



Materials, Methods and Data Analysis of Diabetes Registers

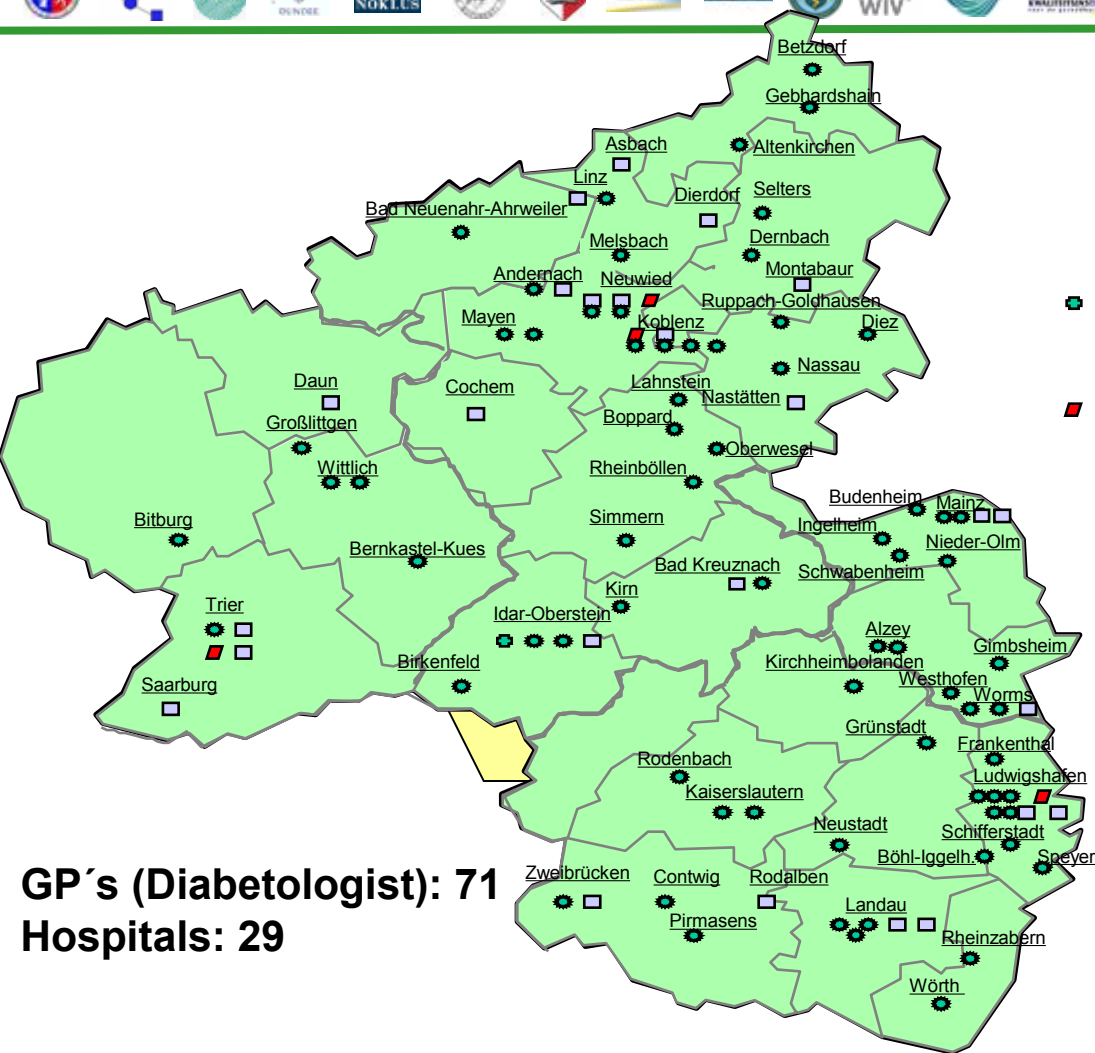
## The Diabetes Register of Rheinland-Pfalz, Germany

