
Department of Health Promotion, Ministry of Health, Republic of Cyprus	

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Best Information through Regional Outcomes

EU Council Conclusions June 2006

EU Ministers of Health adopted a set of Health Council Conclusions on the Promotion of Healthy Lifestyles and Prevention of Type 2 diabetes, agreeing that Member States should:

- Develop and implement national diabetes framework plans
- Improve the collection and reporting of diabetes epidemiological and economic data
- Adopt a multi-sectoral, multi-disciplinary approach to managing diabetes
- Develop comprehensive diabetes training for all healthcare professionals.
- The Conclusions also called upon the **European Commission** to prioritise diabetes, to promote best practice through networking & exchange between Member States and to facilitate and support European diabetes research.

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Why Regions?

- A “region” in BIRO logic is not an administrative entity: can be one or more geographical areas characterized by the existence of a common framework for the collection of diabetes data
- In principle can be a group of professionals/centres, a local health authority, single provinces, regions, states, or group of states

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Who are the BIRO Users?

Governance
- European Union
- Commission and Parliament
- National and Regional Governments
- Local Health Care Authorities, Management Clinical Networks
- Other local authorities
- Payers
- Social/Private Insurance
- Non Governmental Organizations
- WHO, OECD, IDF, National and Regional Diabetes Associations

Research
- EU Directorates Research and Public Health
- Scientific Organizations
- National and international scientific organizations
- Research institutions
- Universities, Foundations
- Statistical Departments of Local Governements
- Research areas
- Epidemiology, health policy, clinical medicine

Health Care
- Primary Care Societies
- Diabetes Care Units
- Health Care Professional Associations
- Quality Management Associations

Citizens
- Consumer organizations
- Patients organizations

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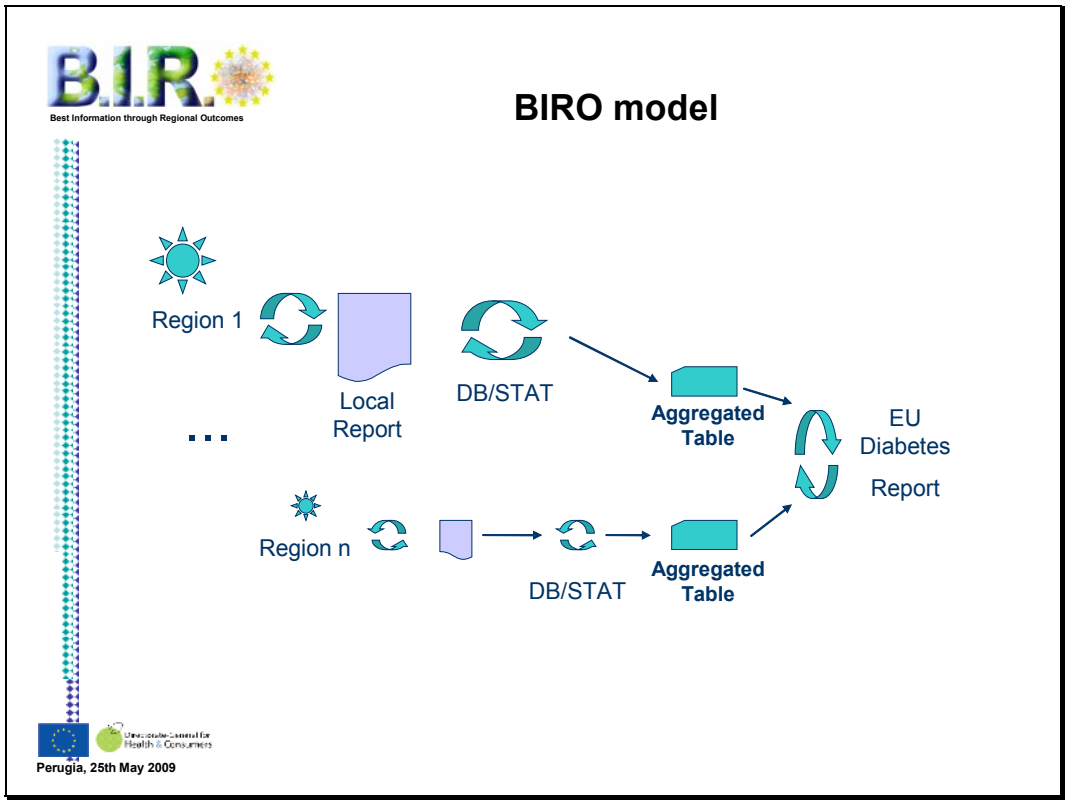
B.I.R.
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BIRO model
Region 1
Local Report
DB/STAT
Aggregated Table
EU Diabetes Report
Region n
DB/STAT
Aggregated Table
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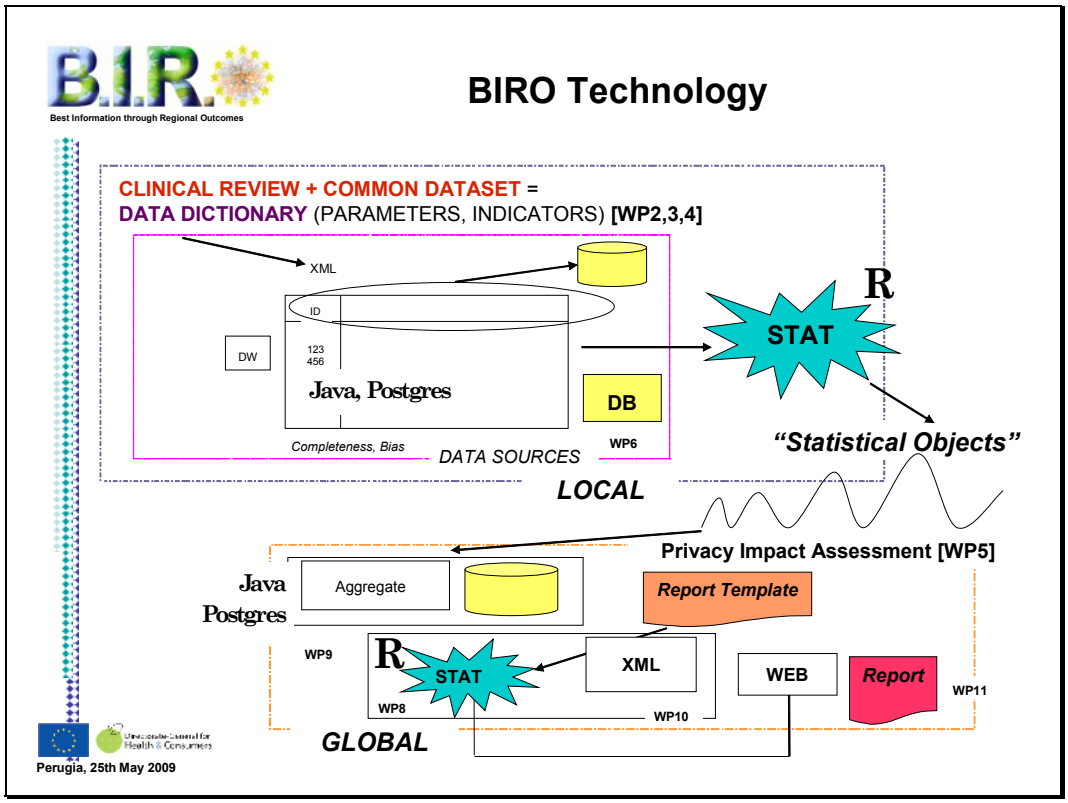
B.I.R.
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BIRO Technology
CLINICAL REVIEW + COMMON DATASET =
DATA DICTIONARY (PARAMETERS, INDICATORS) [WP2,3,4]
XML
ID
DW
123
456
Java, Postgres
DB
Completeness, Bias
DATA SOURCES
WP6
R
STAT
"Statistical Objects"
LOCAL
Privacy Impact Assessment [WP5]
Java
Postgres
Aggregate
Report Template
WP9
R
STAT
XML
WEB
Report
WP11
WP8
WP10
GLOBAL
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Clinical Review

- Indicator: “a measure used to determine, over time, performance of functions, processes and outcomes.”
- OECD defined selection:
  - Capture relevant aspect
  - Scientifically sound
  - Feasible
- 3 Dimensions per indicator
  - Impact on health
  - Policy importance
  - Susceptibility to be influenced by health care system

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Specification of Data items needed

- Indicator needs data
- Data clearly defined
- Information gathering by BIRO system

- New indicators can be defined by partners

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Common Dataset

- Dataset items recorded as a “Parameter”
- Parameters have a unique reference
- Clear definition
- Associated data type
- Unit of measurement (e.g.kg/m^2)
- May have an upper or lower range

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Core Dataset Components

- Basic Patient Information
  - e.g. Type of Diabetes, Date of Birth, Year of Diagnosis
- Risk Factors
  - e.g. Cigarettes / Day
- Clinical Measurements
  - e.g. Weight, Height, SBP, DBP, HbA1c, Creatinine
- Examinations
  - e.g. Eye Examinations
- Outcomes
  - e.g. End Stage Renal Failure

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Core Dataset Specifications

Reference	Field Name	Parameter	Data Type	Enumerated Codes
BIR0001	PAT_ID	Patient ID	String(12)	
BIR0002	DS_ID	Data Source ID	String(10)	
BIR0003	TYPE_DM	Type Of Diabetes	Enumerated	1 = Type 1 2 = Type 2 3 = Other Types of Diabetes
BIR0004	SEX	Sex	Enumerated	1 = Male 2 = Female
BIR0005	DOB	Date of Birth	Date/Time	
BIR0006	DT_DIAG	Date of Diagnosis	Date/Time	
BIR0007	EPI_DATE	Episode Date	Date/Time	
BIR0008	SMOK_STAT	Smoking Status	Enumerated	1 = Current Smoker 2 = Non-Smoker 3 = Ex-Smoker
BIR0009	CIGS_DAY	Cigarettes per day	Integer	
BIR0047	ALC_STAT	Alcohol Status	Enumerated	1 = Current Drinker 2 = Non-Drinker 3 = Ex-Drinker
BIR0010	ALCOHOL	Alcohol Intake	Integer	
BIR0011	WEIGHT	Weight	Real	
BIR0012	HEIGHT	Height	Real	
BIR0013	BMI	Body Mass Index	Real	
BIR0014	SBP	Systolic Blood Pressure	Integer	
BIR0015	DBP	Diastolic Blood Pressure	Integer	
BIR0016	HBA1C	HbA1c	Real	
BIR0017	CREAT	Creatinine	Integer	
BIR0018	MA_TEST	Microalbumin	Enumerated	1 = MA Test Normal 2 = MA Test Abnormal 3 = No MA Test Recorded
BIR0019	CHOL	Total Cholesterol	Integer	

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Data Dictionary

- Data Standardisation
- Metadata
  - Consistency
  - Completeness
  - Quality
  - Additional comments
- Can be displayed alongside outputs
  - Explain discrepancies
  - Provide commentary on data comparisons
- XML Schema

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Reports Template

Indicators and statistical output for each BIRO-user

Governance

Indicator	Planned statistical outputs
1. Demographic characteristics	
1.1 Age (Classes)	Table, histogram
1.2 Gender	Table, histogram
2. Clinical characteristics	
2.1 Diabetes status	
2.1.1 Type of diabetes	Table, histogram
2.1.2 Duration of diabetes	Table, histogram
2.2 Risk factors for diab. complications	
2.2.1 Obesity	
2.2.1.1 Weight	Table, lines
2.2.1.2 BMI	Table, lines

Underlined preferred output

Health care and research

Indicator	Planned statistical outputs
1. Demographic characteristics	
1.1 Age (Classes)	Table, histogram
1.2 Gender	Table, histogram
2. Clinical characteristics	
2.1 Diabetes status	
2.1.1 Type of diabetes	Table, histogram
2.1.2 Duration of diabetes	Table, histogram
2.2 Risk factors for diab. complications	
2.2.1 Obesity	
2.2.1.1 Weight	Table, lines, starplot, boxplot
2.2.1.2 BMI	Table, lines, starplot, boxplot

Different output according to target audience

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Final BIRO Report Indicators

- Demographic Characteristics (N=2)
- Clinical Characteristics (N=18)
- Health System (N=21)
- Population (N=3)
- Risk Adjusted (N=28)
  - Epidemiology (N=2)
  - Process Quality (N=16)
  - Intemediate Outcomes (N=7)
  - Terminal Outcomes (N=3)

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Privacy Impact Assessment of the B.I.R.O. Information System

Introduction:

Privacy impact assessment is a systematic and flexible process for evaluating a proposal/project in terms of its impact upon privacy, which has been specifically adapted to the BIRO context

Objectives:

To provide a definitive description of privacy risks, applicable privacy legislation and mitigation strategies adopted in the implementation and management of the BIRO Information System

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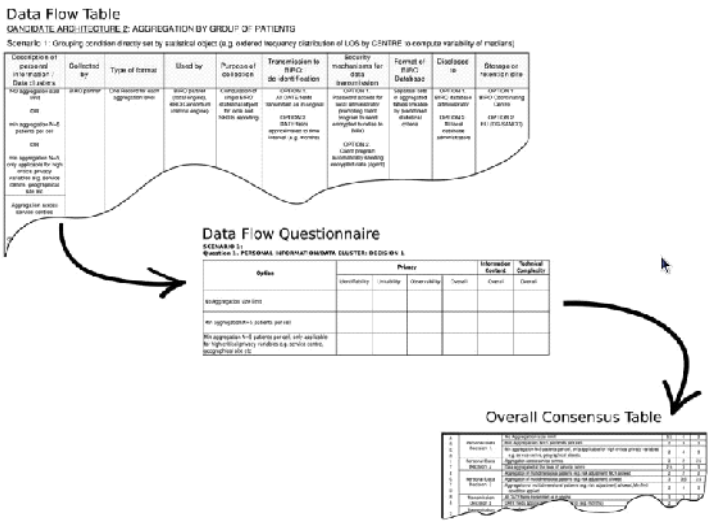
Best Information through Regional Outcomes

Procedure



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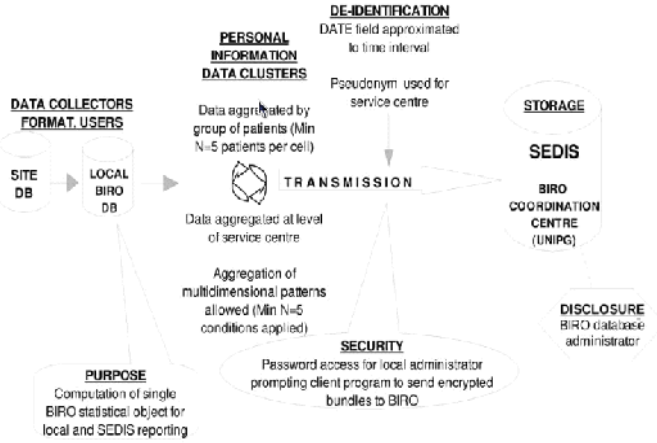
Best architecture



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Privacy Analysis

- Privacy impact assessment shows that the selected BIRO architecture fulfills privacy protection requirements by addressing and resolving broad privacy concerns from different angles
- The architecture of the system flexibly affords the best privacy protection in the construction of an efficient model for the continuous production of European diabetes reports.
- Trans-border data flow envisaged in BIRO is legally viable according to the EU legislation.
- The privacy impact assessment method developed and applied in B.I.R.O. may represent a general tool that can be used to design trans-border health information systems.

