Quality Manual for Interoperability Testing.

PART II: Interoperability Testing Processes

Executive Summary

Morten Bruun-Rasmussen, (in cooperation with MedCom)

Today, it is a common requirement that eHealth solutions can share seamlessly data (i.e. are interoperable) between products from different vendors and across organisations. Unfortunately many solutions are not tested and implemented as specified and agreed before. This costs a lot of extra resources as many failures are only discovered once they are in daily operation. Unexpected failures leave customers and end-users with negative experience in using eHealth solutions in their daily practice and may seriously affect a patient's treatment and safety.

Implementing interoperability is complex and requires special attention to improve the quality of development as well as quality in use of the eHealth solutions. From a technical and interoperability perspective, quality is judged as if the system complies with agreed (international) requirements (eq. profiles and standards) and can exchange information with systems supporting the same standards.

The Quality Manual for Interoperability consists of two parts:

- Part I: Quality Management System (QMS) for Interoperability Testing
- Part II: Interoperability Testing Processes.

The Quality Manual is a customizable description and a set of templates with customization instructions that allow a Testing Entity to create its own, specific Interoperability Testing documentation in the form of a single Quality Manual for Interoperability Testing. End users and authorities may also use it confirming or recognising the quality and competencies of an Interoperability Testing Entity.

The key benefits for using a Quality Managements System for interoperability testing can be expressed in the three statements below:

- it will ensure continuous improvement of interoperability
- it will improve eHealth deployment
- it will facilitate the adoption of standards

Part II of the Quality Manual describes the Interoperability Testing Processes. The Interoperability Testing Processes is a set of interconnected "guidelines" that describes how to run a test session from start to end. Each process has defined input and output and can be maintained and improved in isolation and by different people with the required experience and skills.

The Interoperability Testing Processes are generic and can be used for IHE Connectathons, Continua Alliance Plugfests and regional Interoperability Testing, for example to test the implementation of ePrescription or Patient Summary.

The main processes for Interoperability Testing may include:

- Criteria and methods needed to ensure that both the operation and control of processes are effective
- Outline of necessary resources that are required in order to support the operation of the quality management system
- Monitoring, measurement (where applicable) and analysis of the processes in order to improve the quality of the interoperability testing.

The Interoperability Testing Processes are based on IEEE 829 and European Best practice and includes:

- Quality Planning
- Test Plan Definition
- Design Tests
- Develop or Select Test Tools
- Validation
- Prepare Test Session
- Test Plan Execution
- Project Management
- Process Management Update

Each of the nine interconnected Interoperability Testing Processes is described by using a generic template and a checklist on how each process can be adjusted to specific and/or local use.

The Quality Management System and requirements for the operation of Conformity Bodies (CAB) performing Interoperability Testing is describe in Part I of the Quality Manual (ANTILOPE WP2, D2.1 Quality Management System for Interoperability Testing).