

BIRO

The Malta Experience

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Mater Dei Hospital

University of Malta

*“A Shared Information System for Diabetes in Europe:
final results of the B.I.R.O. Project”*

Dessau Conference Room

Perugia, 25 May 2009

Malta

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



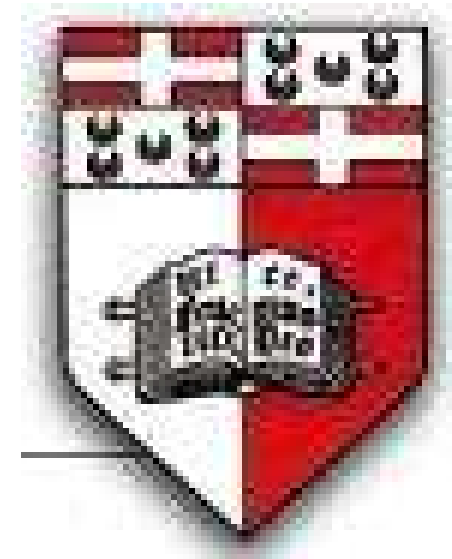
Malta

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



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



The Malta Health Services

Comprehensive 1^{ary}, 2^{ary} and 3^{ary} Health Service
Free at the point of delivery

1^{ary} 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



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

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

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

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

Visit Details



Name	██████████	Surname	██████████	ID	██████████	Age	66 yrs	DM Since	2 yrs			
Diabetes Type	Type 2	Sex	M	Waist	109cm	Height	1.61m	BMI	31.1	Desired Weight		Desired BMI: M: 20-25 F: 19-25 Normal Waist Circ.: M: 94cm F: 80cm (Europeids)

First Available Review in (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: <input checked="" type="radio"/> First Clinic Visit <input type="radio"/> Follow-Up <input type="radio"/> Yearly Review
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OGTT

FBG	0.00	1hr BG	0.00	2hr BG	0.00
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Status

<input type="radio"/> IGT <input type="radio"/> IFG <input type="radio"/> No Diabetes <input type="radio"/> Referred <input type="radio"/> Defaulter	<input type="checkbox"/> Advised on Life style Changes <input type="checkbox"/> Review in <input type="text" value="0"/> (months)
	<input type="checkbox"/> Discharged
	<input type="checkbox"/> OGTT/Other Investigations

Diabetes Type:

Complications:

Clinic Visit & Drugs



Name	Surname	ID	Age	DM Since		
			2 yrs	2 yrs		
Diabetes Type	Sex	Waist	Height	BMI	Desired Weight	Desired BMI: M: 20-25 F: 19-25 Normal Waist Circ.: M: 94cm F: 80cm (Eurooids)
Type 2	M	109cm	1.61m	31.1		

 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.

Med. History



Name	Surname	Age	DM Since			
		66 yrs	2 yrs			
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First Available Review in 3 (months)

[Status](#) | [DM History](#) | [Clinic Visit & Drugs](#) | [Symptoms](#) | [Med. History](#) | [Physical](#) | [Complications](#) | [Diet](#) | [Laboratory](#) | [Education](#)

Medical History

Date	Condition	Year Noted	Management
09/09/2008	Ischaemic heart disease	2004	Surgical;
09/09/2008	Hyperlipidaemia		Medical;

Current Non Diabetes Medications

Date	Drug Name	Action	AM	Noon	PM	Bed	Date...	Com...
09/09/2008	Perindopril 4mg	Conti...	0.0	0.0	8.0	0.0	09/0...	
09/09/2008	Aspirin	Conti...	0.0	75.0	0.0	0.0	09/0...	
09/09/2008	Fluvastatin 40mg	Conti...	0.0	0.0	0.0	40.0	09/0...	
09/09/2008	Bumetanide 1mg	... Conti...	1.0	0.0	0.0	0.0	09/0...	

Complications



Name	Surname	ID	Age 66 yrs	DM Since 2 yrs		
Diabetes Type	Sex	Waist	Height	BMI	Desired Weight	Desired BMI: M: 20-25 F: 19-25 Normal Waist Circ.: M: 94cm F: 80cm (Europeids)
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First Available Review in 3 (months)

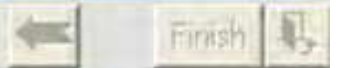
- Status
- DM History
- Clinic Visit & Drugs
- Symptoms
- Med. History
- Physical
- Complications
- Diet
- Laboratory
- Education