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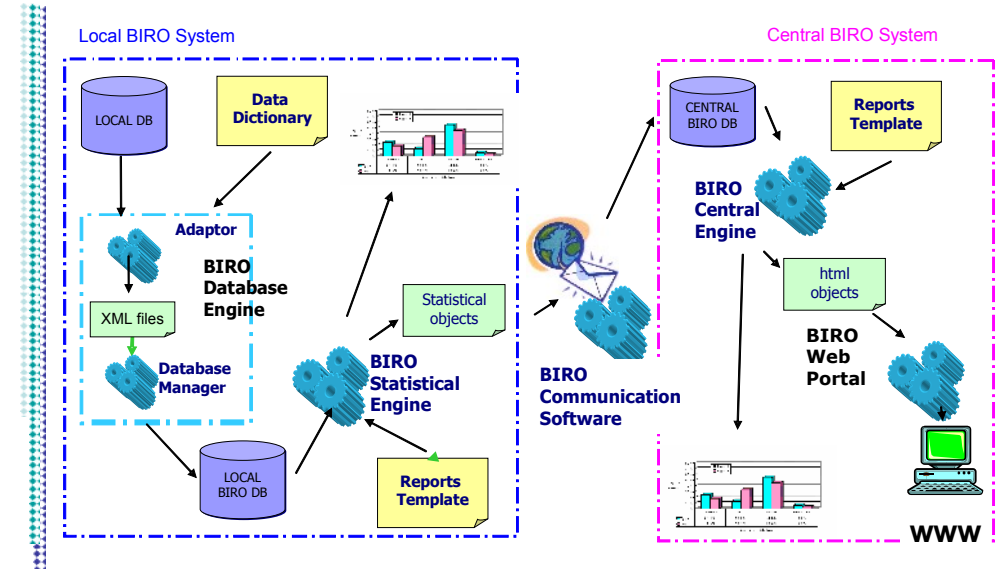
The BIRO System



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Fragmented Analysis

Box 3.4.2. Output Logistic Model on all observations

The LOGISTIC Procedure
Model Information

Data Set	WORK._MODEL_
Response Variable	HI_HBA
Number of Response Levels	2
Number of Observations	17102
Model	binary logit
Optimization Technique	Fisher's scoring

Response Profiles

Ordered Value	HI_HBA	Total Frequency
1	1	4858
2	0	12244

Probability modeled is HI_HBA=1.

Analysis of Maximum Likelihood Estimates

Standard Parameter	Wald DF	Estimate	Error	Chi-Square	Pr > ChiSq
Intercept	1	-0.8682	0.1028	44.5245	<.0001
GENDER	1	0.2297	0.0343	44.7555	<.0001
CL_AGE2	1	0.0916	0.1092	0.7027	0.4019
CL_AGE3	1	-0.1465	0.1048	1.9042	0.1389
CL_AGE1	1	0.2491	0.1088	5.2837	0.0218

Box 3.4.3. Output Logistic Model on aggregate data

The LOGISTIC Procedure
Model Information

Data Set	WORK.IN_SHORT
Response Variable	HI_HBA
Number of Response Levels	2
Number of Observations	16
Weight Variable	COUNT
Sum of Weights	17102
Model	binary logit
Optimization Technique	Fisher's scoring

Response Profile

Ordered Value	HI_HBA	Total Weight	Total Frequency
1	1	8	4858.000
2	0	8	12246.000

Probability modeled is HI_HBA=1.

Analysis of Maximum Likelihood Estimates

Standard Parameter	Wald DF	Estimate	Error	Chi-Square	Pr > ChiSq
Intercept	1	-0.8682	0.1028	44.5243	<.0001
GENDER	1	0.2297	0.0343	44.7555	<.0001
CL_AGE2	1	0.0916	0.1092	0.7027	0.4019
CL_AGE3	1	-0.1465	0.1048	1.9042	0.1389
CL_AGE4	1	-0.2491	0.1090	5.2837	0.0218

Box 3.4.4. Observed/expected rates by centre using logistic regression

Centre	Den	Num	%Observed	% Expected	95% Lower	95% Upper
1	7699	2189	28.4	28.5	27.5	29.5
2	2360	1000	42.4	28.0	26.1	29.8
3	3422	916	26.8	20.4	26.9	29.9
4	1219	222	17.9	20.0	25.0	30.0
5	2382	529	22.2	28.4	26.8	30.0

Perugia, 25th May 2009

Best Information through Regional Outcomes

Statistical Object

An element of a distributed information system that carries essential data in the form of embedded, partial aggregate components, required to compute a summary measure or relevant parameter for the whole population from multiple sites

Perugia, 25th May 2009

Best Information through Regional Outcomes

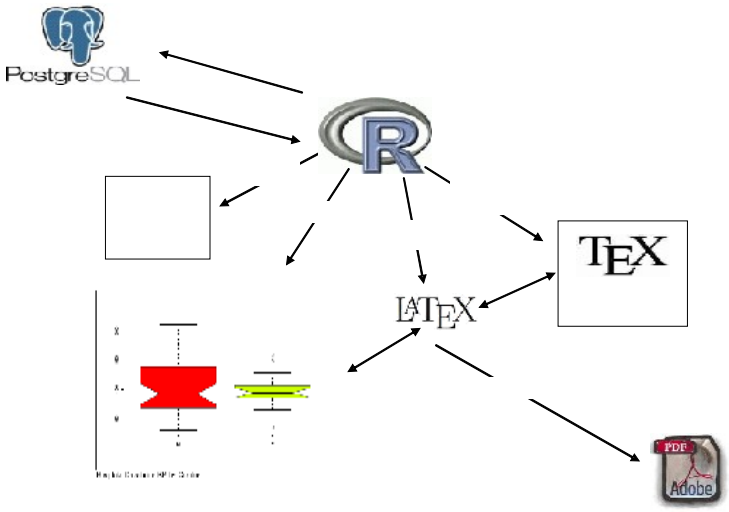
Arithmetic Mean

Code	2.1
Statistical Object	Arithmetic Mean
Description	Weighted average of a single characteristic, with weights equal to the number of observations for each specific value of the target variable
Variables	CONTINUOUS
Properties	The mean of the overall sample is equal to the weighted mean of the arithmetic means from all local repositories
Local Component	Data vector composed of two quantities: sum of the values of the target variable; total number of observations DATA: **<2.1.a>id, date, stratum, sum_x, n**
Cumulative Component	Sum of the sum of values from each local object DATA: **<2.1.a> id, date, stratum, sum_x, n**
Output	Single value of the overall arithmetic mean: cumulative object, divided by the sum of the total number of observations from each local object DATA: **<2.1.a>mean** Single value of the arithmetic mean by centre: cumulative object, divided by the sum of the total number of observations from each local object, for each centre, for each stratum DATA: **<2.1.b>id, date, stratum, mean**

Perugia, 25th May 2009

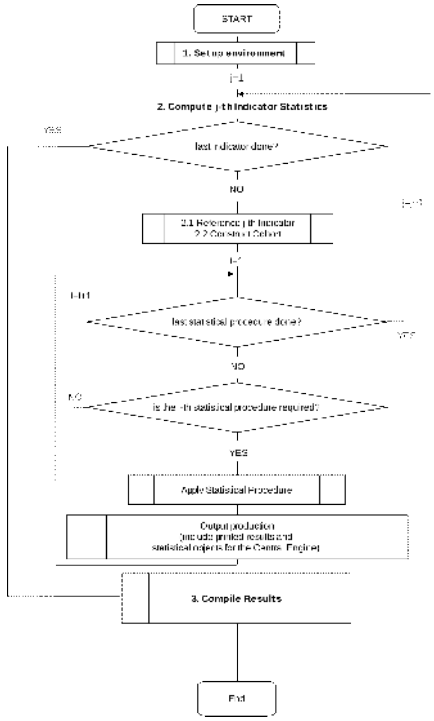
Best Information through Regional Outcomes

BIRO Statistical Engine Design



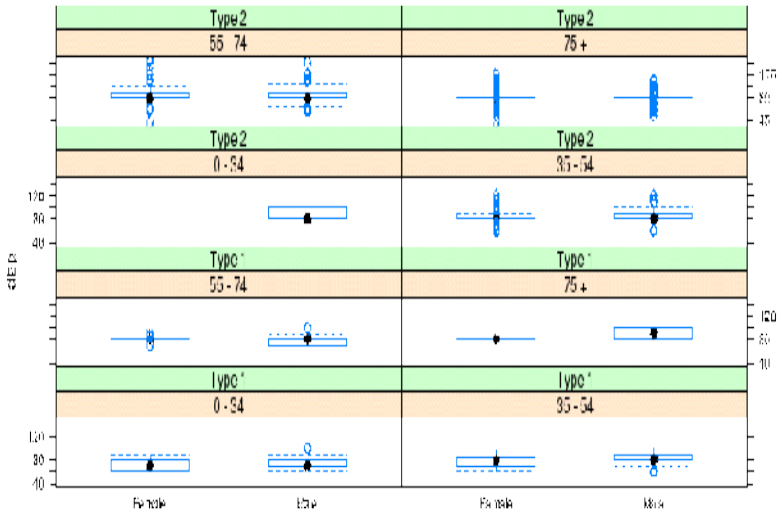
Perugia, 25th May 2009

Best Information through Regional Outcomes



Perugia, 25th May 2009

Graphics



Perugia, 25th May 2009

Performance

LOCAL

Centre	N Patients	N episodes	Elapsed Time
1	17,552	92,237	24' 25"
2	5,315	19,434	7' 01"
3	7,846	60,274	12' 20"
4	7,827	45,345	10' 51"
5	5,008	10,994	5' 22"

GLOBAL

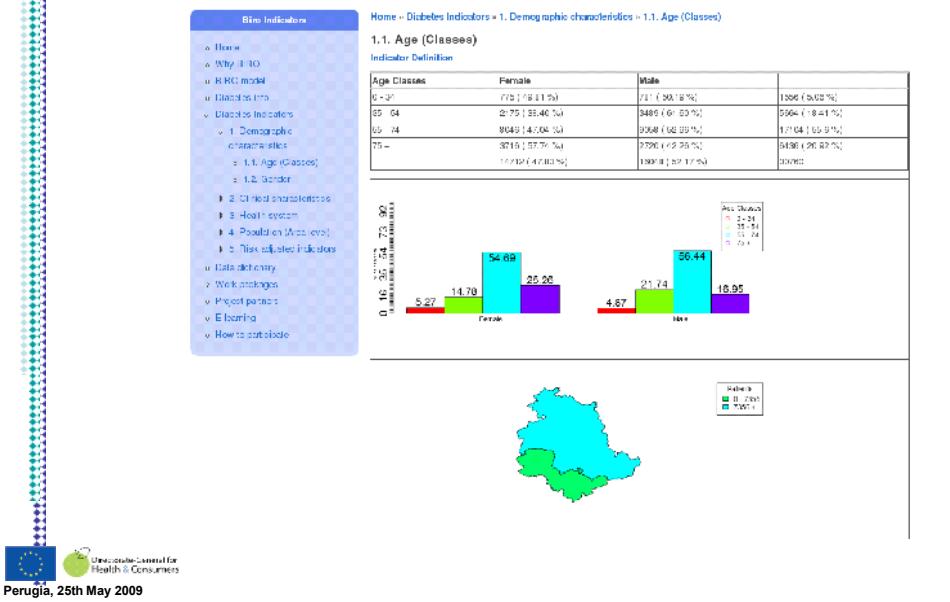
Centre	N Patients	N episodes	Elapsed Time
1	17,552	92,237	20' 12"
1+2	22,867	111,671	20' 54"
1+2+3	30,713	217,290	21' 33"
1+2+3+4	38,540	262,635	21' 56"
1+2+3+4+5	43,548	273,629	22' 27"

