
Abstract

Quality management in medical care cannot be just outcome-oriented, because outcomes are not always measurable or reversible. An overall quality management system is required by companies and organisations offering medical care services. These overall quality management systems to improve the quality of medical care are supported by the establishment of monitoring and control systems using information technology.

The objective of this work was the development of a reusable module for dynamically modifiable analyses of clinical patient data which facilitates handling analyses on a higher level of abstraction as plain SQL. Results of analyses should be visualised as customizable charts and tables.

Java technology was used to develop the data analysis module. The module generates SQL statements out of an XML document representing the analysis. The analysis result are visualised as charts using the charting library JFreeChart.

The developed data analysis module named PatAn allows handling analyses on a higher level of abstraction as with plain SQL. Recurring analysis patterns were identified and integrated in the analysis structure to achieve modularity, reusability and faster development.

Keywords: clinical data analysis, Java, XML, SQL, quality management