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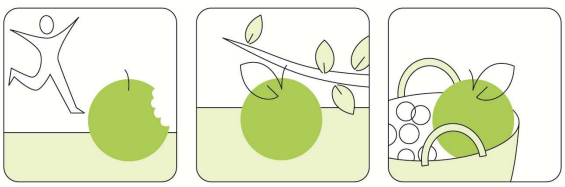
Deliverable N. 12

Protocol for risk adjustment and statistics workpackage

July 2008



This report is available at:
- http://ec.europa.eu/eahc/projects/database.html?prjno=2003134
- http://www.euphoric-project.eu/

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Arthroplasty Register Tyrol, *Austria*

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French Society of Orthopaedic and Trauma Surgery, *France*

BQS Bundesgeschäftsstelle Qualitätssicherung gGmbH, *Germany*

Israel Society for the Prevention of Heart Attacks at NCRI, *Israel*

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INTRODUCTION

This Workpackage might be considered cross sectional between the two pilots. Aim of this WP is to analyse the data collection tools (registers, surveys, clinical studies, public health evaluations and datasets) and their power to assess quality control and public health in different situations. As it resulted from the survey, the most suitable approach to carry out the pilot will be through the use of the available sources of information, such as routinely collected data, clinical data, and registries, instead of the organisation of active *ad hoc* designed data collection. Therefore, there is the real need to have detailed information about the structure of these databases in terms of collected variables and methodology for data collection in order to develop procedures that allow benchmarking among the participating countries by using routinely collected data (mostly discharge records). Moreover, the increasing demand for comparative evaluation of outcomes requires the development and diffusion of epidemiologic research, the ability to correctly conduct analyses and to interpret results. However, when healthcare outcomes are used for comparing quality of care across providers, failure to use risk adjustment methods to account for any variation in patient populations can lead to biased results. Therefore, in this WP, a standardised methodology for the calculation of the indicators is being defined in order to have the possibility to compare outcomes of the selected pathologies and procedures across the participants countries.

The aim of this WP could be obtained by:

- collecting information on hospital discharge records in the participating countries by means of an *ad hoc* designed questionnaire. Cooperation with the EU HDP2 (Hospital Data Project) will be considered;
- summarizing information on the clinical variables and statistical procedures used in CV pilot;
- defining statistical procedures to be applied for comparative evaluation of outcomes, according to the available information included in the existing databases and assumptions;
- evaluating whether, for some outcomes, the same results can be obtained using the information available from Registries or from health care information system;

- identifying the most important clinical variables for comparative evaluation of the outcomes under study (in particular, for acute myocardial infarction and hip fracture outcome indicators).

Involvement of partners and target groups

This workpackage has been structured to involve all the partners in three different target groups, according to the availability of datasets and statistical skills. Partners are divided in groups by sources of information available and also a leader is suggested.

DEASL: coordinator

Pilot target group (IMIM, EAR, NKUA). Leader: none

Collecting the following information from the two pilots:

- registry protocol or a summary of it including the following information:
- objectives
- selection criteria
- study period
- number of patients included
- collected variables
- main outcomes under study
- description of the performed statistical analyses;
- list of computable indicators;
- possible linking with Health Care Information System datasets (i.e.: Hospital discharge records, Emergency Room visits, Mortality records, etc.).

Health Care Information System target group (STAKES, KAR). Leader: STAKES

After having collected the data from partners regarding the characteristics of the Health Care Information System datasets, the following information has to be provided:

- description of information collected;
- adjustment measures used in countries participating to the Euphoric project.

Methodological group (ALL). Leader: DEASL

For two indicators "30-day mortality after myocardial infarction" and "Intervention within 48 hours of hip fracture", the following information has to be provided:

- extended protocol including shared inclusion/exclusion criteria and variables to be used for risk adjustment;
- identification of possible differences between indicators computed by registries or health care information system;
- if possible, identification of the clinical variables determining the difference in terms of comparative evaluation of outcomes between risk adjustment model registry-based or information system-based.

Deliverables and/or outcomes

1. Deliverable n. 10 "Review of Risk Adjustment Methods";
2. Extended indicator protocols to be used in participating countries;
3. Deliverable on identification and definition of risk factors that could be used for comparative evaluation of the outcomes under study in participating countries;
4. Deliverable on statistical procedures that will be applied for comparative evaluation of outcomes;
5. Papers about Workpackage results.

