Definition of XML Schema

Use of XML for statistical analysis and web reporting

BIRO Graz Meeting, 29-30 September 2006

Linking the Concept and Data Dictionary to the statistical analysis

```
<parameter>highbmi</parameter>
<title>High Value of BMI</title>


<coding label="No">0</coding>
<coding label="Yes">1</coding>

<algorithm return="boolean" language="pseudo">bmi &gt; 30</algorithm>
<original_variables>bmi</original_variables>
```

```
data biro;
infile "birofile" dlm="|" firstobs=2 dsd missover lrecl=500;
input idcentre idpaz ...;

if bmi>30 then highbmi=1;
else if 0<=bmi<=30 then highbmi=0;

run;
```

XML Data Dictionary
Target Concepts: BIRO Outcome Indicators

```xml
<?xml version = '1.0' encoding="ISO-8859-15"?>
<!DOCTYPE Document SYSTEM "dtd.dtd">
<Document>
 <id>D3</id>
 <label>Hba1c Test Rate last 12 months among diabetic patients</label>
 <num>
  Known diabetic patients undergoing Hba1c test in the last 12 months
 </num>
 <den>
  Known diabetic patients
 </den>
 <criteria>
  Standardized by age,gender
 </criteria>
 <code>
 ...
 </code>
 ....
</Document>
```

```
DATA M_D3;
SET REGISTER;
BY ANNODIM ID_CND;

/* Denominator */
LENGTH _M_D3 3;
_M_D3=1;

/* Outcome (Numerator) */
LENGTH O_M_D3 3;
RETAIN O_M_D3;
IF FIRST.ID_CND THEN O_M_D3=0;
/* Glycated Haemoglobin */
IF TRIM(LEFT(CODPRES))="90.28.1" THEN O_M_D3=1;
IF LAST.ID_CND;
RUN;
```

Standardization

```
<?xml version = '1.0' encoding="ISO-8859-15"?>
<!DOCTYPE Document SYSTEM "dtd.dtd">
<Document>
 <id>D3</id>
 <label>Hba1c Test Rate last 12 months among diabetic patients</label>
 ....
 <adjustment>
  FEMALE+AGE[18-25< 25-30< 30-35< 35-40< 40-45< 45-50< 50-55< 55-60< 65-70< 70-75< 75-80< 80-85< 85>]+
  FEMALE * AGE[18-25< 25-30< 30-35< 35-40< 40-45< 45-50< 50-55< 55-60< 65-70< 70-75< 75-80< 80-85< 85>]
 </adjustment>
 ....
</Document>
```

```
DATA M_D3;
SET M_D3;

IF AGE^=. THEN D2_1=0;
ELSE IF 18<= AGE <25 THEN D2_1=1;
...
RUN;

PROC GLM DATA = M_D_3
MODEL O_D_3= D1_1+D2_1+..../ CLPARM SOLUTION;
OUTPUT   OUT=_P_ (KEEP=PRED EQUIPE ANNODIM O_D_3 _WGT_) P=PRED;
ODS OUTPUT FitStatistics=_F_ ParameterEstimates=_GLMEST_;
WEIGHT _WGT_;
RUN;
```

Main Tasks

WP4:

- Choosing Tags
- Translating (WP3) Concepts in XML
- Translating (WP2) Parameters/Indicators in XML

WP6:

- Using XML Dictionary in the Database Engine (Concepts)

WP8:

- Using XML Dictionary in the Statistical Engine (Indicators)

Malta Meeting: Cooperation across WPs!
Q: WHO DOES WHAT?