



Best Information through Regional Outcomes

# BIRO and Malta

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University of Malta

*“Results of the BIRO Project”  
Umbria Region Brussels Office  
Brussels, 7<sup>th</sup> May 2009*



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# Malta

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



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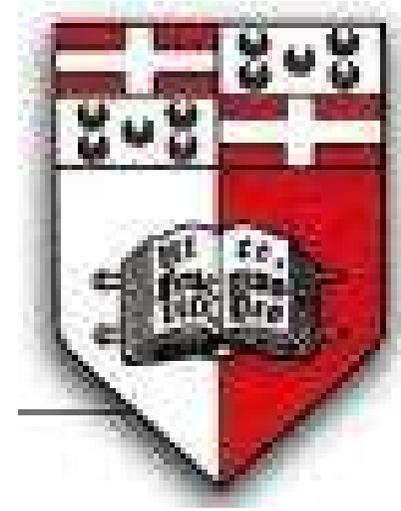
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- Parliamentary democracy
- Independence in 1964
- Now a tourist centre, freight trans shipment point, a financial hub
- EU member since 2004



# University of Malta

- A long and distinguished history related to medicine
- Medical school is one of the oldest in the world
- Traces its origins to 1676





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# The Malta Health Services

- Comprehensive 1<sup>ary</sup>, 2<sup>ary</sup> and 3<sup>ary</sup> Health Service
- Free at the point of delivery
- 1<sup>ary</sup> Care is given mainly in 8 Centres
  - preventive, curative and rehabilitative services
- Principal Public Hospital is Mater Dei Hospital
- Several Health Promotion preventive programs
- A private health service is also available



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# The Diabetes Services

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



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# 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



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## Other Services

- Education
  - Type 1: individual education with relatives
  - Type 2 Diabetes: 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



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# 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
  - Use of Information Technology in diabetes
  - Genetic studies in nephropathy



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Visit Details

# Visit Details

Finish

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)
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

### 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

Make your selection:

Visit Date: 09/09/2008

Visit Type:  First Clinic Visit  Follow-Up  Yearly Review

### OGTT

FBG	0.00	1hr BG	0.00	2hr BG	0.00
-----	------	--------	------	--------	------

### Status

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

### Diabetes Type

Type 2

### Complications

Coronary Artery  
Retinopathy

Visit Details

# Clinic Visit & Drugs

◀ ▶ Finish

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 (Europeids)
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.



Visit Details

# Med. History



Name	Surname			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 (Eurooids)

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...	

Visit Details

# Complications

◀ ▶ Finish

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 (Europids)

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

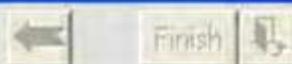
Neuropathy	Peripheral Vascular	Nephropathy	Cerebrovascular	Coronary Artery	Retinopathy	Remarks
Coronary Artery Disease	<input checked="" type="radio"/> Yes <input type="radio"/> No	Year Noted	2006			
Angina Pectoris	<input type="radio"/> Yes <input checked="" type="radio"/> No	Year Noted				
Myocardial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



Visit Details

# Education



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 3 (months)

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

Date: 09/09/2008

Topic: Booked for course of Educational lectures

Educator: Azzopardi J. Professor

Comments

Date	Topic	Educator





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- 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



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# 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



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# Is there a need for BIRO?



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

Only then can present gaps be recognized  
and effective strategies put in place



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# EU Recommendations

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



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# 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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Hence BIRO



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# BIRO

- Comprises 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



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# B.I.R.O. 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



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