Perugia, 25th May 2009

Web Portal

Perugia, 25th May 2009

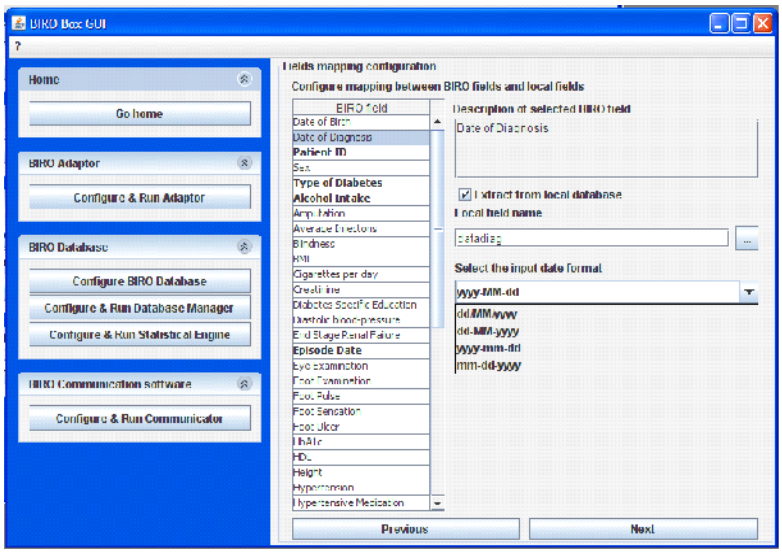
BIRO Report



Perugia, 25th May 2009

Best Information through Regional Outcomes

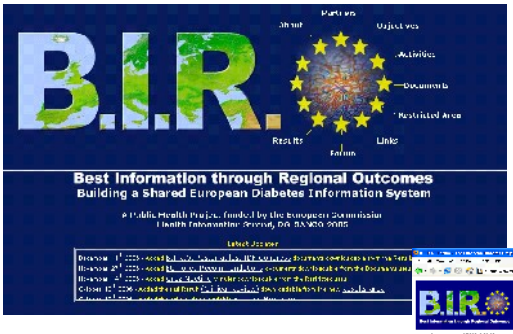
The BIRO Box



Perugia, 25th May 2009

Best Information through Regional Outcomes

www.biro-project.eu



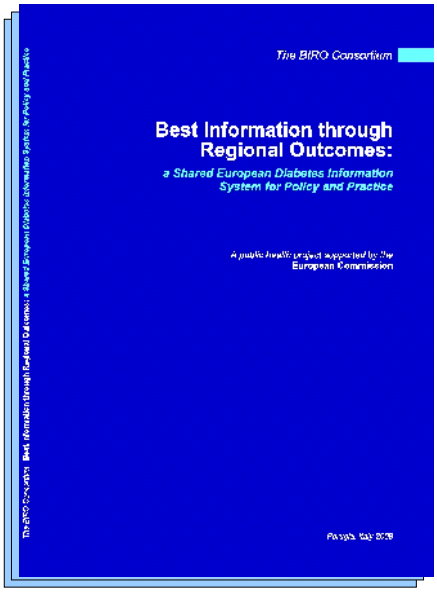
Website

Forum

Perugia, 25th May 2009

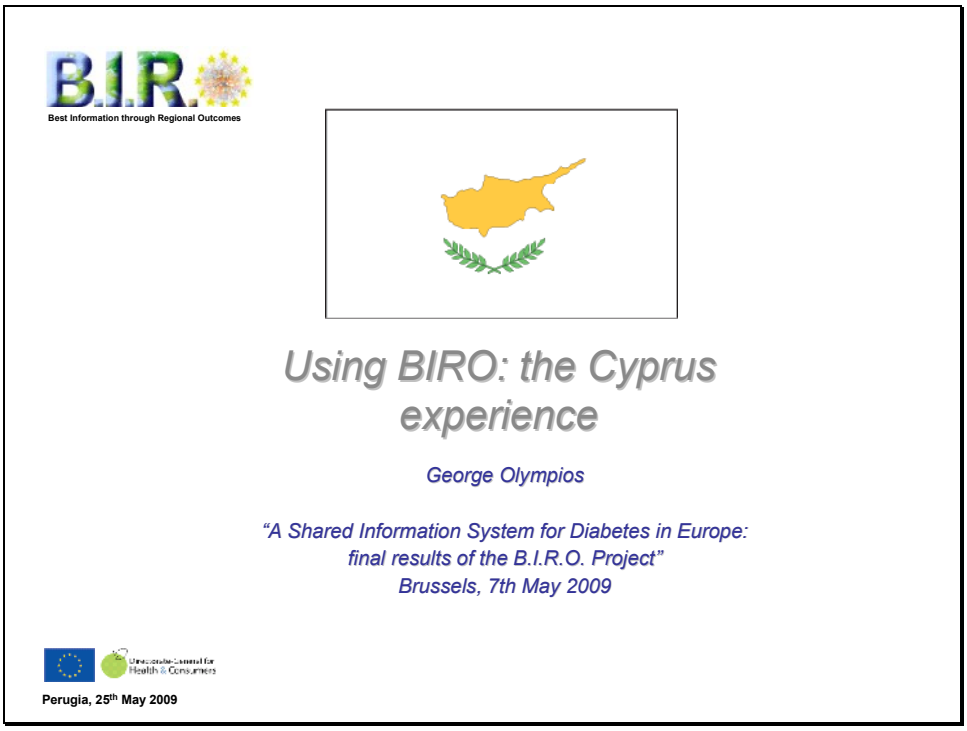
Best Information through Regional Outcomes

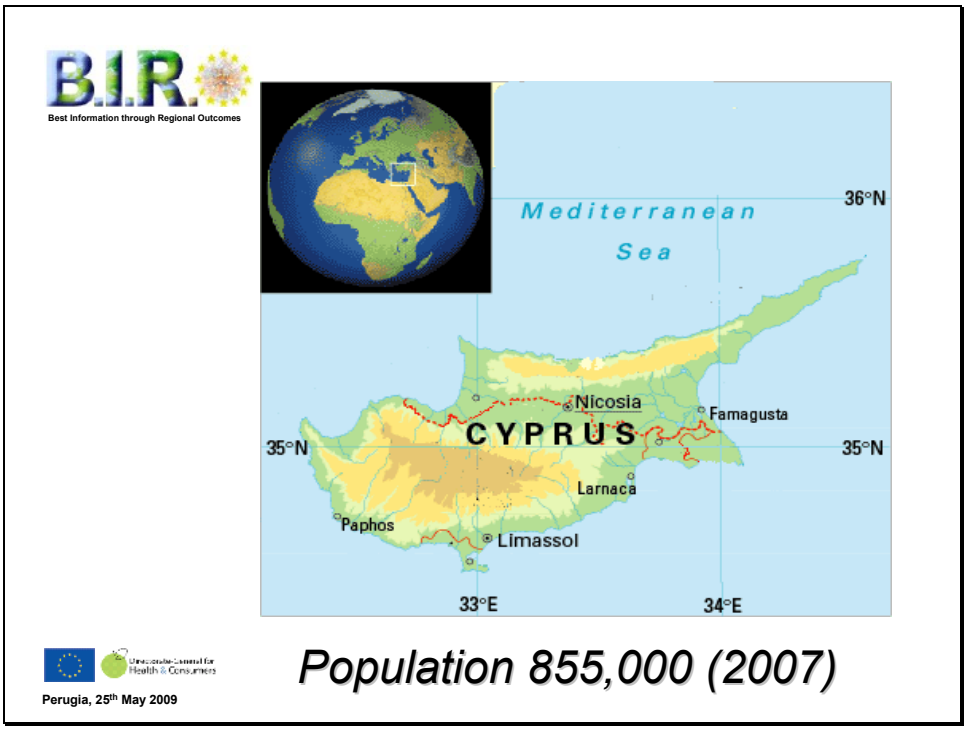
The BIRO Book
May 2009



Perugia, 25th May 2009

2.3.3 Using BIRO: the Cyprus experience





Best Information through Regional Outcomes

Cyprus and BIRO

Prevalence of Diabetes in 2005 10.3%

(Loizou et al 2005)

Perugia, 25th May 2009

Best Information through Regional Outcomes

Health Care in Cyprus

Provided by

a) Public Health System *(means tested)*

b) Private Sector

All people with diabetes are entitled to receive free treatment irrespective of financial means on the public sector.

Perugia, 25th May 2009

Best Information through Regional Outcomes

Health Care in Cyprus

Provided by

a) Public Health System *(means tested)*

b) Private Sector

All people with diabetes are entitled to receive free treatment irrespective of financial means on the public sector.

Perugia, 25th May 2009

Best Information through Regional Outcomes

Health care Services in Cyprus

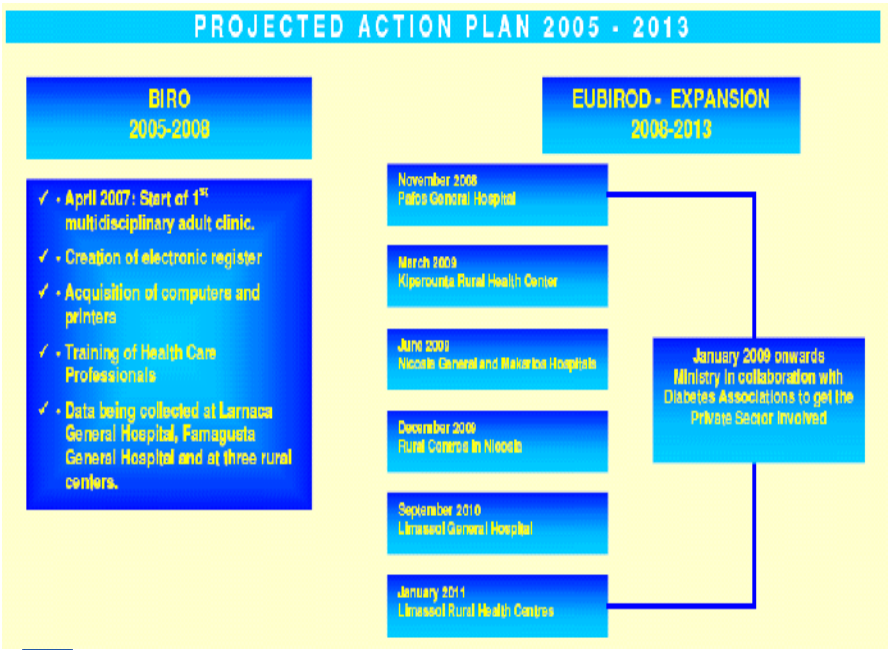
Public Sector

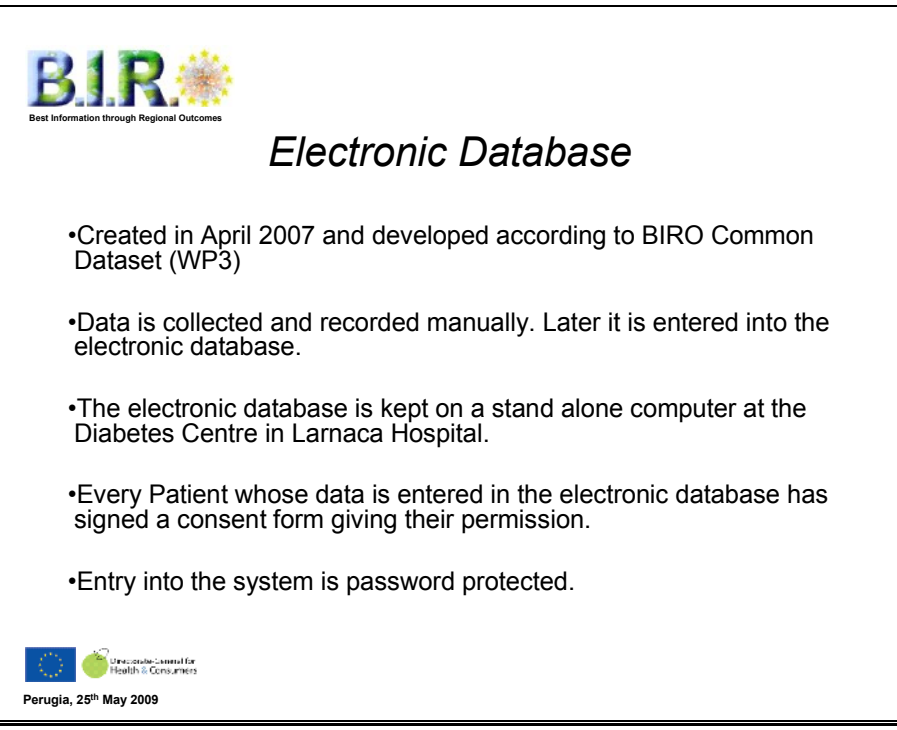
- Five Public Hospitals
- Thirty-two rural health centres

Private Sector

- Private Hospitals
- Private General Practitioners

Perugia, 25th May 2009


PROJECTED ACTION PLAN 2005 - 2013
BIRO
2005-2008
• April 2007: Start of 1st multidisciplinary adult clinic.
• Creation of electronic register
• Acquisition of computers and printers
• Training of Health Care Professionals
• Data being collected at Larnaca General Hospital, Famagusta General Hospital and at three rural centers.
EUBIROD - EXPANSION
2008-2013
November 2008
Pafos General Hospital
March 2009
Kiperounta Rural Health Center
June 2009
Nicosia General and Makarios Hospitals
December 2009
Rural Centres in Nicosia
September 2010
Limassol General Hospital
January 2011
Limassol Rural Health Centres
January 2009 onwards
Ministry in collaboration with Diabetes Associations to get the Private Sector involved
Perugia, 25th May 2009


B.I.R.
Best Information through Regional Outcomes
Electronic Database
•Created in April 2007 and developed according to BIRO Common Dataset (WP3)
•Data is collected and recorded manually. Later it is entered into the electronic database.
•The electronic database is kept on a stand alone computer at the Diabetes Centre in Larnaca Hospital.
•Every Patient whose data is entered in the electronic database has signed a consent form giving their permission.
•Entry into the system is password protected.
Perugia, 25th May 2009

Best Information through Regional Outcomes

Electronic Database

848 Patients' data entered….

Perugia, 25th May 2009

2.3.4 Using BIRO: the Malta Experience

Best Information through Regional Outcomes

Using BIRO
The Malta Experience

Professor Joseph Azzopardi
Mater Dei Hospital
University of Malta

"A Shared Information System for Diabetes in Europe: final results of the B.I.R.O. Project"
Brussels, 7th May 2009

Perugia, 25th May 2009

Best Information through Regional Outcomes

Malta

Malta, Gozo, Comino
100 km from Sicily
290 km from North Africa
Population: 400,214

Perugia, 25th May 2009

Best Information through Regional Outcomes

Malta

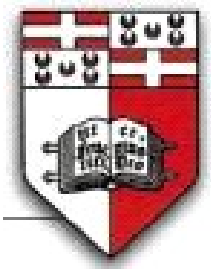
Parliamentary Democracy
Independence in 1964
A Tourist Centre
Freight Shipment Point
A Financial Hub
EU member since 2004

Perugia, 25th May 2009

Best Information through Regional Outcomes

University of Malta

A long and distinguished history related to Medicine
One of the oldest medical schools in the world
Traces its origins to 1676



Perugia, 25th May 2009

Best Information through Regional Outcomes

The Malta Health Services

Comprehensive 1ary ,2ary and 3ary Health Service

Free at the point of delivery

1ary Care is given mainly in 8 Centres

Preventive, Curative and Rehabilitative services

Principal Public Hospital is Mater Dei Hospital

A Private Health Service is also available

Perugia, 25th May 2009

Best Information through Regional Outcomes

Perugia, 25th May 2009

Best Information through Regional Outcomes

The Diabetes Services

People with diabetes are entitled to free treatment
Diabetes Clinics in Mater Dei & Peripheral Centers
Cover 95% of all people with Diabetes in Malta
In an ideal position for whole population studies

Perugia, 25th May 2009

Best Information through Regional Outcomes

The Diabetes Services

Eyes: Screening, Laser and vitreous replacement
Foot referral and a Peripheral Vascular Unit
Podology, Orthotics and Prosthetics Service
A joint Obstetrics – Diabetes Clinic
Paediatric clinic run by a Paediatric Diabetologist
Dialysis and Transplant Service

Perugia, 25th May 2009

Best Information through Regional Outcomes

Other Services

- Education
  - Type 1: Individual Education with relatives
  - Type 2: Group Education
  - Maltese Diabetes Association
  - Various radio and television educational programs
  - Under & post graduate educational programs
- Dietetics: Only 2 part time dieticians
- Limited free blood glucose monitoring service