Workplan

Finalisation of the reports: December, 2008

Annexes

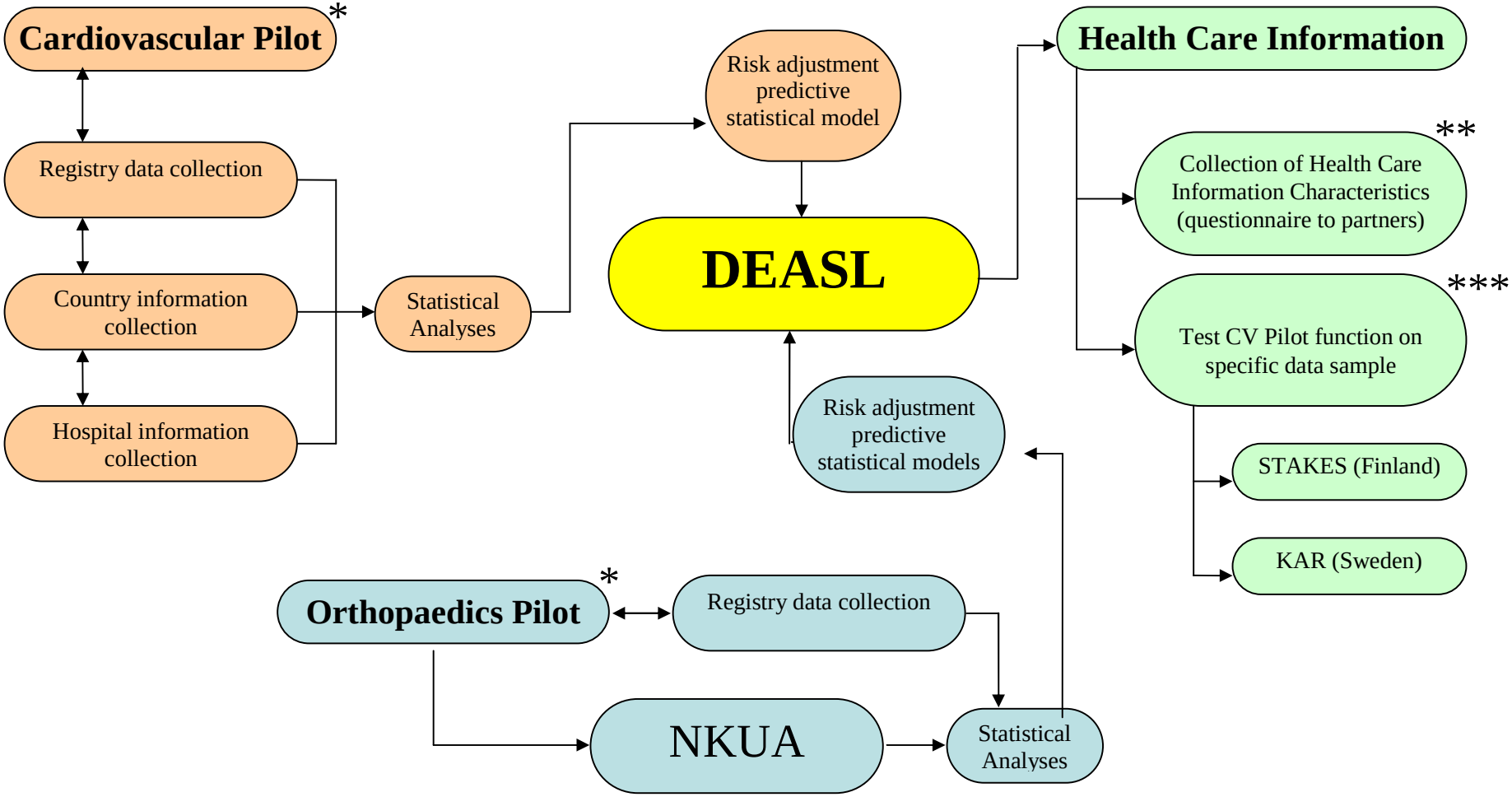
1. WP5.3 Gantt chart and Flow chart
2. Questionnaire on health data collection at local and/or national level

