B.I.R.O.

Best Information through Regional Outcomes

A European Public Health Project, DG-SANCO, 2005-2008

B.I.R.O. Prototype A complete application on Umbria data

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B.I.R.O. Rome Meeting

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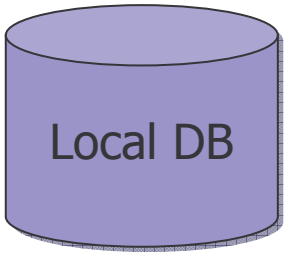
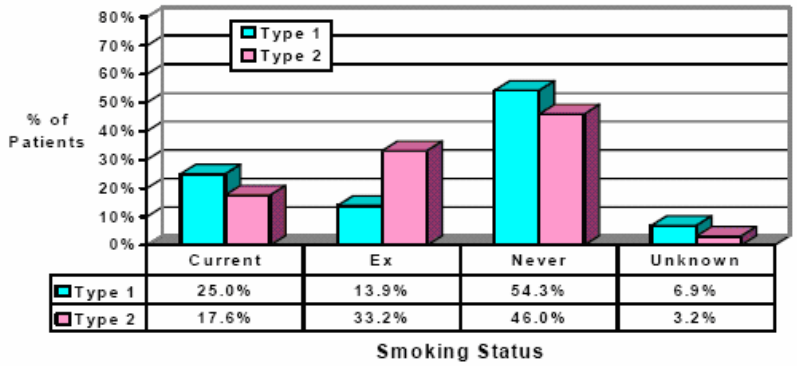
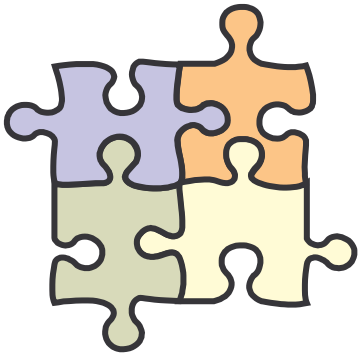
Purpose of this session