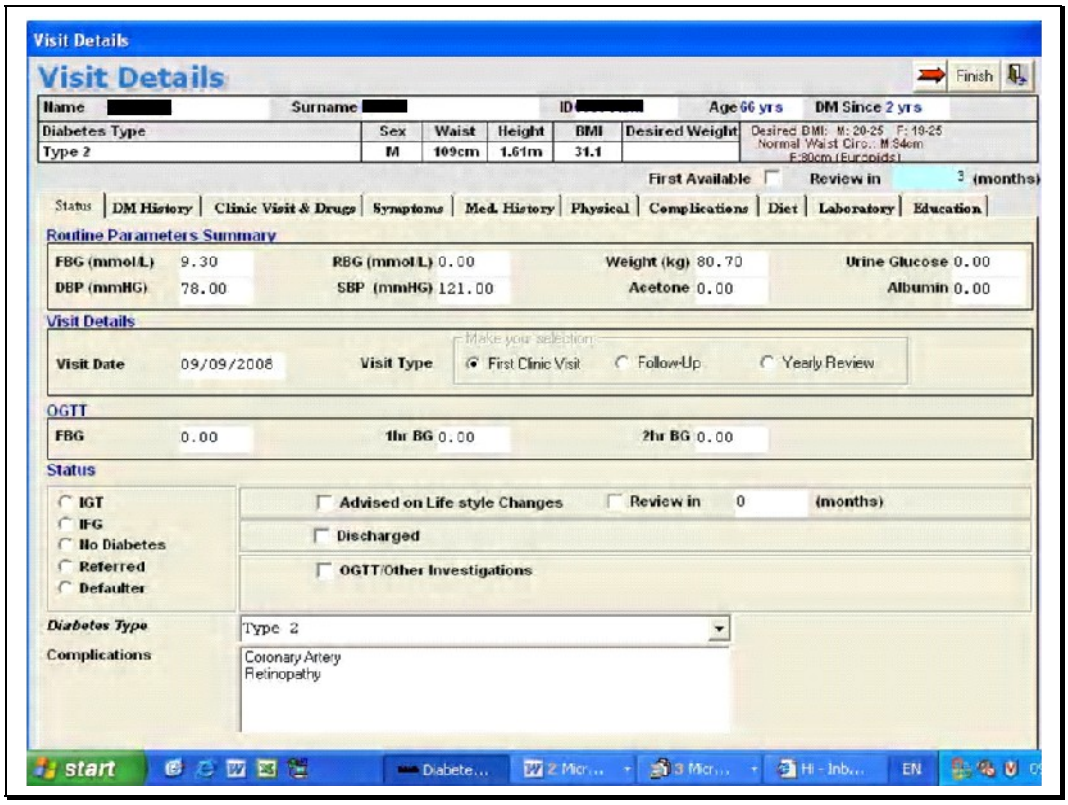
Perugia, 25th May 2009

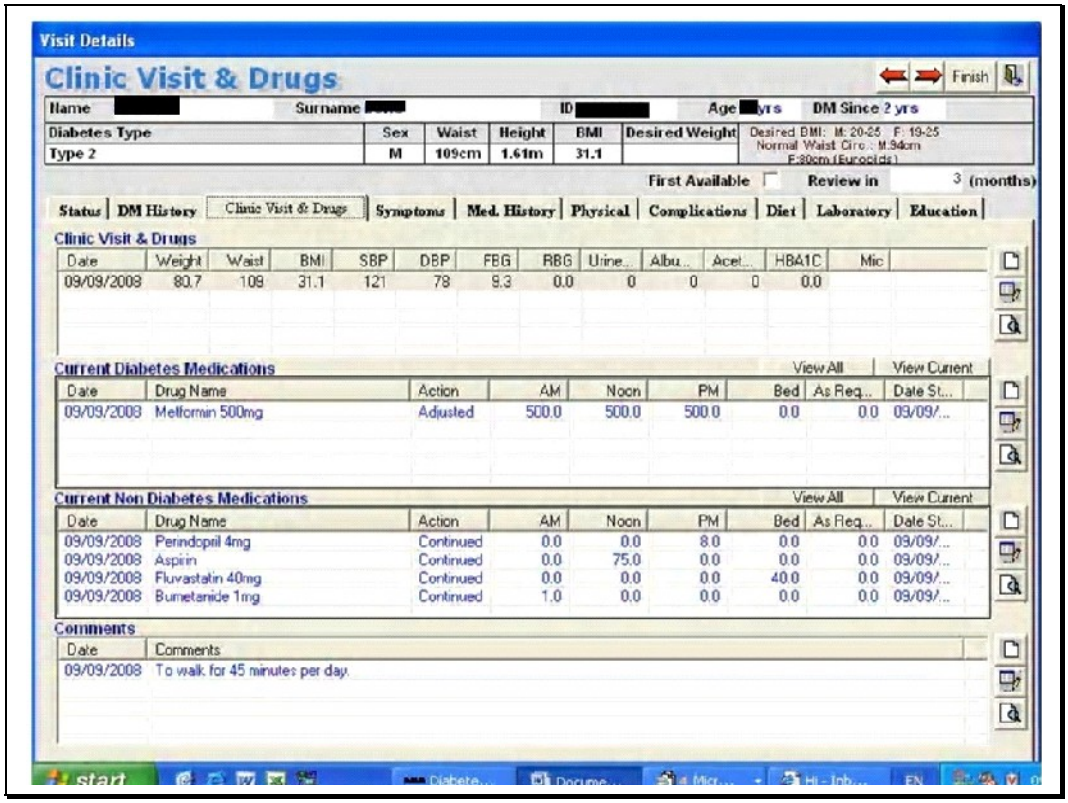
Best Information through Regional Outcomes

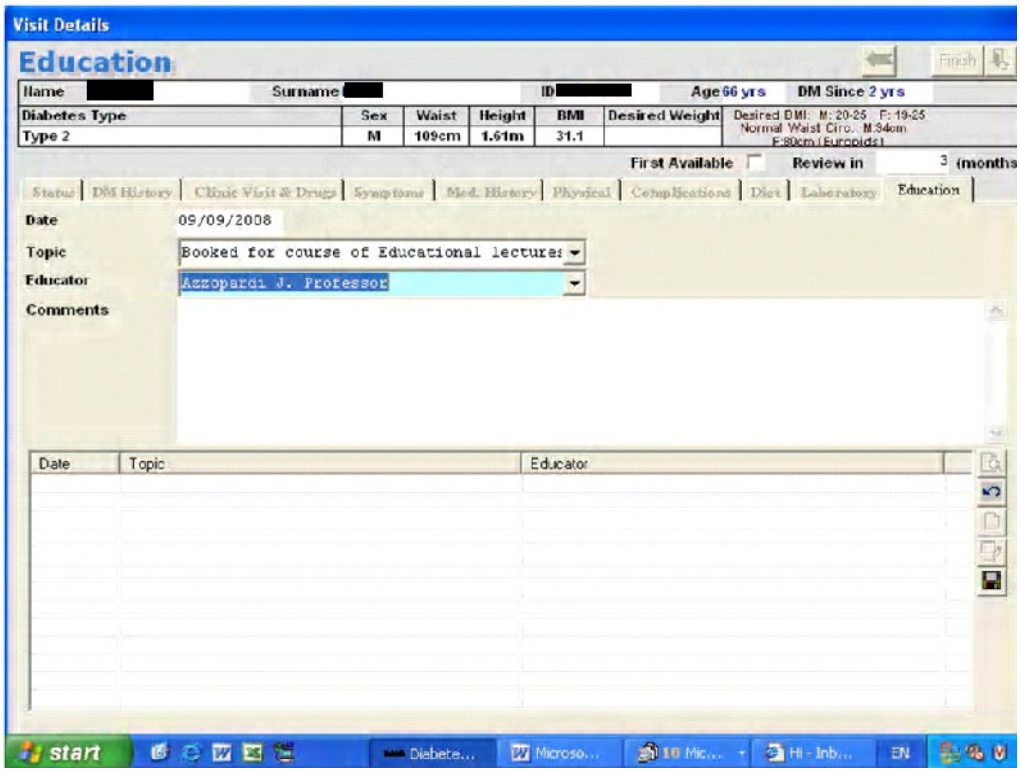
The Diabetes Services

- The Diabetes Clinic has a fully developed diabetes computerized management system
- Good IT support
- Pioneer of St Vincent DiabCare program
- Present research interests
  - Epidemiology of diabetes
  - Coronary artery disease in diabetes
  - Use of Information Technology in diabetes
  - Genetic studies in nephropathy

Perugia, 25th May 2009


Visit Details
Visit Details
Finish
Name [redacted] Surname [redacted] ID [redacted] Age 66 yrs DM Since 2 yrs
Diabetes Type | Sex | Waist | Height | BMI | Desired Weight
Type 2 | M | 109cm | 1.61m | 31.1
Desired BMI: M: 20-25 F: 19-25
Normal Waist Circ.: M:94cm F:80cm (Europids)
First Available Review in 3 (months)
Status | DM History | Clinic Visit & Drugs | Symptoms | Med. History | Physical | Complications | Diet | Laboratory | Education
Routine Parameters Summary
FBG (mmol/L) 9.30 RBG (mmol/L) 0.00 Weight (kg) 80.70 Urine Glucose 0.00
DBP (mmHG) 78.00 SBP (mmHG) 121.00 Acetone 0.00 Albumin 0.00
Visit Details
Visit Date 09/09/2008 Visit Type Make your selection: First Clinic Visit Follow-Up Yearly Review
OGTT
FBG 0.00 1hr BG 0.00 2hr BG 0.00
Status
IGT IFG No Diabetes Referred Defaulter
Advised on Life style Changes Review in 0 (months)
Discharged
OGTT/Other Investigations
Diabetes Type Type 2
Complications Coronary Artery Retinopathy
start Diabete... 2 Micr... 3 Micr... Hi - Inb... EN


Visit Details
Clinic Visit & Drugs
Finish
Name [redacted] Surname [redacted] ID [redacted] Age [redacted] yrs DM Since 2 yrs
Diabetes Type | Sex | Waist | Height | BMI | Desired Weight
Type 2 | M | 109cm | 1.61m | 31.1
Desired BMI: M: 20-25 F: 19-25
Normal Waist Circ.: M:94cm F:80cm (Europids)
First Available Review in 3 (months)
Status | DM History | Clinic Visit & Drugs | Symptoms | Med. History | Physical | Complications | Diet | Laboratory | Education
Clinic Visit & Drugs
Date | Weight | Waist | BMI | SBP | DBP | FBG | RBG | Urine... | Albu... | Acet... | HBA1C | Mic
09/09/2008 | 80.7 | 109 | 31.1 | 121 | 78 | 9.3 | 0.0 | 0 | 0 | 0 | 0.0
Current Diabetes Medications
View All View Current
Date | Drug Name | Action | AM | Noon | PM | Bed | As Req... | Date St...
09/09/2008 | Metformin 500mg | Adjusted | 500.0 | 500.0 | 500.0 | 0.0 | 0.0 | 09/09/...
Current Non Diabetes Medications
View All View Current
Date | Drug Name | Action | AM | Noon | PM | Bed | As Req... | Date St...
09/09/2008 | Perindopril 4mg | Continued | 0.0 | 0.0 | 8.0 | 0.0 | 0.0 | 09/09/...
09/09/2008 | Aspirin | Continued | 0.0 | 75.0 | 0.0 | 0.0 | 0.0 | 09/09/...
09/09/2008 | Fluvastatin 40mg | Continued | 0.0 | 0.0 | 0.0 | 40.0 | 0.0 | 09/09/...
09/09/2008 | Bumetanide 1mg | Continued | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 09/09/...
Comments
Date | Comments
09/09/2008 | To walk for 45 minutes per day.
start Diabete... Docume... Hi - Inb... EN



The Diabetes Management System

Used as a management system and registry

Manual and Electronic Records

Some doctors not keen on IT

Quite a lot of back data to be entered

System not yet introduced in Periphery

Perugia, 25th May 2009

Best Information through Regional Outcomes

Why did Malta join BIRO?

- Interesting, ambitious and innovative project
- The possibility to analyse our data and compare with other centres
- Potential to identify and deal with deficiencies
- Reliable partners
- In retrospect, project brought successfully to an end

Perugia, 25th May 2009

Best Information through Regional Outcomes

Is there a need for BIRO?

Perugia, 25th May 2009

Best Information through Regional Outcomes

To deal with the Diabetes problem we need dependable and comparable data

Deficiencies can then be recognized and effective strategies put in place

Perugia, 25th May 2009

Best Information through Regional Outcomes

EU Recommendations

- Improve the collection & reporting of diabetes data
- Promote networking and data exchange
- Facilitate diabetes research and ensure wide dissemination of results

Perugia, 25th May 2009

Best Information through Regional Outcomes

Implementation

Cooperation among Member States
Establishment of a standard dataset
Development of information technology to
- collect and analyze the data and
- disseminate the results

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Best Information through Regional Outcomes

Hence BIRO

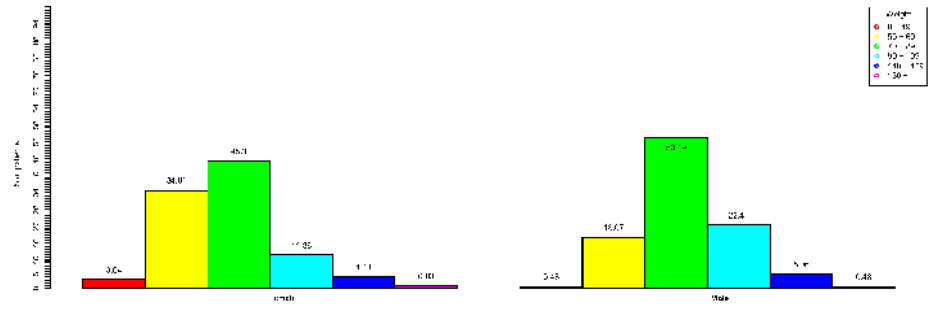
Perugia, 25th May 2009

Best Information through Regional Outcomes

- Software that links different datasets
- Analyses data and produces across region population based Diabetes reports
- Will help identify effective and not so effective patterns of care and prevention
- Supports the management of the disease on a continuous basis

Perugia, 25th May 2009

Best Information through Regional Outcomes



Perugia, 25th May 2009

Best Information through Regional Outcomes

Next Steps

EUBIROD

Perugia, 25th May 2009

Best Information through Regional Outcomes

Software is freely available

Goverments
Research institutions and scientific bodies
Health care Care Institutions
Private citizens

... across the European Union, and beyond
Can eventually be used for other diseases

Perugia, 25th May 2009

2.4. Pictures

2.5. Press clippings

Here follows a list of articles regarding BIRO and the Plenary Session in Brussels:

- http://www.perugianews.it/it/sanita_u_e_migliore_qualita_nella_cura_del_diabete.html
- http://kajsawilhelmsson.blogspot.com/2009/05/biro-better-data-on-diabetes.html
- http://www.regione.vda.it/notizieansa/details_i.asp?id=64883

3. Plenary session in Perugia

The official presentation of BIRO Project results in Perugia took take place at the Dessau Conference Room of University of Perugia on 25th May 2009.

3.1. Agenda

10:00 - 10: 30 Welcome of Authorities
10:30 - 10:45 BIRO Objectives *(Prof. Massimo Massi Benedetti)*
10:45 - 11:00 Population-based diabetes registers *(Svein Skeie)*
11:00 - 11:30 The BIRO Project *(Fabrizio Carinci)*
11:30 - 11:45 Using BIRO: Malta experience *(Joseph Azzopardi)*
11:45 - 12:00 Using BIRO: Cyprus experience *(George Olympios)*
12:00 - 12:15 BIRO Technology Transfer *(Prof. Joseph Azzopardi)*
12:15 - 12:30 The BIRO System *(Valentina Baglioni)*
12:30 - 13:00 Discussion

3.2. Summary report

The final act of the BIRO project took place in Perugia on 25th May 2009 at the University Headquarters. Speakers on behalf of the Consortium included coordinators Prof. Massi Benedetti and Dr.Carinci (Italy), Prof. Azzopardi (Malta), Dr.Olympios (Cyprus) and Dr.Skjie (Norway).

Participants included representatives of the Consortium and local stakeholders interested in diabetes and regional policy and planning. Presentations matched overviews provided in Brussels, including snapshots of the whole project, highlights of its relevance for clinical practice, and how to translate it into action for public health in regional areas.