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*Gemeinschaftskrankenhaus Havelhöhe*

Special BIRO Academy Meeting  
“Coordinated Information Delivery from Diabetes Registers  
to improve quality and outcomes in Europe”  
Rome 4-5<sup>th</sup> June 2010

# Rheinland-Pfalz, Germany

## Reference Population



Country: Germany  
 Region: Rheinland-Pfalz  
 Total Population: 4.049.648  
 Diabetes Prevalence: 10% ?  
 Type of Data Sources: FQSD  
 N.Participating Centres: 100

**GP's (Diabetologist): 71**  
**Hospitals: 29**

# Rheinland-Pfalz, Germany



Year: **2008**

Region: Rheinland-Pfalz

Total N. Subjects: 13801

N subjects:

T1: n= 1643

T2: n= 11688



Basisdaten

Land	Zentrums ID Nr.	Pat. ID Nr.	Wiederholer
Geburtsdatum Tag Monat Jahr		Dauer des Krankenhausaufenthaltes Tag Monat Tag Monat Jahr	
Initialen VN NN	Aufnahmetag	Entlassungstag	
Geschlecht: M F	Diabetestyp Typ 1 <input type="radio"/> Typ 2 <input type="radio"/> sonst. <input type="radio"/>	Diabetes-Diagnose:	Insulin seit:
Erörterung KH-Aufnahme <input type="checkbox"/>	Routine <input type="checkbox"/>	Opt.d.Einst. <input type="checkbox"/>	Folgeschäden <input type="checkbox"/>
Beendet in den letzten 12 Mon. <input type="checkbox"/>	J N <input type="radio"/>	Normal <input type="checkbox"/>	Aborte <input type="checkbox"/>
Risikofaktoren (aktuelle Situat.)	Raucher <input type="checkbox"/>	Zigaretten / Tag	Alkohol g / Woche
Selbstkontrolle	Blutzucker (Anzahl / Woche)	Harzucker (Anzahl / Woche)	
Schulung/Selbsthilfeorganisation	Keine Info <input type="radio"/>	Ernährung <input type="radio"/>	Therapieanpassung <input type="radio"/>
Messungen (letzte Werte in den letzten 12 Monaten)	Gewicht (kg)	Größe (cm)	Blutdruck in Ruhe (mm Hg)
Blutzucker (mg/dl)	Kreatinin (mg/dl)	Cholesterin (mg/dl)	
HbA1 (%)	Mikroalbumin (mg/l)	HDL-Cholesterin (mg/dl)	
HbA1c (%)	Proteinurie (g/l)	LDL-Cholesterin (mg/dl)	
St. Vincent Ziele (aktuelle Situation)	Blindheit <input type="radio"/>	Wenn Ja: neu in letzten 12 Mon.?	<input type="radio"/>
Symptome (seit 12 Monaten)	Orthostase <input type="radio"/>	Angina pectoris <input type="radio"/>	Neuropathie <input type="radio"/>