- Show how to process local DB to produce statistical reports



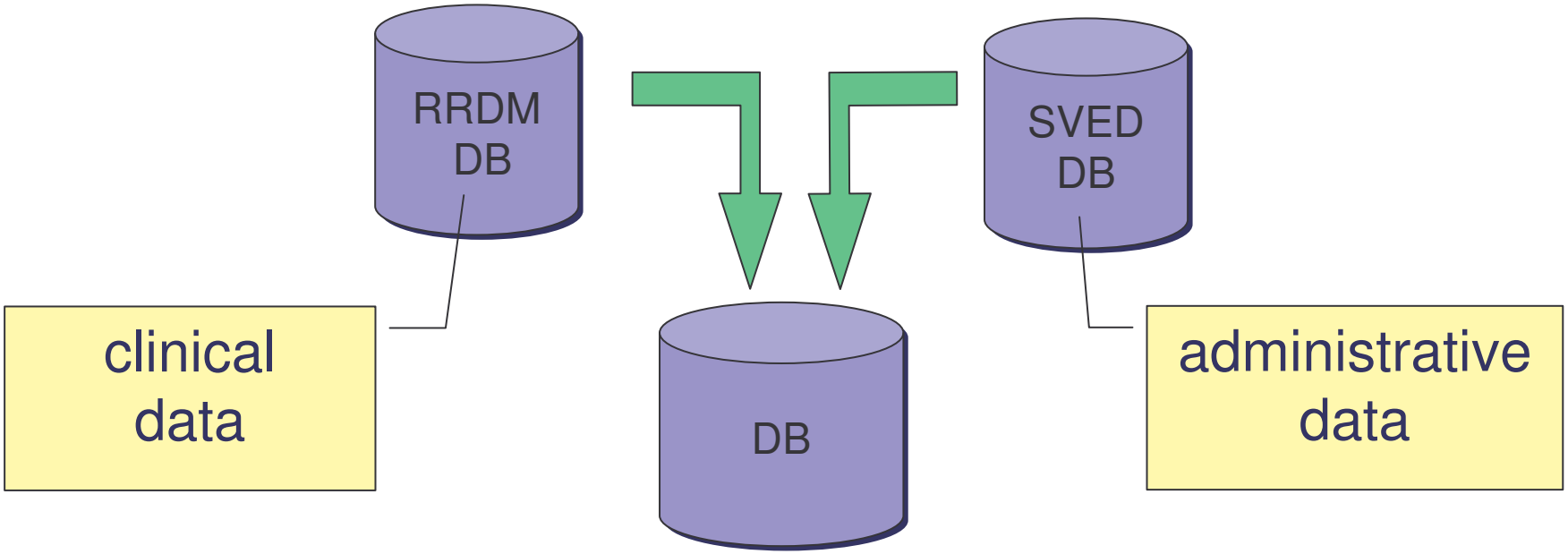


- Introducing the complete prototype running on Umbria data



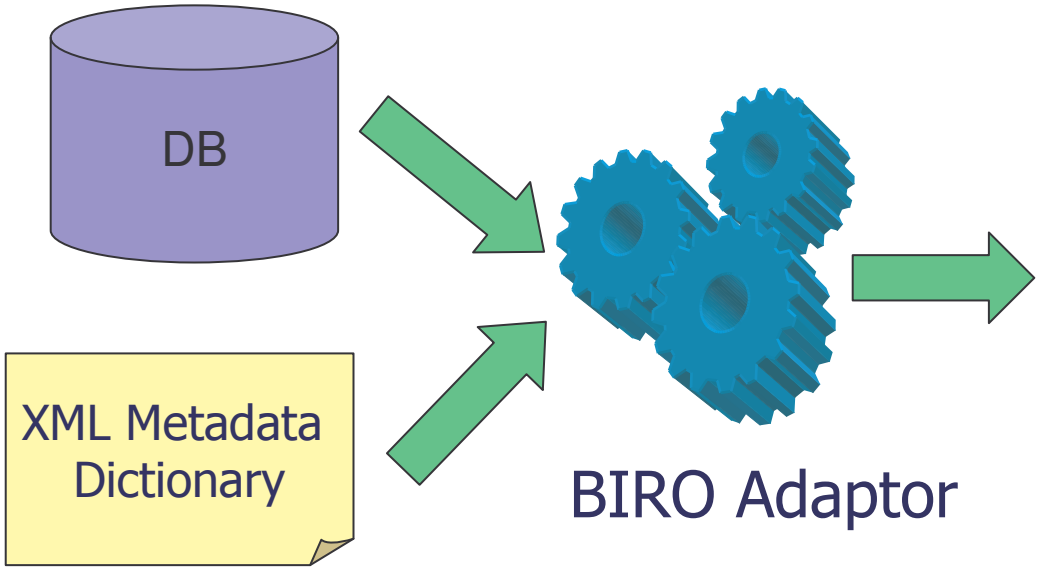
Umbria Diabetes Register

- Step 1: in order to have a more complete database underpinning the construction of the report, we merged two different sources



From local DB to the BIRO export

- step 2: BIRO adaptor connects to database and exports data to XML files according to BIRO XML Schema




```
<?xml version="1.0" encoding="UTF-8" ?>
<ECDataExport xmlns:xsi="....."
  xsi:noNamespaceSchemaLocation="...">
- <Patient>
- <Profile>
  <ProfileFieldName>TYPE_DM</ProfileFieldName>
  <ProfileFieldValue>2</ProfileFieldValue>
  </Profile>
- <Profile>
  <ProfileFieldName>DT_DIAG</ProfileFieldName>
  <ProfileFieldValue>01/01/1983</ProfileFieldValue>
  </Profile>
- <EpisodeData>
  <EpisodeDate>2004-07-06</EpisodeDate>
```