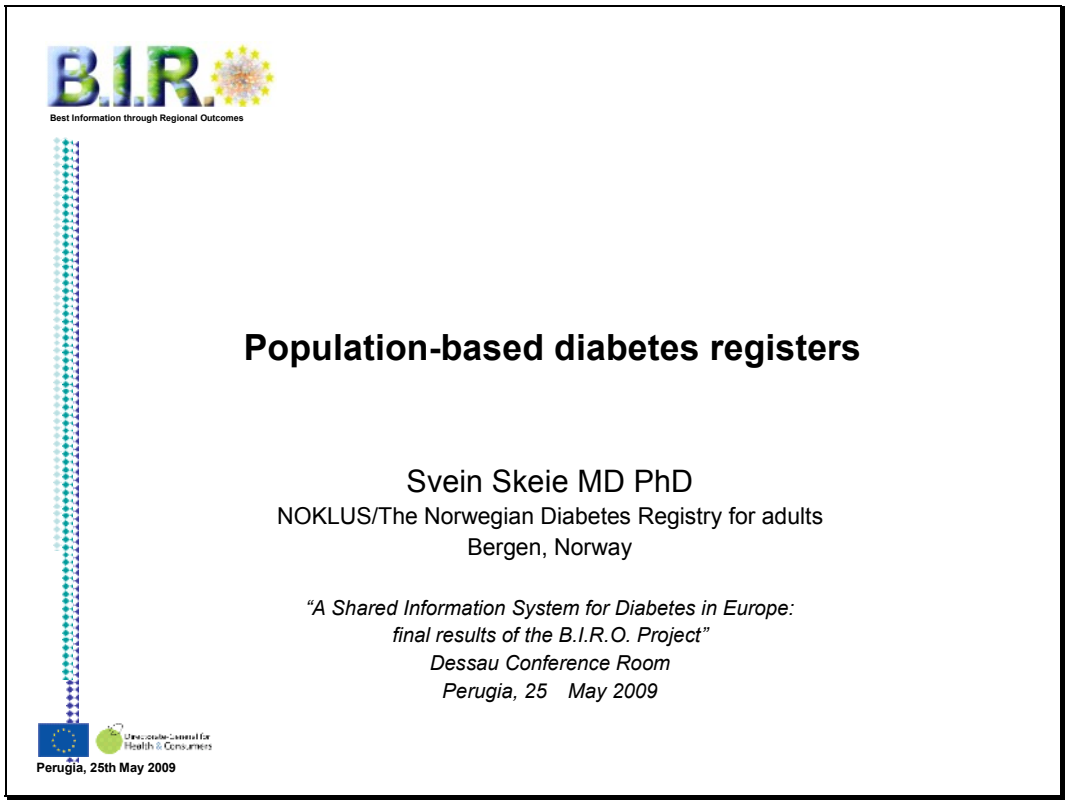
The audience appeared particularly interested in applying results at the level of the regional register, coordinated by the same Department of Internal Medicine managing the BIRO project.

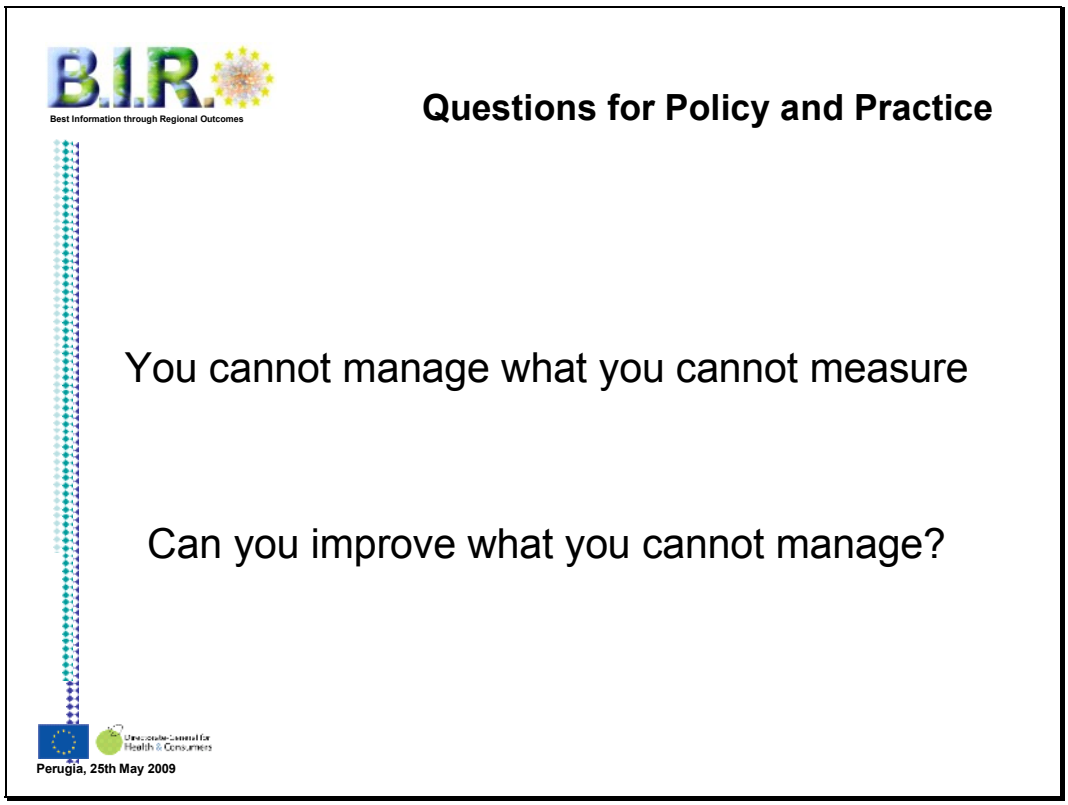
The Perugia plenary session gave the occasion to celebrate the official closure of the project.

The BIRO monograph was distributed to all participants, along with an executive summary of the results

3.3. Presentations

3.3.1 Population Based Diabetes Registers





Best Information through Regional Outcomes

Population-based diabetes registers

"*It has been recommended that regional diabetes registers are established in the United Kingdom to facilitate systematic, population based monitoring of outcomes of diabetes and to ensure that diabetes care is effective, efficient, and equitable*"

[The report of the Joint Department of Health and British Diabetic Association Task Force for Diabetes. London: Department of Health, British Diabetic Association, 1995]

Perugia, 25th May 2009

Best Information through Regional Outcomes

How should we treat diabetes?

- Early diagnosis
- Prevent vascular complications
  - treat risk factors
- Diagnose and treat complications early

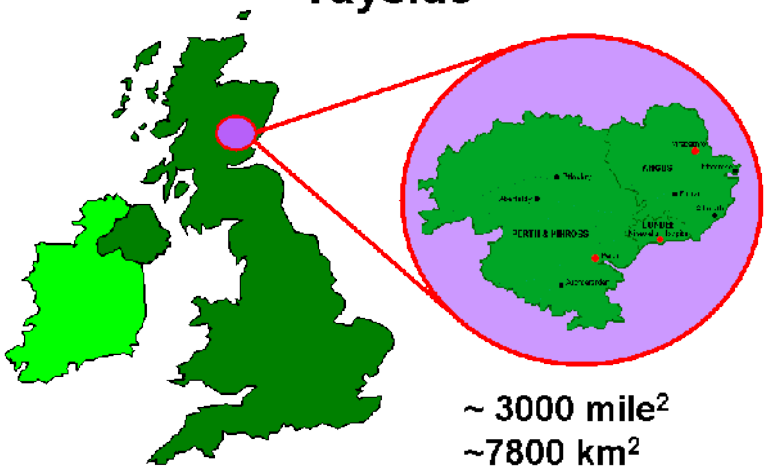
Perugia, 25th May 2009

B.I.R.
Best Information through Regional Outcomes

Case Study: Scotland

Source: R.McAlpine, Tayside Diabetes Network

Tayside



~ 3000 mile^2
~7800 km^2

Perugia, 25th May 2009

B.I.R.
Best Information through Regional Outcomes

Progressive transition

Source: R.McAlpine, Tayside Diabetes Network

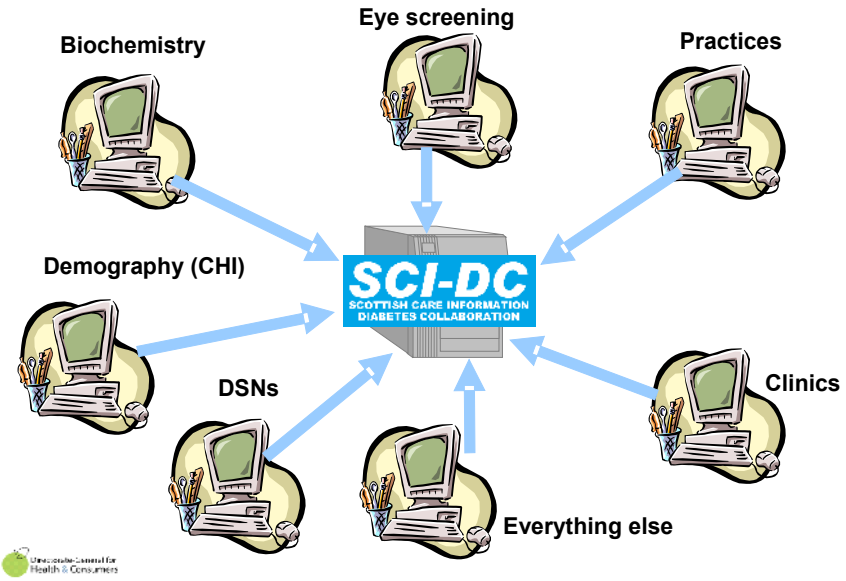
Research →	Local Clinical Network →	National Clinical Network
DARTS	Tayside Regional Diabetes Network (TRDN)	Scottish Care Information - Diabetes Collaboration (SCI-DC)

Perugia, 25th May 2009

B.I.R.
Best Information through Regional Outcomes

Complete data flow

Source: R.McAlpine, Tayside Diabetes Network



Perugia, 25th May 2009

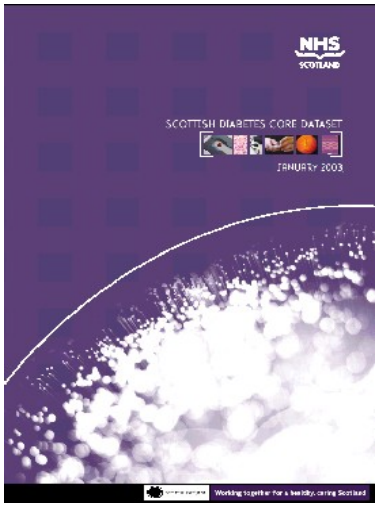
B.I.R.
Best Information through Regional Outcomes

Case Study: Scotland

Source: S.Cunningham, Tayside Diabetes Network

COMMON LANGUAGE

- Standardised dictionary of terms
- Clear and unambiguous clinical definitions



Perugia, 25th May 2009

Best Information through Regional Outcomes

Information Split

Source: R.McAlpine, Tayside Diabetes Network

SCI-DC

Tayside Diabetes MCN Audit Tables

DATA

Research/Reports
(SDRN, SDS, HB, MCN Annual Reports)

Clinical service
(LES, Emergency interventions, Care pathways)