Untersuchungen

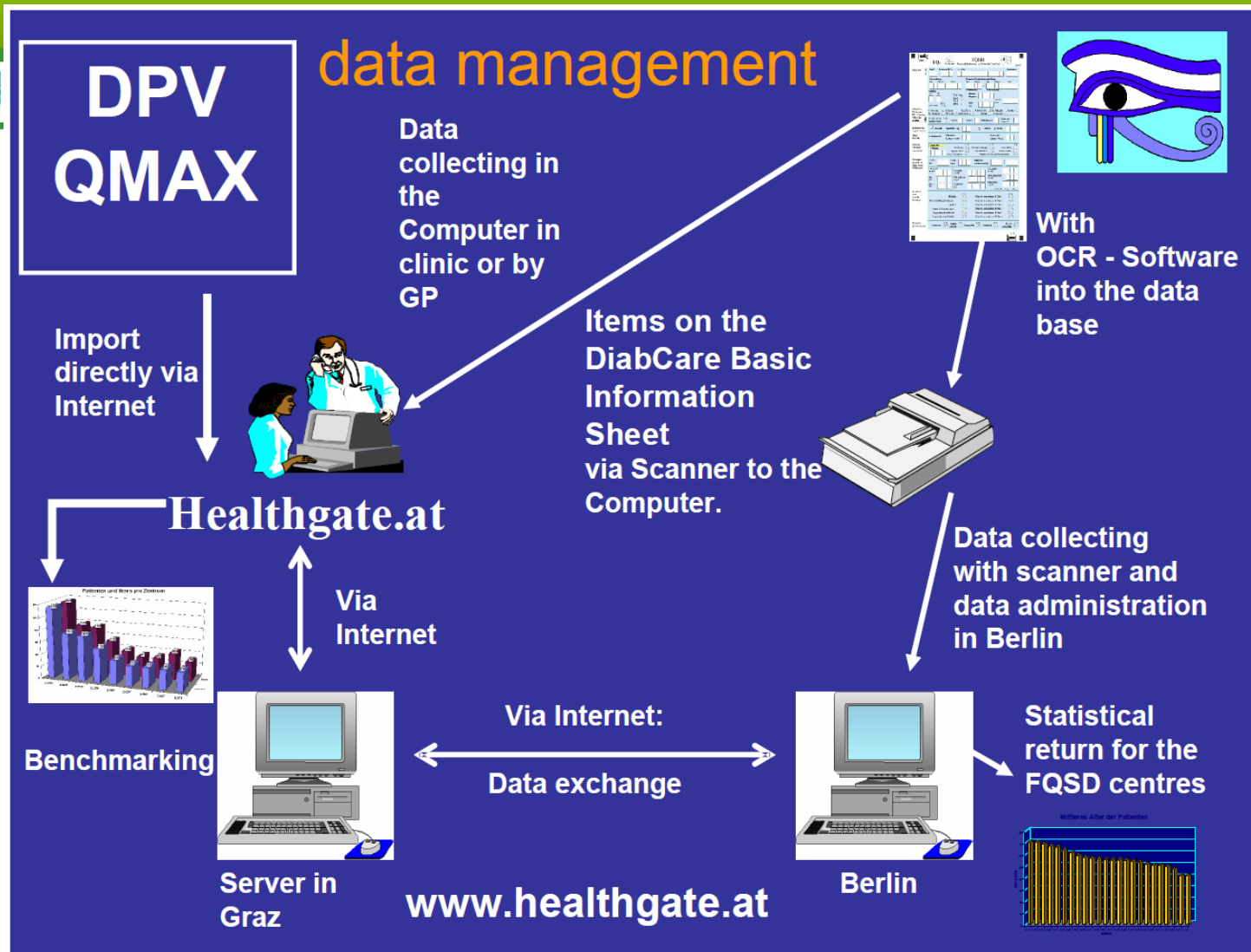
Untersucht in den letzten 12 Monaten	rechts <input type="radio"/>	links <input type="radio"/>	Untersucht in den letzten 12 Monaten	rechts <input type="radio"/>	links <input type="radio"/>
jedemals Photokoagulation	<input type="radio"/>	<input type="radio"/>	Normales Vibrationsempfinden	<input type="radio"/>	<input type="radio"/>
visusrelevante Katarakt	<input type="radio"/>	<input type="radio"/>	Normales Schmerzempfinden	<input type="radio"/>	<input type="radio"/>
Retina sichtbar	<input type="radio"/>	<input type="radio"/>	Puls tastbar	<input type="radio"/>	<input type="radio"/>
Klin. sign Makulaödem	<input type="radio"/>	<input type="radio"/>	Geheiltes Ulkus	<input type="radio"/>	<input type="radio"/>
Retinopathie	<input type="radio"/>	<input type="radio"/>	Akutes Ulkus	<input type="radio"/>	<input type="radio"/>
Milde/mäßige diab. Ret.	<input type="radio"/>	<input type="radio"/>	Bypass/Dilatation	<input type="radio"/>	<input type="radio"/>