Complications Yes No Date 09/09/2008

Neuropathy	Peripheral Vascular	Nephropathy	Cerebrovascular	Coronary Artery	Retinopathy	Remarks
Coronary Artery Disease	<input checked="" type="radio"/> Yes <input type="radio"/> No	Year Noted	2006			
Angina Pectoris	<input type="radio"/> Yes <input checked="" type="radio"/> No	Year Noted				
Myocardial Infarction	<input type="radio"/> Yes <input checked="" type="radio"/> No	Year Noted				
Angioplasty	<input checked="" type="radio"/> Yes <input type="radio"/> No	Year Noted				
CABG	<input checked="" type="radio"/> Yes <input type="radio"/> No	Year Noted	2006			

Date	Complications
09/09/2008	Yes
09/09/2008	Yes

Education



Name	Surname	ID	Age 66 yrs	DM Since 2 yrs		
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First Available Review in 3 (months)

- Status
- DM History
- Clinic Visit & Drugs
- Symptoms
- Med. History
- Physical
- Complications
- Diet
- Laboratory
- Education**

Date: 09/09/2008

Topic:

Educator:

Comments

Date	Topic	Educator



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

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



Best Information through Regional Outcomes

Is there a need for B.I.R.O.?

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

Deficiencies can then be recognized and
effective strategies put in place

EU Recommendations

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


Implementation

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