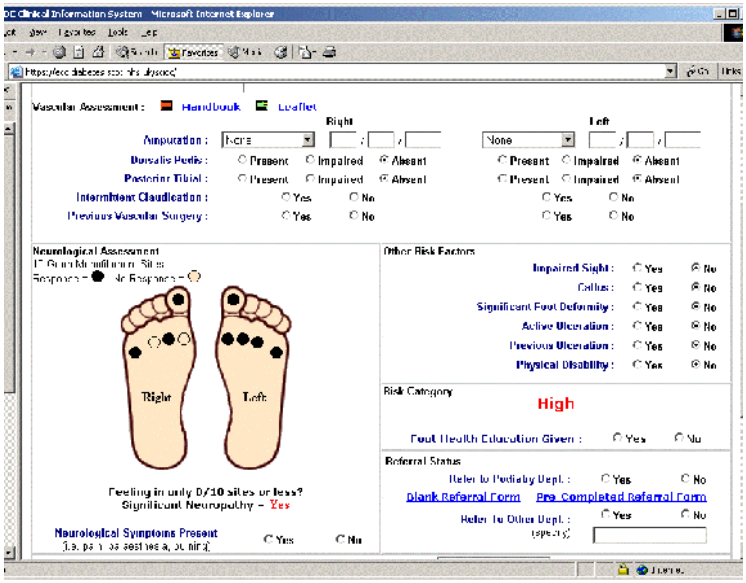
CLINICAL INFORMATION

Perugia, 25th May 2009

Best Information through Regional Outcomes

Local Enhanced Service

Source: R.McAlpine, Tayside Diabetes Network

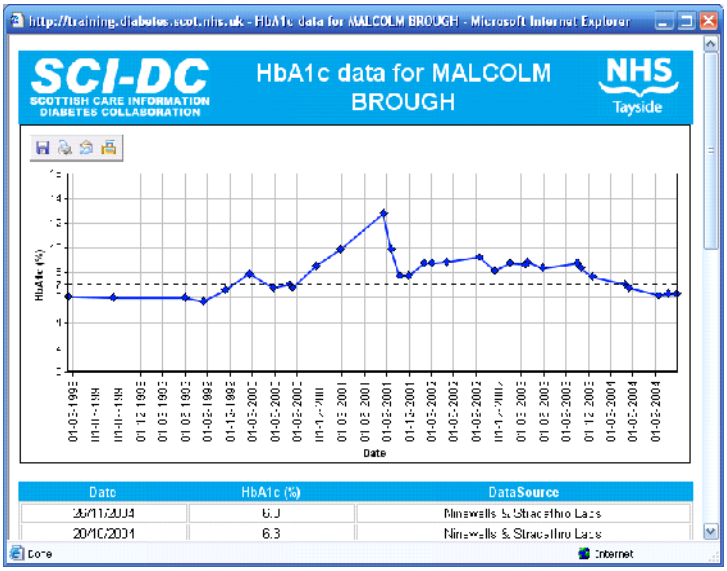


Perugia, 25th May 2009

Best Information through Regional Outcomes

Patient Log

Source: S.Cunningham, Tayside Diabetes Network

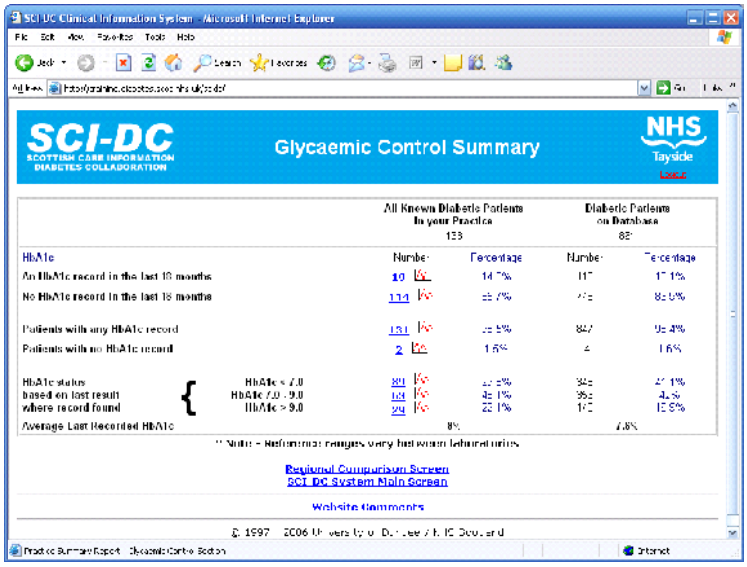


Perugia, 25th May 2009

Best Information through Regional Outcomes

Automated Regional Comparisons

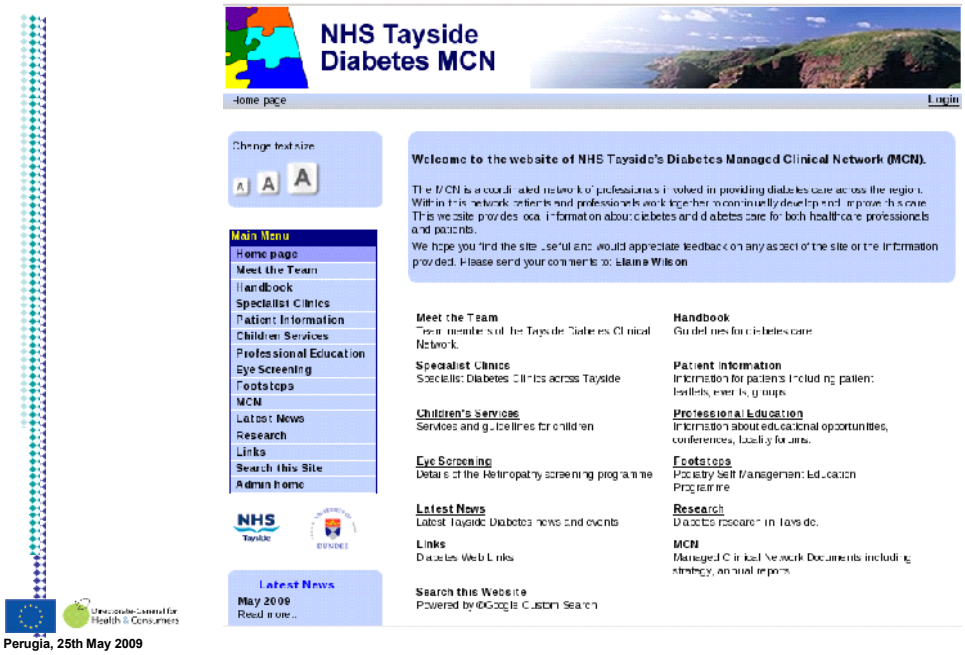
Source: S.Cunningham, Tayside Diabetes Network



Perugia, 25th May 2009

Best Information through Regional Outcomes

http://www.diabetes-healthnet.ac.uk

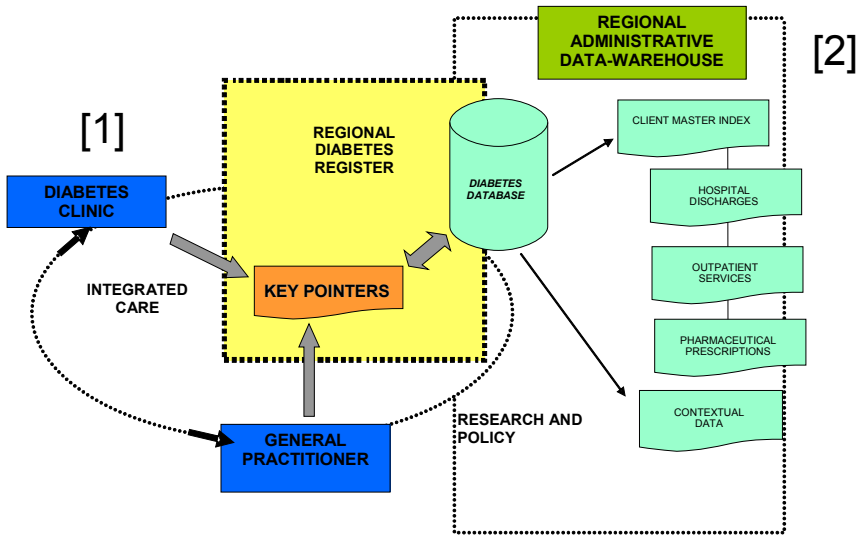


Perugia, 25th May 2009

Best Information through Regional Outcomes

Case Study: Umbria

Source: Massi Benedetti M, Carinci F, Federici MO. The Umbria diabetes register, *Diabetes Res Clin Pract.* 2006 Dec;74 Suppl 2:S200-4



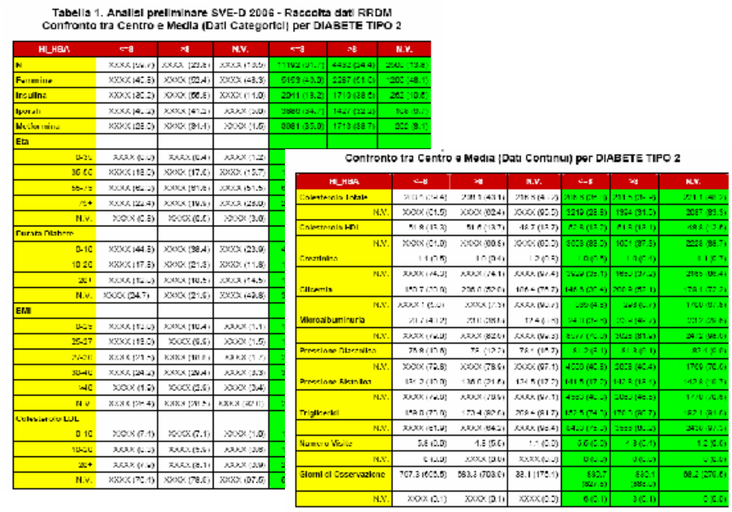
Perugia, 25th May 2009

B.I.R.O.
Best Information through Regional Outcomes

Benchmarking analysis

Source: M.Massi Benedetti, Regione Umbria, 2008

[1]



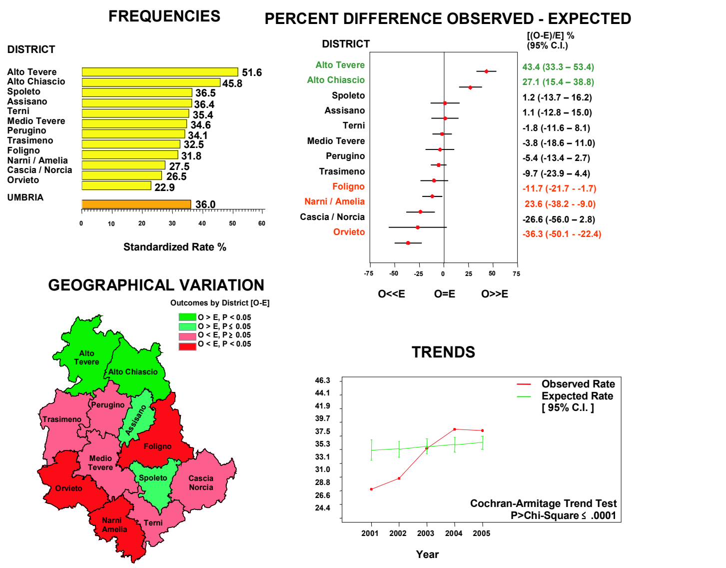
Perugia, 25th May 2009

B.I.R.O.
Best Information through Regional Outcomes

Diabetes Indicators for the Regional Evaluation of Outcomes

Source: Carinci F, SVE/DVSS Project, University of Perugia 2008

[2]



Perugia, 25th May 2009

Best Information through Regional Outcomes

The Norwegian Diabetes Registry for Adults

NOKLUS Diabetes

A structured documentation tool for general practices, spesialist practices and hospitals

Magne Rekdal, MD
IT Consultant NDV
Owner Emetra AS
magne@emetra.no

Perugia, 25th May 2009

Best Information through Regional Outcomes

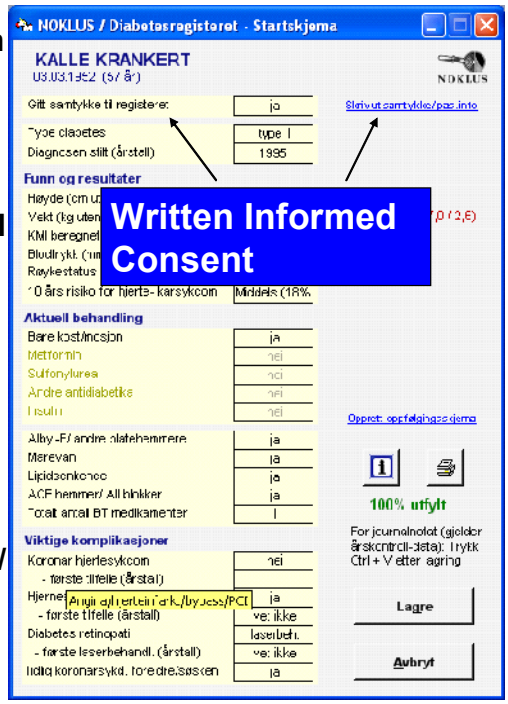
- **Simple setup, core dataset in common for practices and hospitals**

- **A clinical tool**

- **Cooperation with the diabetes association**

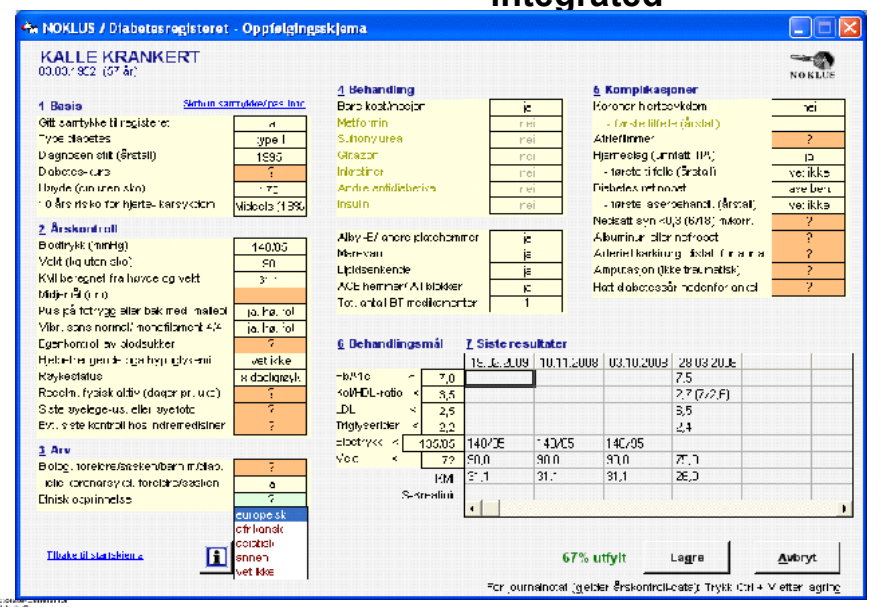
- **Annual data collection, benchmarking/ feedback**

- **Privacy**



Perugia, 25th May 2009

Follow-up visit, old information integrated



Perugia, 25th May 2009

Scope of a European Diabetes Register

- Link regional experiences
- Learn from practice
- Exchange best practice
- Create common language
- Standardize reports
- Update collaboratively
- Disseminate results

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Best Information through Regional Outcomes

BIRO Report Template

A "template" is a document or file having a preset format, used as a starting point for a particular application so that the format does not have to be recreated each time it is used

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Best Information through Regional Outcomes

Indicators and statistical output for each BIRO-user

Governance

Indicator	Planned statistical outputs
1. Demographic characteristics	
1.1 Age (Classes)	Table, histogram
1.2 Gender	Table, histogram
2. Clinical characteristics	
2.1 Diabetes status	
2.1.1 Type of diabetes	Table, histogram
2.1.2 Duration of diabetes	Table, histogram
2.2 Risk factors for diab. complications	
2.2.1 Obesity	
2.2.1.1 Weight	Table, lines
2.2.1.2 BMI	Table, lines

Underlined preferred output

Different output according to target audience

Health care and research

Indicator	Planned statistical outputs
1. Demographic characteristics	
1.1 Age (Classes)	Table, histogram
1.2 Gender	Table, histogram
2. Clinical characteristics	
2.1 Diabetes status	
2.1.1 Type of diabetes	Table, histogram
2.1.2 Duration of diabetes	Table, histogram
2.2 Risk factors for diab. complications	
2.2.1 Obesity	
2.2.1.1 Weight	Table, lines, starplot, boxplot
2.2.1.2 BMI	Table, lines, starplot, boxplot

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Best Information through Regional Outcomes

Final BIRO Report Indicators

- Demographic Characteristics (N=2)
- Clinical Characteristics (N=18)
- Health System (N=21)
- Population (N=3)
- Risk Adjusted (N=28)
  - Epidemiology (N=2)
  - Process Quality (N=16)
  - Intemediate Outcomes (N=7)
  - Terminal Outcomes (N=3)

Perugia, 25th May 2009

Best Information through Regional Outcomes

Web Portal Homepage

Perugia, 25th May 2009

Best Information through Regional Outcomes

Web Portal Data Dictionary

Reference	Name	Parameter	Datatype	Units
BIRO001	PAT_ID	Patient ID	String(12)	
BIRO002	DS_ID	Data Source ID	String(10)	
BIRO003	TYPE_DM	Type Of Diabetes	Enumerated	
	Code	Value		
	1	Type 1		
	2	Type 2		
	3	Other Types of Diabetes		
BIRO004	SEX	Sex	Enumerated	
BIRO005	DOD	Date of Birth	Date/Time	
BIRO006	DT_DIAG	Date of Diagnosis	Integer	
BIRO007	EPI_DATE	Episode Date	Date/Time	
BIRO008	SMOK_STAT	Smoking Status	Enumerated	
BIRO009	CIGS_DAY	Cigarettes per day	Integer	
BIRO047	ALC_STAT	Alcohol Status	Enumerated	g/week
BIRO010	ALCOHOL	Alcohol Intake	Integer	g/week
BIRO011	WEIGHT	Weight	Real	kg
BIRO012	HEIGHT	Height	Real	m
BIRO013	BMI	Body Mass Index	Real	kg/m2

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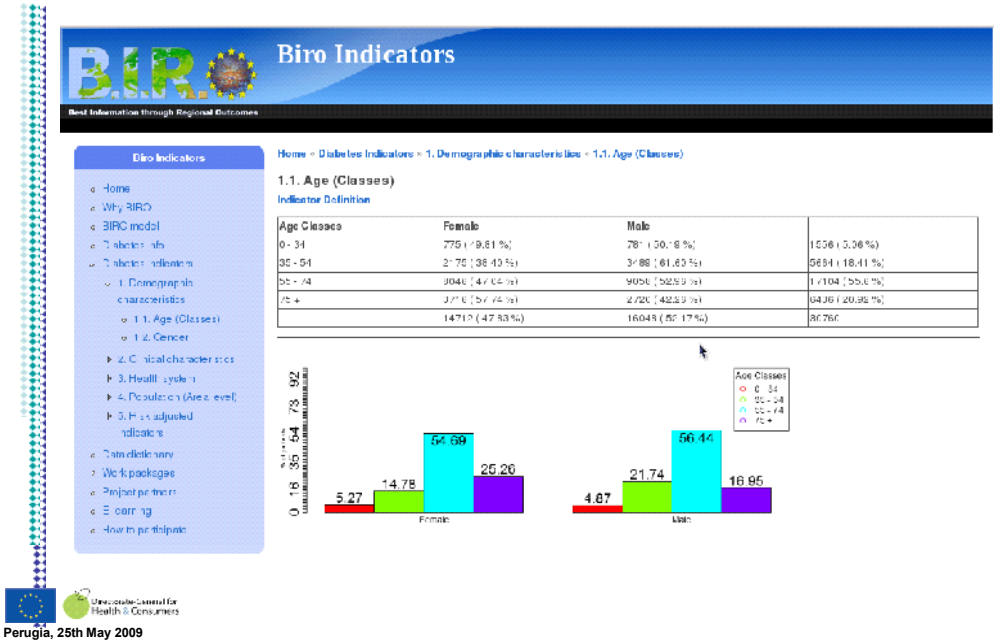
Best Information through Regional Outcomes