Schwere nicht-proliferative Ret.	<input type="radio"/>	<input type="radio"/>	Sehschärfe (in %)	rechts <input type="text"/>	links <input type="text"/>
Proliferative Rp.	<input type="radio"/>	<input type="radio"/>	Fortgeschrittener Augenschaden	<input type="radio"/>	<input type="radio"/>
Lebensqualität/Notfälle (in letzten 12 Monaten)	Hypoglykämie (Anzahl pro Jahr)	Hyperglykämie (Anzahl/Jahr)	Krankheitstage (T/J)	Krankenhaustage (T/J)	
Diabetes-Behandlung	Nur Diät <input type="radio"/>	Biguanide <input type="radio"/>	Sulfonylharnst. <input type="radio"/>	Glucosidase Inhib. <input type="radio"/>	Andere OAD <input type="radio"/>
Weitere Behandlung	Hypertonus <input type="radio"/>	Herzinsuffizienz <input type="radio"/>	Kor. Herzkrankh. <input type="radio"/>	Dyslipidämie <input type="radio"/>	Nephropathie <input type="radio"/>
Untersucher (Pflichteingabe bis auf Mark 1 und Mark 2)	Datum: Tag Monat Jahr	Arzt: ID-Nr.	Geprüft:	Unterschrift Arzt	Lebensqualität: <input type="text"/>
					Mark 1: <input type="text"/>
					Mark 2: <input type="text"/>