From BIRO export to central BIRO DB

- Step 3: Database Engine stores XML files into BIRO database

```
<?xml version="1.0" encoding="UTF-8" ?>
<ECDataExport xmlns:xsi="....."
   xsi:noNamespaceSchemaLocation="...">
- <Patient>
- <Profile>
  <ProfileFieldName>TYPE_DM</ProfileFieldName>
  <ProfileFieldValue>2</ProfileFieldValue>
  </Profile>
- <Profile>
  <ProfileFieldName>DT_DIAG</ProfileFieldName>
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- <EpisodeData>
  <EpisodeDate>2004-07-06</EpisodeDate>
```
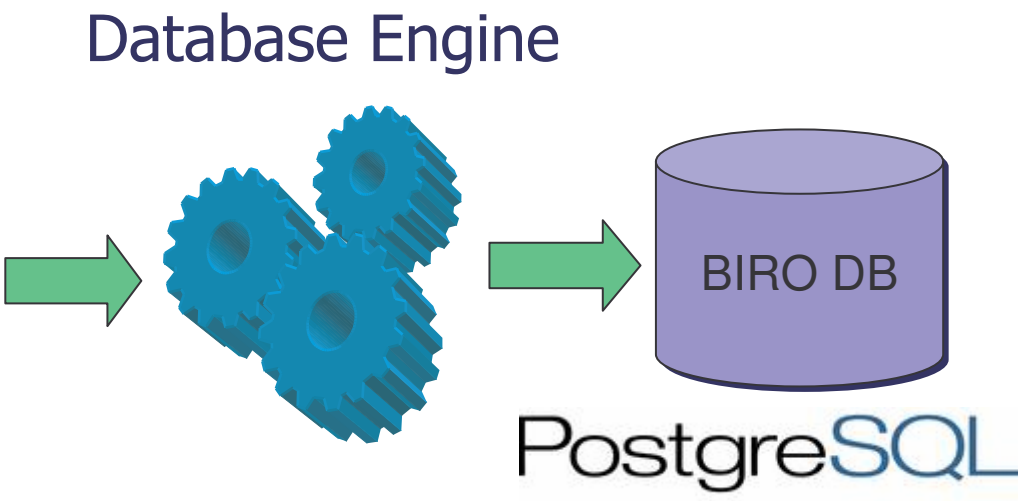
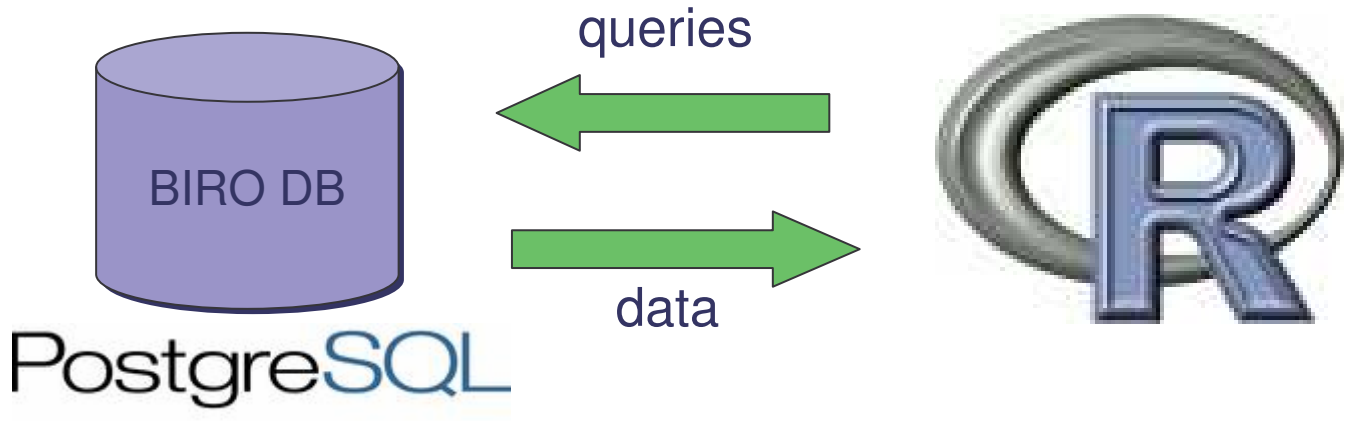



From DB to Reports

- Step 4: queries to BIRO DB are executed by R scripts to extract relevant data

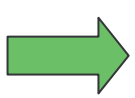


- Step 5: statistical analysis to calculate outcome indicators

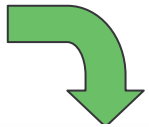
From DB to Reports

- Step 6: R makes use of LaTeX to automatically produce reports according to the Report Template

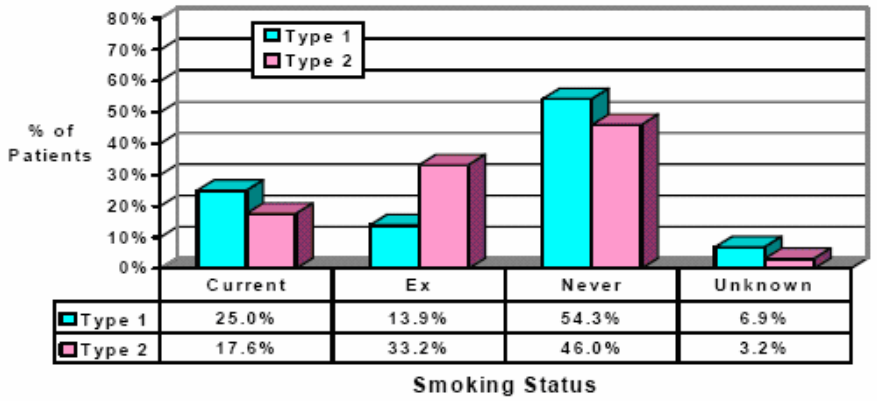








REPORTS TEMPLATE



Interpreting the results

- Statistical results are based on the BIRO Report Template
- Real data show redundancies, gaps and limitations that must be overcome to provide correct epidemiological results (mortality data, weight, analysis of repeated measurements,...)
- BIRO tools are useful for data quality check
- Prototype runs ok and seems to process moderately large datasets quite efficiently