



**Workshop:
Patient Centered (Health) Care Solutions**

Safety Aspects of (Not) Using ICT in Health Care
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Abstract

Objective

To define and specify an essential quality framework to the personal electronic healthcare record.

Methods

The research was carried out in two phases:

1. Extract relationships between ICT and adverse patient safety incidents from incident repositories;
2. Set up the regulatory and quality framework.

Studies in U.K., USA, Australia and, recently, in the Netherlands reveal that about 10% of patients admitted to hospitals will be harmed, half of which is considered preventable. Of these, some 6% will suffer permanent disability and 8% will die. The costs of prolonged hospital stay, clinical negligence settlements and social costs are in excess of billions of Euros a year. Communication and information availability contribute to 56% and 35% of patient safety events, respectively. Safety aspects of (not) using ICT are often ignored.

To set up a quality framework, the EC regulatory framework was viewed, analysed and broken down into a concise quality framework yielding the QMIC essential requirements: Quality of Medical Information and Communication. Open international standards for risk analysis were viewed, analysed and integrated in the quality framework. Finally, open international standards for medical informatics were viewed, analysed and also integrated in the quality framework yielding the QMICT essential requirements: Quality of Medical ICT en Electronic Healthcare Record.

Results

A Personal Electronic Healthcare Record (PEHR) is an electronic healthcare record that is managed by the patient and serves the patient in autonomy and continuity of care.

The QMIC essential requirements for European web based applications were based upon European Directives. QMIC proved a solid basis for trusted health information.

The QMICT essential requirements for the electronic healthcare record and semantic system to system interoperability were based upon QMIC, risk management standards from ISO and IEC, and product relevant standards from ISO, HL7 and CEN. The QMICT essential requirements were found sufficient to link existing and new medical information systems to the PEHR. QMICT was evaluated against experimental medical software applications.

Future research will be directed towards integrating patient safety assurance principles derived from experience with the (P)EHR into product relevant (open international) standards.

Conclusions

1. There is a minimal set of legal and quality requirements for web based applications (QMIC) and for (P)EHR and semantic system to system interoperability (QMICT).
2. The frameworks demonstrated to be sufficient and practical to build PEHR's.
3. Further research is required to integrate patient safety assurance principles in ICT.

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