Bitte ausfüllen ohne Überschreiben der Kästchen und die Zahlen wie im Beispiel rechts schreiben

0 1 2 3 4 5 6 7 8 9

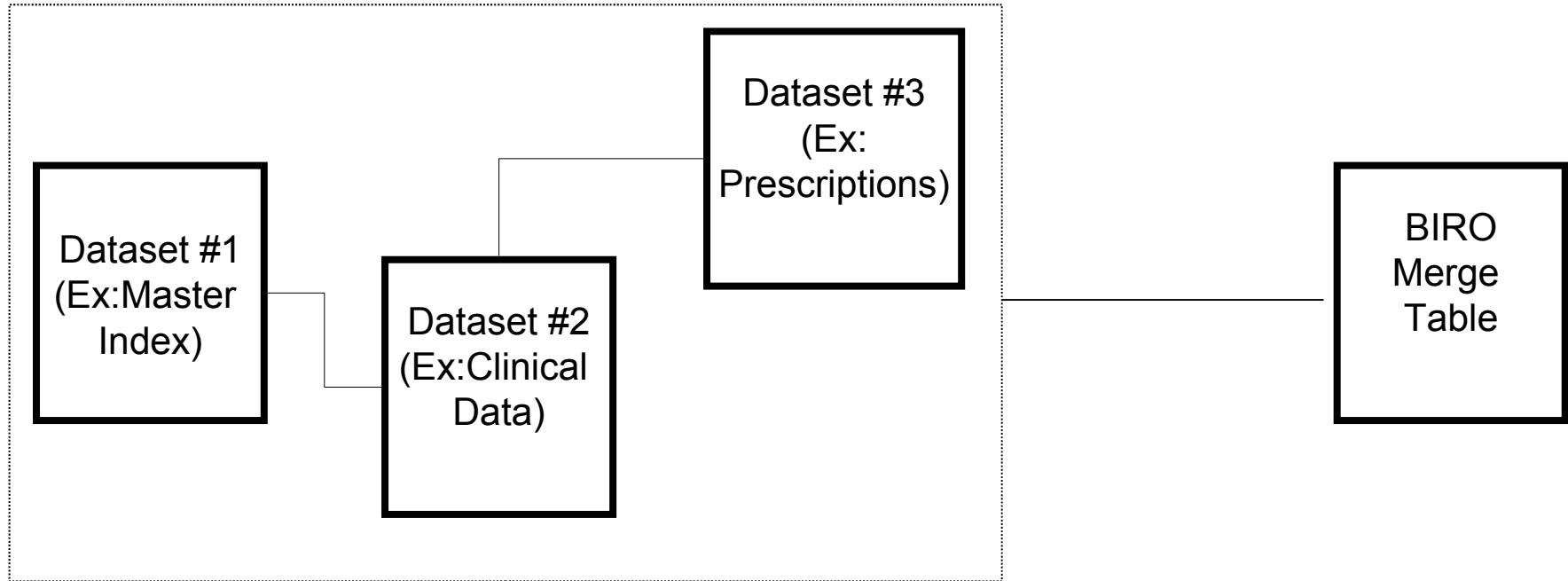
Bitte folgendermaßen ausfüllen oder

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## Local Database Structure and the BIRO Merge Table



Put your database structure in short form here, as used for BIRO

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## Using BIRO



- Problems/Weaknesses: We only get the data from one part of Rheinland-Pfalz – the diabetologists but not the normal GP send us data. That's why we want to get the DMP data
- Strengths: We got 110 items



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## Merge Table Contents



**Put in bold/grey (your/not your) fields!**

Patient ID			
Data Source ID	←		End Stage Renal Therapy
Type Of Diabetes			Renal Dialysis
Sex			Renal Transplant
Date of Birth			Stroke
Date of Diagnosis			Active Foot Ulcer
Episode Date	←		Myocardial Infarction
Smoking Status			Laser
Cigarettes per day			Hypertension
Alcohol Intake			Blindness
Weight			Amputation
Height			Antihypertensive Medication
Body Mass Index			Hypoglycemic Drug Therapy
Systolic Blood Pressure			Oral Drug Therapy
Diastolic Blood Pressure			Pump Therapy
HbA1c			
Creatinine			
Microalbumin			
		Total Cholesterol	
		HDL	
		Triglycerides	
		Eye Examination	
		Retinopathy Status	
		Maculopathy Status	
		Foot Examination	
		Foot Pulses	
		Foot Sensation	
		Nasal Therapy	
		Average Injections	
		Self Monitoring	
		Diabetes Specific Education	
		Lipid Lowering Therapy	
		Anti-platelet Therapy	
		Patient Enrolment in DMP	



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## Additional Data



Activity Table:  
<characteristics>

Population Table:  
<characteristics>

Diabetic Population Table:  
<characteristics>

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# Running BIRO: Data Quality Results



...cut/paste results from BIRO data quality check, or other stats internally available as appropriate

see the pdf files (attachment in the email)

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## Statistical Report: General Characteristics (Tables)



- Insert snapshots or html extracts from local BIRO report, first part
- In particular: distribution by age, gender, diabetes duration
  
- see the pdf files (attachment in the email)

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## Statistical Report: General Characteristics (Figures)



- ...insert other results as figures from local BIRO report, first part [see output subdirectory for single files (linked in the html pages)]
- see the pdf files (attachment in the email)

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## Statistical Results: BIRO Indicators (Tables)



- Insert main tabular results related to BIRO INDICATORS
- see the pdf files (attachment in the email)

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## Statistical Report: BIRO Indicators (Figures)



- Insert other results related to BIRO INDICATORS as figures
- see the pdf files (attachment in the email)

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## Conclusions (1): Statistical Results



- Synthesize main statistical outputs, including comments on data quality and any possible improvements in data collection



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## Conclusions (2): Diabetes Care



- Outline your interpretation of the results in terms of possible improvements in diabetes care

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## Conclusions (3):BIRO usage

- Briefly report your experience using the BIRO system
- It works well. But we get always a lot of help from Austria – they have the same FQSD System.

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## Future LOCAL Perspectives



- Add information on future developments related to THE STRUCTURE/POLICY/MANAGEMENT OF THE LOCAL REGISTRY
- We will get the DMP Data (80.000 diabetic patients, 4x/year)

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Thanks for the attention!