

## Use Case 1: BI in Medical Applications

### *Business Case:*

The Evidence-based Medical Compliance Cluster project (EBMC<sup>2</sup>) (see <http://ebmc2.univie.ac.at/>) aims at the analysis of skin cancer treatment processes. The project has been conducted as joint funding and effort between the Medical University of Vienna and the University of Vienna, more precisely, the Department of Dermatology, the Center of Medical Statistics, Informatics, and Intelligent Systems, and the research groups Data Analytics and Computing, Knowledge Engineering, and Workflow Systems and Technology.

### *Analysis Goals:*

Analysis goals refer to the treatment of patients as well as to the performance of the institution (hospital). With respect to the treatment of patients the main goals are the early detection of skin cancer in routine check-ups, the survival time after treatment, the burden of patient, and the compliance of patients. With respect to the performance of the institution the conformance with standards is of interest. The standards are defined by process models based on international guidelines for treatment of the patients and for preventive medical check-ups.

### *Data:*

The data sources are data repositories at the local department, the Austrian Cancer Registry, and data from the Austrian Social Insurance System.

Data are different with respect to temporal granularity, the quality of information and its completeness as well as its structure (structured and semi-structured data). Hence, we need a flexible data model which allows the integration (i.e. linking of data) according to the analysis goals of interest. Such linking also allows additional quality considerations.

### **Data Task:**

- Proposal for setting up a data structure for the project

### **Business and Data Understanding Task:**

#### **Application Environment:**

- Size and Scope of the business
- What kind of application scenario is possible?

#### **Business Perspective:**

- What are the business perspectives of interest?
- Who is the owner of the business process?
- Who are the process subjects

#### **BI Views:**

- What BI-Views are defined by the data?

#### **Analytical goals:**

- Formulate KPIs and find possible influential factors
- Formulate some analytical goals

#### **Assessment of Data:**

- Ideas for data assessment

#### **Modeling Task:**

- Do you have any ideas and proposals?

#### **Analysis Task:**

- Do you know any analysis techniques?