Annex 1

WP5.3 GANTT CHART

Activities	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08	Oct-08
Pilot target group (IMIM, EAR, NKUA)								
Sending registry protocols or a summary of them								
Revision of extended protocols								
Statistical analysis description								
Health Care Information System (HCI) target group (STAKES, KAR)								
Collection of HCI characteristics								
Statistical analysis description								
Methodological group (ALL)								
Drafting a Questionnaire on Registries included in pilots studies								
Summary of information on registries								
Definition of extended protocols								
Statistical procedures that will be applied for comparative evaluation of outcomes								
Test Pilots function on specific data sample								
Identification and definition of risk factors that could be used for comparative evaluation of the outcomes under study in participating countries								

WP5.3 FLOW CHART



* Pilot target group

** Health Care Information System target group

*** Methodological group

Annex 2

Country:_____ EUPHORIC Investigator_____

Hospital Discharge Records

Is there any data collection on hospital records?

Yes |__| No |__|

If yes, please answer the following questions

1. **What is the aggregation level?**

   National |__|

   Regional |__|

   Local |__| *please specify* _____

2. **What are the years available?** from |__||__| / |__||__||__||__| to |__||__| / |__||__||__||__|
   month / year month / year

3. **What are the general data available?**

Date of admission	Yes	|__|	No	|__|
Date of discharge	Yes	|__|	No	|__|
Destination of discharge	Yes	|__|	No	|__|
Discharge status	Yes	|__|	No	|__|
Admission hospital code	Yes	|__|	No	|__|
Type of hospital (public, private)	Yes	|__|	No	|__|

4. **What are the demographics data available?**

Patient ID code	Yes	|__|	No	|__|
If yes, please indicate whether linkable				
Within Hospital records	Yes	|__|	No	|__|
Among other health data bases	Yes	|__|	No	|__|
Age or date of birth	Yes	|__|	No	|__|
Gender	Yes	|__|	No	|__|
Ethnicity	Yes	|__|	No	|__|
Citizenship	Yes	|__|	No	|__|
Educational level	Yes	|__|	No	|__|
Place of residence	Yes	|__|	No	|__|

5. Is there any information on diagnoses? Yes |__| No |__|

5.1 If yes, please indicate what is available

Principal diagnosis Yes |__| No |__|

Secondary diagnoses Yes |__| No |__|

If yes how many? Up to |____| unlimited |__|

5.2 Classification system used

ICD-9 |__|

ICD-9-CM |__|

ICD-10 |__|

Other |__| *please specify* _____

5.3 When are the diagnoses recorded ?

At admission Yes |__| No |__|

At discharge Yes |__| No |__|

5.4 Is it specified whether a condition is present on admission? Yes |__| No |__|

6. Is there any information on procedures available? Yes |__| No |__|

6.1 If yes, please indicate:

Number of procedures: Up to |____| unlimited |__|

6.2 Classification system used

ICD-9-CM |__|

Other |__| *please specify* _____

6.3 Is the date of each procedures recorded? Yes |__| No |__| Only for the principal |__|

7. Publishing information by hospitals requires permission from hospitals?

Yes |__| No |__|

Country:_____ EUPHORIC Investigator_____

Mortality Records

Is there any data collection on mortality records?

Yes |__| No |__|

If yes, please answer the following questions

1. **What is the aggregation level?**

   National |__|

   Regional |__|

   Local |__| *please specify* _____

2. **What are the years available?** from |__||__| / |__||__||__||__| to |__||__| / |__||__||__||__|
   month / year month / year

3. **What are the general data available?**

   Date of death Yes |__| No |__|

   Place of death Yes |__| No |__|

4. **What are the demographics data available?**

   Patient ID code Yes |__| No |__|

   If yes, please indicate whether linkable with other health data bases Yes |__| No |__|

   Age or date of birth Yes |__| No |__|

   Gender Yes |__| No |__|

   Ethnicity Yes |__| No |__|

   Citizenship Yes |__| No |__|

   Educational level Yes |__| No |__|

   Place of residence Yes |__| No |__|

5. Is there any information on cause of death? Yes |__| No |__|

5.1 If yes, please indicate what is available

Principal cause Yes |__| No |__|

Secondary causes Yes |__| No |__|

ICD-9 |__|

ICD-10 |__|

Other |__| *please specify* _____