Best Information through Regional Outcomes

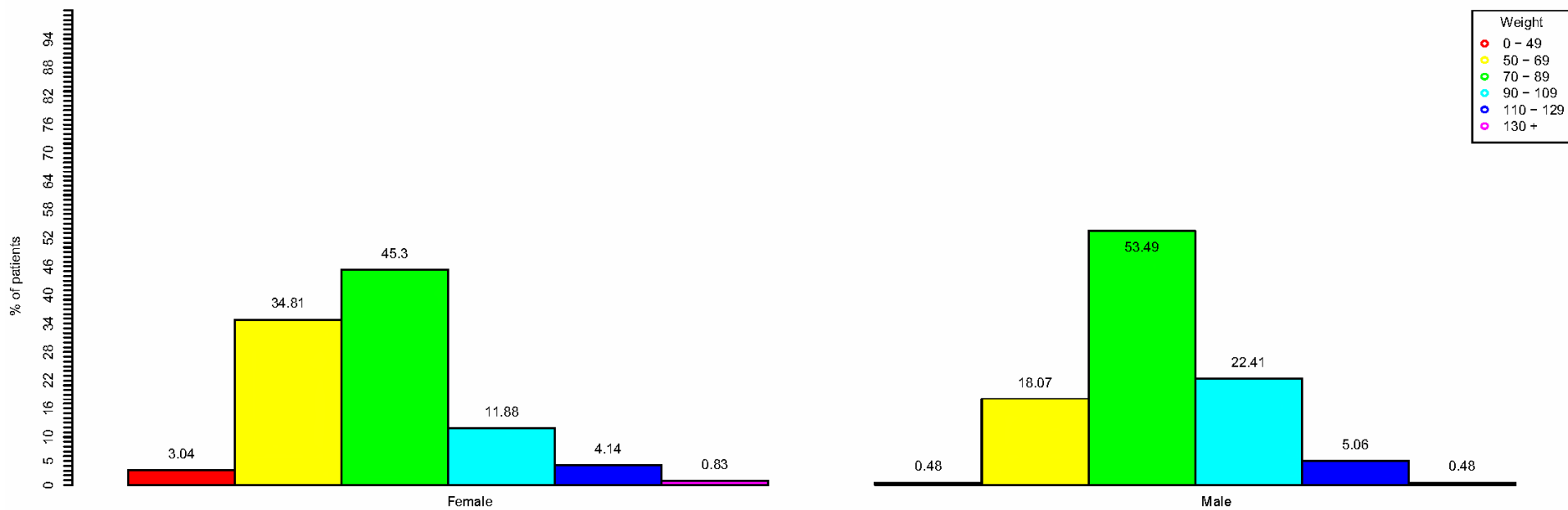
Hence B.I.R.O



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

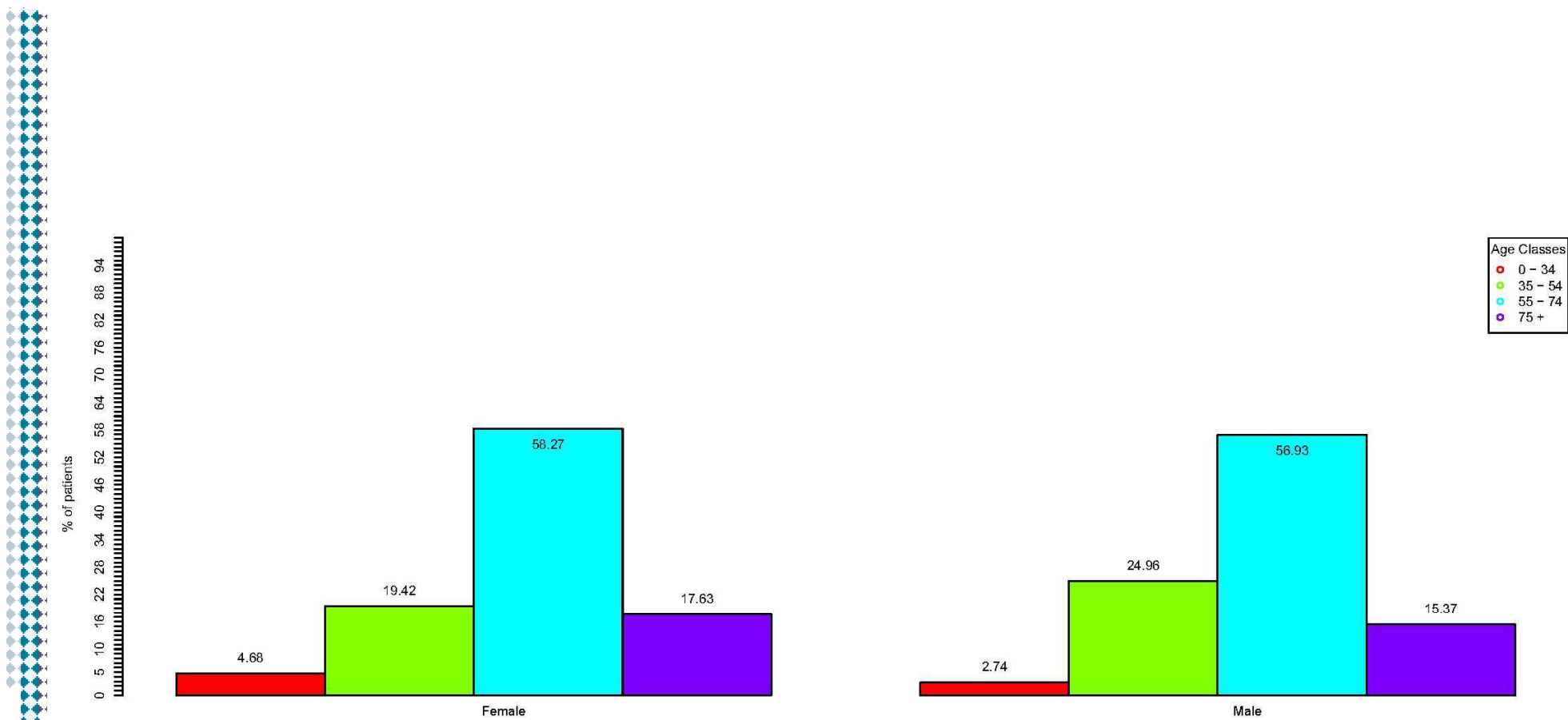


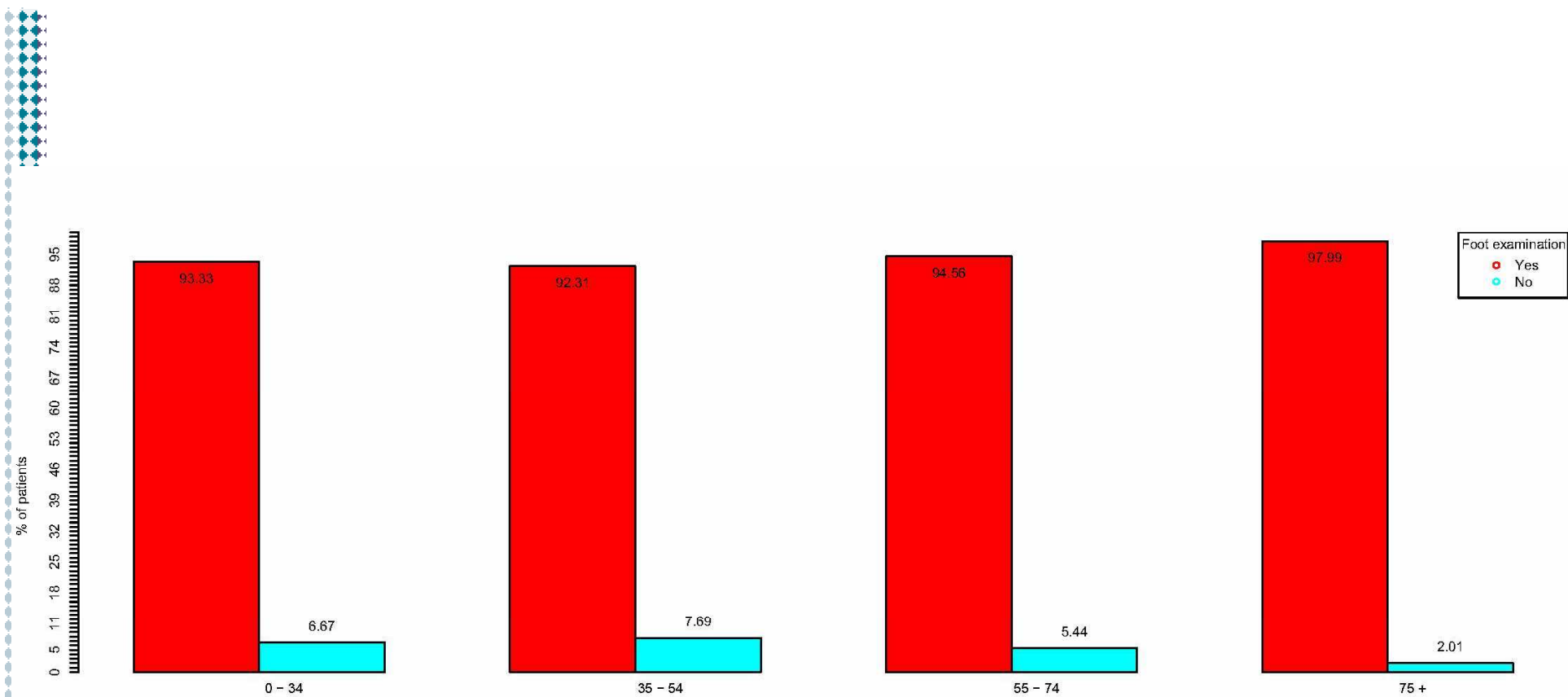
Best Information through Regional Outcomes





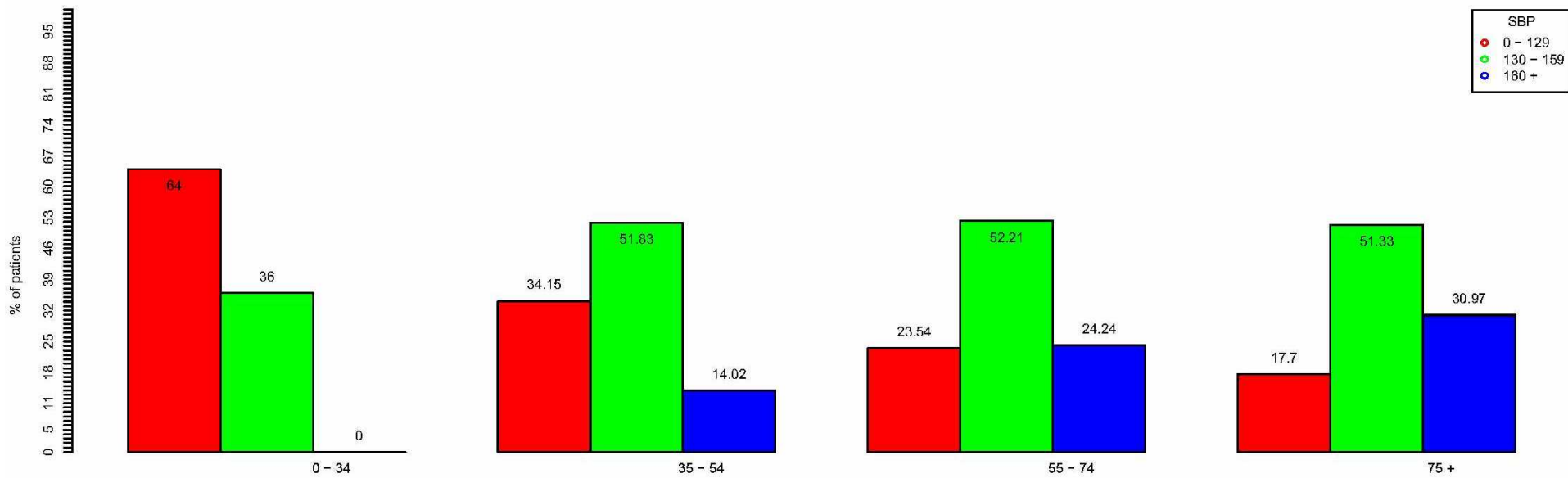
Best Information through Regional Outcomes







Best Information through Regional Outcomes





Best Information through Regional Outcomes

Next Steps

EUBIROD

Software is freely available

Governments

Research institutions and scientific bodies

Health care Care Institutions

Private citizens

... across the European Union, and beyond

Can eventually be used for other diseases

B. I. R. O.