Web Portal Reports



Perugia, 25th May 2009

3.3.2 The BIRO Project

Slides presented in Perugia are the same of Brussels Plenary session (see Section 2.3.2)

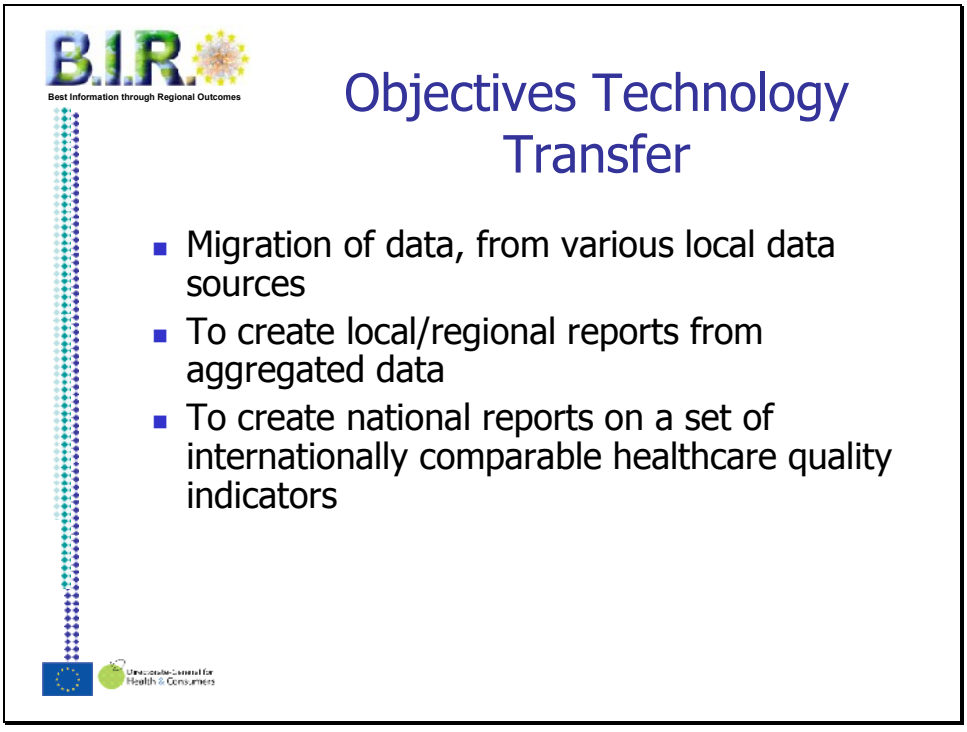
3.3.3 Using BIRO: the Malta experience

Slides presented in Perugia are the same of Brussels Plenary session (see Section 2.3.4)

3.3.4 Using BIRO: the Cyprus experience

Slides presented in Perugia are the same of Brussels Plenary session (see Section 2.3.3)

3.3.5 BIRO Technology Transfer in New Member States



Situation in the collection and management of diabetes data

- For each of the three countries we have reported about:
  - The diabetes health care management
  - How data is defined (data dictionary, items, minimum dataset, standards), Information systems

Diabetes Information Systems

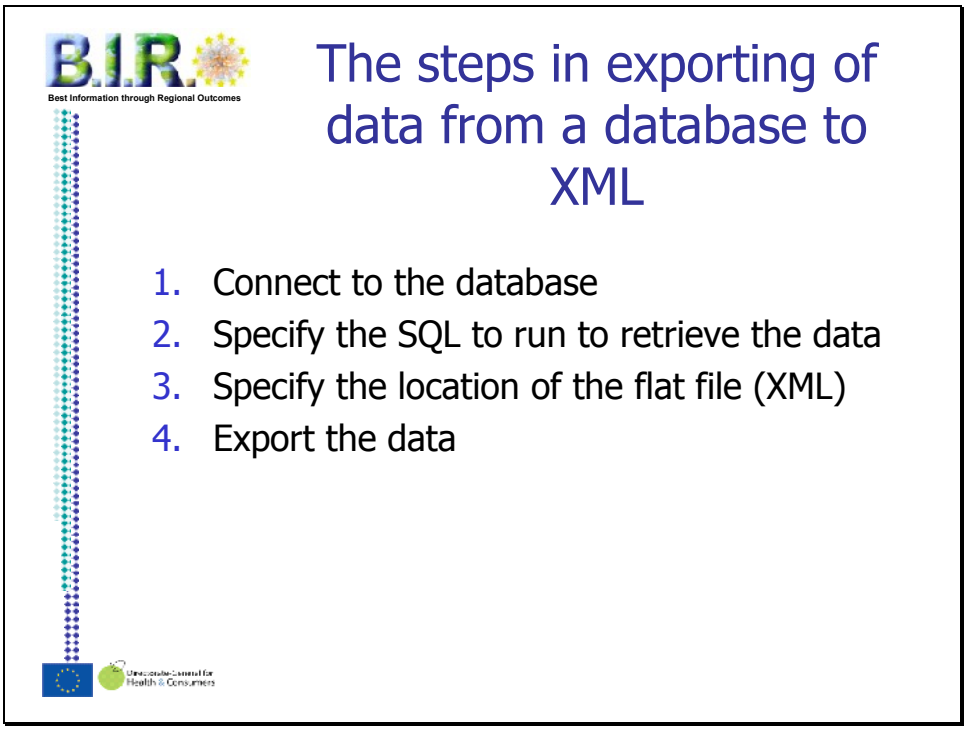
- Health information systems in diabetes tend to be fragmented, inaccurate, cumbersome, untimely, and isolated
- A barrier for BIRO implementation

The Challenge

- The vast majority of software development tools used in the diabetes sector today do not support data exchange mechanisms

How to implement BIRO technology?

- We analysed:
  - The steps for set-up and execution of the BIRO software tools
  - How to create and deliver structured data in XML format (exchange of aggregate data) from local data sources
  - How to process these data with BIRO statistical reporting engines.


B.I.R.
Best Information through Regional Outcomes
The steps in exporting of data from a database to XML
1. Connect to the database
2. Specify the SQL to run to retrieve the data
3. Specify the location of the flat file (XML)
4. Export the data


B.I.R.
Best Information through Regional Outcomes
BIRO implementation
During Technology Transfer training we used sample data from Cyprus, Malta and Romania

Best Information through Regional Outcomes

BIRO Box GUI

Best Information through Regional Outcomes

What have we learned from Technology Transfer

- No special programming knowledge is needed for use BIRO BOX GUI
- Structured information (XML format) can be generated by non-technical personnel

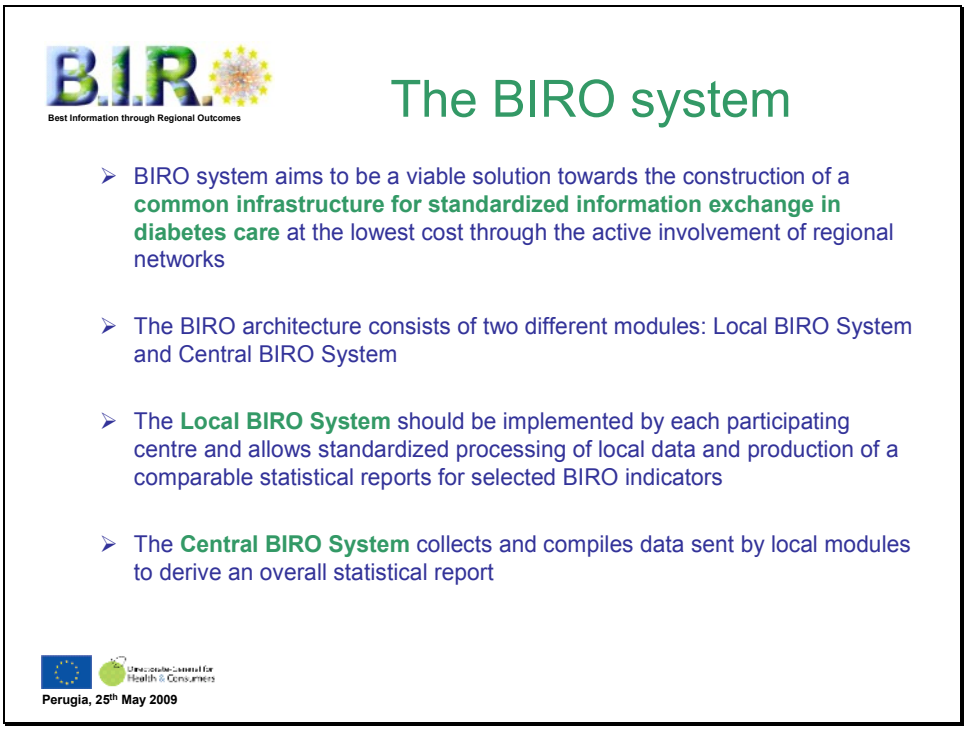
Open Source technologies

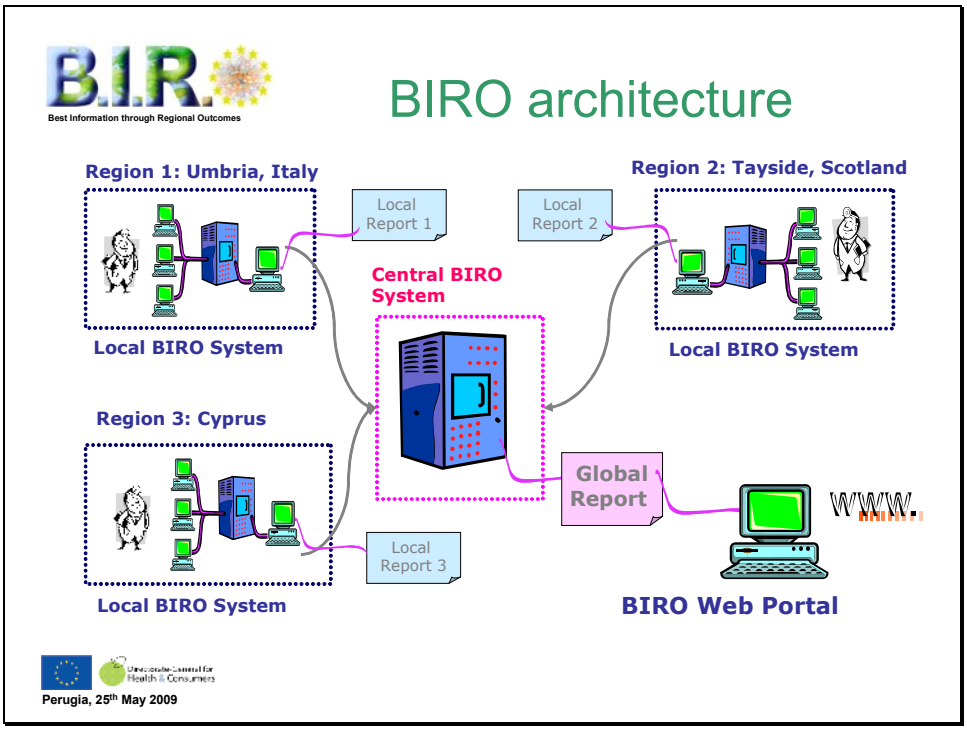
- BIRO takes advantage of new Open Source technologies (free license and access to the source code)
- Involves the unidirectional migration of data, from diabetes care locations to the BIRO local data warehouse
- Sends data to central database for analysis with various reporting tools and statistical applications developed through the project.

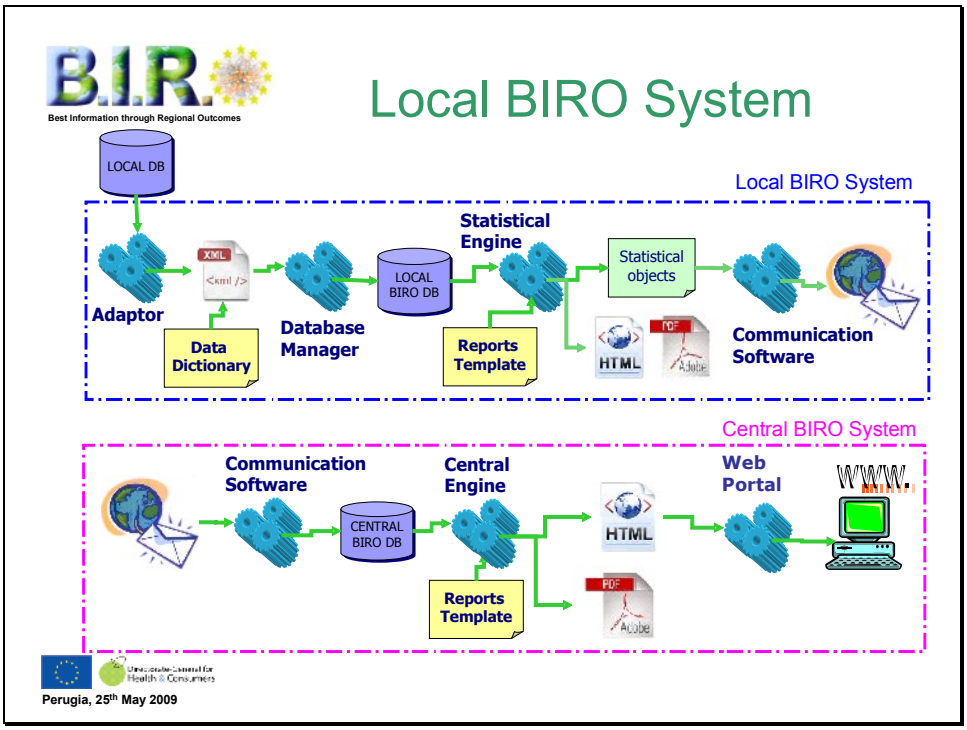
Thank you!

