Introduction to MIAMOD/PIAMOD software

Methods and instruments for estimating cancer incidence and prevalence from population-based data

April 25-27, 2009

Cancer Institute Research Centre
Tehran

25 April, morning session

9,00 **Introduction** (*R. Capocaccia)*
Welcome to participants. Motivation, aims and structure of the course

9,15 **Population-based estimates of cancer burden** (*R. De Angelis*)
Definition and use of cancer burden indicators. Direct and indirect methods for estimating the epidemiological indicators. The transition rate method (MIAMOD/PIAMOD): use and applications.

9,45 **Population-based outcome indicators: cancer survival** (*R. Capocaccia*)
Definitions and methods of computation

10,00 **Method overview – part I: basic equations and MIAMOD regression** *(R. Capocaccia)*
Transition Rate equations relating morbidity and mortality probabilities
Modelling cancer incidence with age-period-cohort (APC) models
Modeling/extrapolating cancer survival: tabulated and model-based data
MIAMOD solution to transition equations: regression on mortality data (back-calculation) to derive incidence parameters
Basic outcomes (regression diagnostic statistics and morbidity estimates)

11,15 *Coffee break*

11,45 **Software overview – part I: the Graphical User Interface** *(R. De Angelis)*
Overview of the software interface: main menu and flow to run a session

12,15 **Guided exercise 1** *(R. De Angelis)*
Running a MIAMOD session.

13,00 *Lunch time*

25 April, afternoon session

14,00 **Method overview – part II: PIAMOD regression** *(R. Capocaccia)*
PIAMOD solution to transition equations: regression on incidence data

14,30 **MIAMOD/PIAMOD Optional Outputs** *(R. De Angelis)*
Prevalence estimates by disease duration and other optional outputs

15,00 **Guided exercise 2** *(R. De Angelis)*
Running a PIAMOD session

15,15 **Exercise 1: Deriving default and optional outputs**
Producing default and optional outputs by running the previously saved MIAMOD/PIAMOD sessions

16,15 Discussion on the results of Exercise 1

16,30 Conclusion

26 April , morning session

9,00 **Method overview – part III: Identification of the optimal incidence model** *(R. Capocaccia)*
Improving incidence APC modelling: step-wise regression and cubic-splines

9,45 **Software overview– part II: regression with multiple models** *(R. De Angelis)*
Session to execute multiple models
Illustration of the step-wise procedure to find optimal incidence models

10,15 **Exercise 2: Performing a step-wise regression**
Identification of the best model by using a PIAMOD multiple execution session

11,00 *Coffee break*

11, 30 **Model-based survival for MIAMOD/PIAMOD applications** *(R. De Angelis)*
Role of survival in MIAMOD/PIAMOD estimates
Survival models supported by MIAMOD/PIAMOD (mixture models with cure)
Description of the SAS programs for modelling survival

12,30 **Using model-based survival in the Graphical User Interface** *(R. De Angelis)*
Parameters setting and Plot utilities in the MIAMOD/PIAMOD software

13,00 *Lunch time*

26 April, afternoon session

14,00 **Time projections** *(R. De Angelis)*
Projections of incidence, survival and population. Projection scenarios with model-based survival.

14,30 **Exercise 3: Using model-based survival**
Evaluating the effect of different survival projection options on MIAMOD/PIAMOD estimates

15,30 **Discussion on the results of Exercise 3**

16,00 Conclusion

27 April, morning session

9,00 **MIAMOD/PIAMOD method: critical discussion** *(R. Capocaccia)*
Validation of the results and sensitivity analysis
Illustration of the main critical aspects
Application range and comparison with other methods

10,00 **International comparisons of cancer survival: the EUROCARE study** *(G.Gatta)*
Rationale, geographical coverage and main results of the EUROCARE-4 study

11,00 *Coffee break*

11,30 A presentation from hosting Institute on cancer epidemiology in Iran and on the Tehran Cancer Registry.

12,30 **Closing remarks and discussion**

13,00 Conclusion