Romania, Bucharest

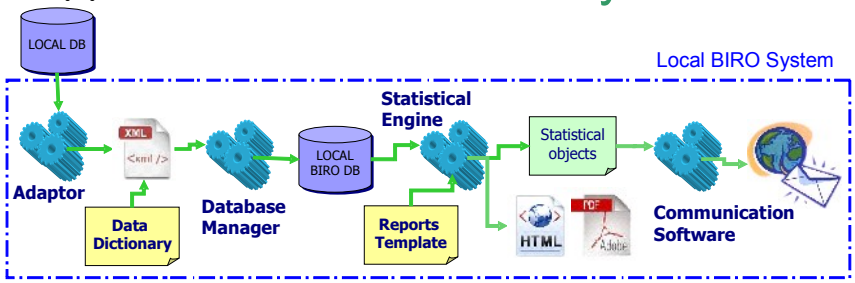
3.3.6 The BIRO System




B.I.R.
Best Information through Regional Outcomes
BIRO architecture
Region 1: Umbria, Italy
Local Report 1
Local Report 2
Region 2: Tayside, Scotland
Central BIRO System
Local BIRO System
Local BIRO System
Region 3: Cyprus
Global Report
WWW.
Local Report 3
Local BIRO System
BIRO Web Portal
Perugia, 25th May 2009


B.I.R.
Best Information through Regional Outcomes
Local BIRO System
LOCAL DB
Local BIRO System
Statistical Engine
Statistical objects
XML
<xml />
LOCAL BIRO DB
Adaptor
Data Dictionary
Database Manager
Reports Template
HTML
PDF
Communication Software
Central BIRO System
Communication Software
Central Engine
Web Portal
WWW.
CENTRAL BIRO DB
HTML
Reports Template
PDF
Perugia, 25th May 2009

Local BIRO System



- **Adaptor** establishes a connection with local data source, extracts data and maps them according to the Data Dictionary. The output is a set of XML files containing patient data in BIRO format.
- Extracted data are stored into a BIRO Local DB through the **Database Manager** in order to provide the following statistical routines with a standard data structure
- **Statistical Engine** produces PDF and HTML local reports formatted according Report Template and a set of Statistical Objects to be sent to the Central System.
- **Communication Software** sends statistical objects over a secure network which ensures confidentiality, data integrity, authentication

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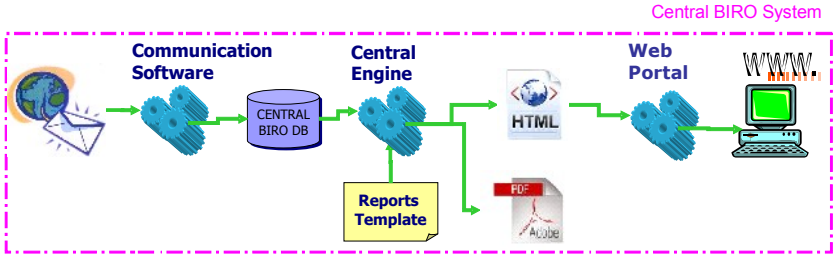
Central BIRO system



- At the central level **Communication Software** stores the Statistical Objects (CSV files) coming from multiple centres into Central BIRO Database
- The **Central Engine** has the same architecture of Statistical Engine but it is able to process aggregated data instead of individual data
- As output of the Central Engine we get an overall statistical PDF report following the Reports Template specification
- A set of html objects representing tables, maps, histograms etc. is also produced to be published on the BIRO **Web Portal**

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BIRO system strenghts

- **secure** ➔ according to PIA no sensitive individual data are transferred out of the boundaries of the local system but only aggregated data. Communication Software provides all fundamentals of information-security: confidentiality, integrity, authentication
- **inexpensive** ➔ only open source tools, Java and R as a main programming languages have been chosen to produce a cost effective solution
- **non-invasive**➔ the use of the local BIRO System does not require any change in the way data are gathered locally
- **scalable** ➔ it can be potentially used recursively to organize the network within countries and/or regions

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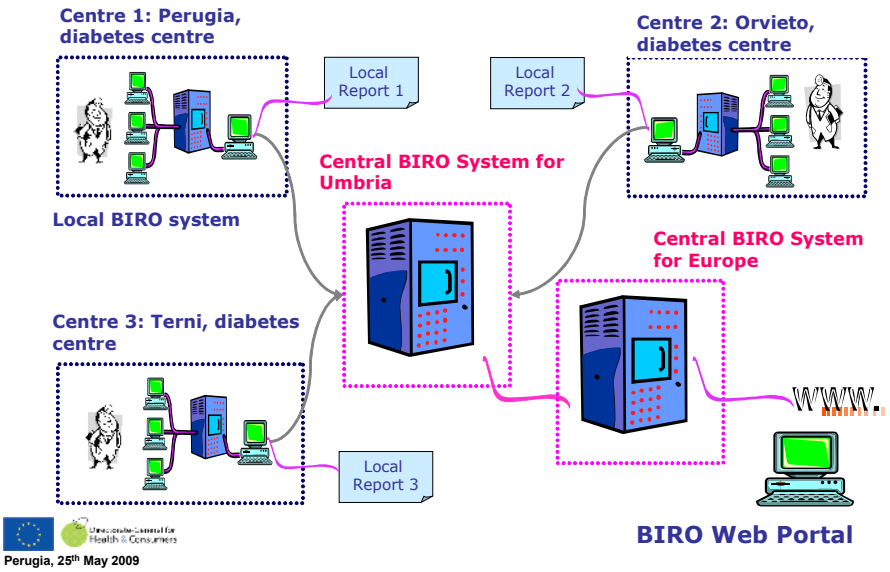
Best Information through Regional Outcomes

The local network



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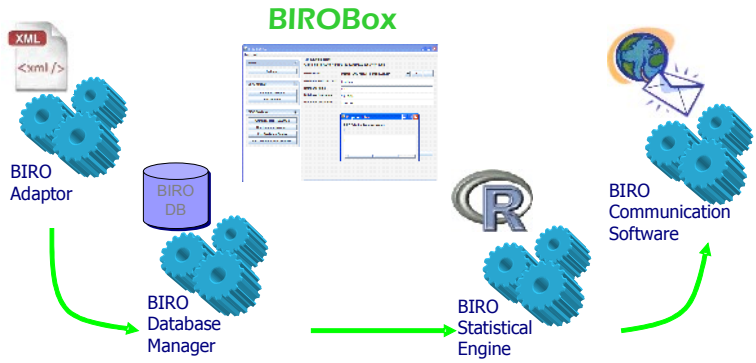
Best Information through Regional Outcomes

BIROBox

- BIROBox allows the user to configure and run all functions within the local BIRO System, from data extraction to the sending of statistical objects to the Central BIRO System



Perugia, 25th May 2009

3.4. Pictures


A structured documentation tool for general pr
spesialist practices and hospitals


B.I.R


B.I.R.O.


Malta
B.I.R.O.

3.5. Press clippings

Here follows a list of articles regarding BIRO and the Plenary Session in Perugia:

- http://www.iltamtam.it:80/Generali/Salute/LUniversita-di-Perugia-capofila-di-progetti-contro-il-diabete-in-Europa.aspx
- http://www.progettodiabete.org/indice_ie1000.html?news/2009/n2009_035.html
- http://www.unipg.it/ufstampa/wwwnew/comunicati%202009/biro1.htm
- http://www.ansa.it/salute/regionali/umbria/20090525165434885502.html

Il Messaggero 26 maggio 2009

MEDICINA&RICERCA

Perugia capofila nella lotta al diabete

Perugia è stata capofila di un progetto per la lotta al diabete ed in particolare per un nuovo sistema informativo europeo. Il progetto, denominato Biro (Best information through regional outcomes), realizzato dal Centro di coordinamento del dipartimento di Medicina interna della facoltà medica, sotto la direzione del professor Massimo Massi Benedetti, ha avuto una durata di 40 mesi e ha coinvolto atenei e istituzioni scientifiche di Scozia, Austria, Malta, Cipro, Norvegia e Romania. «Finanziato dalla Commissione europea e dalla Regione - ha spiegato il professor Massi Benedetti - ha permesso di creare, tramite il software Biro, gratuito e open source, un sistema che collega i diversi registri regionali e fornisce, su base automatica e continuativa, una griglia di indicatori che possono essere di grande aiuto nel migliorare, nei singoli Paesi, le modalità attuate per la cura del diabete». «Biro - ha aggiunto Massi Benedetti - che facilita il trattamento dei dati e la produzione di rapporti statistici uniformi secondo regole comuni, consente di estrarre e analizzare, nel rispetto delle normativa sulla privacy, cartelle cliniche e amministrative, consentendo di confrontare dati a livello europeo». Gli studi e la ricerca proseguiranno con un nuovo progetto, Eubirod, sempre sotto l'egida della Commissione europea e con il supporto della Regione, che coinvolgerà 21 Paesi, con Perugia ancora capofila.

ms

Corriere dell'Umbria 26 maggio 2009

L'Università mette a punto un registro informatico per migliorare la cura del diabete

Si chiama "Biro" ma è una banca dati

PERUGIA - Una buona assistenza nel campo della salute passa anche attraverso un valido sistema informatico, come ha dimostrato l'Università di Perugia che è a capo di un progetto europeo denominato B.I.R.O. (Best information through regional outcomes) insieme a sette diversi partners. E' stata creata una banca dati innovativa per consentire, in particolare, una migliore qualità nella cura del diabete nell'Unione europea.

Un lavoro durato 40 mesi e ieri la presentazione alla sala Dessau dell'Università di Perugia dell'esito del progetto realizzato dal Centro coordinamento del dipartimento di Medicina interna sotto la direzione del professor Massimo Massi Benedetti e reso possibile grazie al finanziamento congiunto di Commissione europea e Regione dell'Umbria.

In sostanza, è stato costruito un sistema che collega i diversi registri regionali e fornisce su base automatica e continuativa una griglia di tabelle di indicatori che - ha spiegato il professor Benedetti - nel rispetto delle normative sulla privacy possono essere di aiuto per migliorare nei singoli paesi le modalità attuate per la cura del diabete. "E' una raccolta dati - ha aggiunto - derivante da database diversi. Tuttavia, l'analisi dei dati viene messa a disposizione non solo a livello centrale, ma anche locale e nazionale. Ciò permette di generare un confronto su realtà diverse".

Attraverso Biro, dunque, i metodi di epidemiologia, statistica e informatica si integrano. "Non produciamo mera tecnologia - ha precisato il professor Benedetti - ma informazioni cliniche per diversi livelli di utilizzo: decisionale politico-strategico e amministrativo". In altre parole, "informazioni per migliori decisioni che possano ridurre gli esiti sfavorevoli del diabete e bloccare se non sconfiggere gradualmente una patologia che continua a crescere a ritmo allarmante". Il software biro è gratuito e può essere usato liberamente dalle regioni e dai centri interessati.

G.Nic.

Il Giornale dell'Umbria 26 maggio 2009

Ricerca Perugia capofila nel progetto "Biro"

Cartelle cliniche in rete, i Paesi dialogano per vincere il diabete

Università

Protagonista il dipartimento di Medicina

PERUGIA - La città di Perugia capofila di un progetto per la lotta al diabete ed in particolare per un nuovo sistema informativo europeo.
I risultati dell'iniziativa "Biro" (Best information through regional outcomes), sono stati presentati ieri.
Il progetto, che ha coinvolto atenei e istituzioni scientifiche di Scozia, Austria, Malta, Cipro, Norvegia e Romania, come chiarisce una nota dell'Università degli studi di Perugia è stato realizzato dal Centro di coordinamento del dipartimento di Medicina interna della facoltà medica di Perugia, sotto la direzione del professor Massimo Massi Benedetti, ed ha avuto una durata di 40 mesi. "Finanziato dalla Commissione europea e dalla Regione Umbria - ha spiegato il professor Massi Benedetti - l'iniziativa ha permesso di creare, tramite il software gratuito e open source Biro, un sistema che collega i diversi registri regionali e fornisce, su base automatica e continuativa, una griglia di indicatori che possono essere di grande aiuto nel migliorare, nei singoli Paesi, le modalità attuate per la cura del diabete".
"Biro - ha aggiunto ancora Massi Benedetti - facilita il trattamento dei dati e la produzione di rapporti statistici uniformi secondo regole comuni, consente di estrarre e analizzare, nel rispetto delle normativa sulla privacy, cartelle cliniche e amministrative, consentendo di confrontare dati a livello europeo".
Gli studi e la ricerca indirizzati alla lotta contro il diabete proseguiranno con un nuovo progetto, dal titolo "Eubirod", che sarà realizzato sempre sotto l'egida della Commissione europea e con il supporto della Regione Umbria, e coinvolgerà 21 Paesi, ancora una volta con Perugia come capofila.
Il diabete nel mondo - sottolineano gli esperti - uccide una persona ogni quaranta secondi. Nel giro di dieci anni si prevede che i malati raddoppieranno, passando dai 200 milioni attuali a 400 milioni".

Esami medici per rilevare il diabete

ms

Umbria Settegiorni 29 maggio 2009

Importanti risultati dell'Università sul piano della ricerca e dell'assistenza

Lotta al diabete, Perugia è capofila del nuovo sistema informativo europeo

■ R.C.

Il diabete è in forte aumento: nel mondo uccide una persona ogni quaranta secondi. Nel giro di dieci anni i malati raddoppieranno, passando dai 200 milioni attuali a 400 milioni. Nella lotta a questa malattia l'Università degli Studi di Perugia sta operando con impegno ottenendo significativi risultati sul piano della ricerca e dell'assistenza clinica. Nella sala Dessau di Palazzo Murena, sono stati presentati i risultati del progetto BIRO (Best information throug Regional Outcomes), realizzato dal Centro di Coordinamento del Dipartimento di Medicina Interna della Facoltà medica di Perugia, sotto la direzione del professore Massimo Massi Benedetti; ha avuto una durata di 40 mesi e ha coinvolto Atenei e istituzioni scientifiche di Scozia, Austria, Malta, Cipro, Norvegia e Romania, con Perugia che ha avuto il ruolo di capofila. "Il progetto, finanziato dalla


Massimo Massi Benedetti

Commissione Europea e dalla Regione Umbria, ha permesso di creare, tramite il software BIRO, gratuito e open source, un sistema che collega i diversi registri regionali e fornisce, su base automatica e continuativa, una griglia di indicatori che possono essere di grande aiuto nel migliorare, nei singoli paesi, le modalità attuate per la cura del diabete – ha sottolineato il professor Massi Benedetti - . BIRO, che facilita il trattamento dei dati e la produzione di rapporti statistici uniformi secondo regole comuni, consente di estrarre e analizzare, nel rispetto delle normativa sulla privacy, cartelle cliniche e amministrative, consentendo di confrontare dati a livello europeo; con la possibilità, dunque, di avere maggiore informazioni in modo da prendere le migliori decisioni per ridurre gli esiti sfavorevoli del diabete e quindi bloccare e sconfiggere gradualmente una patologia che sta crescendo a un ritmo allarmante". Nel corso dell'incontro i referenti del progetto hanno evidenziato come, attraverso BIRO, è possibile migliorare l'organizzazione delle cure, come ha dimostrato il caso di Cipro dove è nata la prima clinica di diabetologia ed è stato istituito un registro del diabete che in pochi mesi è diventato operativo e sta rapidamente coprendo il territorio di quel Paese. Gli studi e la ricerca non sono affatto conclusi. A BIRO seguirà, infatti, un nuovo progetto, EUBIROD, sempre sotto l'egida della Commissione Europea e con il supporto della Regione Umbria, che coinvolgerà 21 paesi, con Perugia ancora capofila.