

## **SESSION 1B: Patient Safety and IT**

**Rapporteurs: Veli STROETMANN and Jean-Pierre THIERRY**

As summary of the discussion following the two short introductions and three statements (also briefly summarised below), a strategy towards an eHealth for Safety approach developed:

It would be useful to document and manage the risks associated with IT implementation by working with Patient Safety specialists and Risk Managers. A proper cooperation between IT specialists and safety/quality organisations has not yet been realised, and the two communities should meet and discuss more thoroughly.

Social and organisational dimensions are to be managed at the same time for a successful implementation of actual and future IT tools for Patient Safety (including risk assessment and “IT adverse events reporting”).

Transatlantic efforts could help to *establish a reference framework of best practices as well as mistakes* (i.e. approach of standardized CPOE that could be certified at some point) as well as organisational, ethical and economic aspects. It might be useful to establish a priority list starting with applications that have demonstrated, in a known and detailed context, their ability to increase Patient Safety. Incremental implementation of solutions might be recommended taking into account the need for a learning curve.

Some *areas of future research* mentioned include:

- Federating clinical data repositories / EHR systems of hospitals for secondary use creates new opportunities for Patient Safety research
- Improving prediction and detection of adverse drug events with IT
- International interoperability of medication history data and ADE data
- Assessment of IT solutions, e.g. CPOE; effects of vendor-based systems on medication safety; strategies and success factors for implementation of CPOE and CDS in routine care
- Optimising decision support, e.g. defining priority lists of alerts
- Defining functionality of CPOE and CDS critical for improving patient safety
- Standards and certification
  - More detailed standards for medication decision support
  - Criteria and strategies for certification of CPOE and/or CDS
- Integration of knowledge into patient workflow
- Types and causes of unexpected adverse events caused by CPOE and CDS
- Combining CPOE and CDS with RFID-based patient identification systems
- Financial return on investment and cost effectiveness analyses for HIT and HIE

**Antoine Geissbuehler**, Medical CIO, University Hospital Geneva, Switzerland

Antoine demonstrated that Patient Safety issues are related to *Knowledge Management* and need to be addressed as part of the process of care. Alerts, clinical decision support and quality loops should be implemented considering *patient workflow* and should be compliant to clinical pathways. The creation and use of the knowledge, in this context, is a challenge. Even in academic institutions at the leading edge of HIT, cultural, ethical and economical issues are difficult to address in order to transform into a “*learning organisation*”. More long term issues concern the extension of the learning organisation across the process of care including

the GP, home care and the patient. Antoine's presentation was appropriate to remind us that Patient Safety issues are justifying R&D efforts in IT.

**Rainu Kaushal**, Associate Professor of Public Health and Pediatrics, Cornell University; Director, Pediatric Quality and Safety, KCCH at NYPH, USA

Rainu related the important experience gained in the US with Patient Safety issues dealing with the prevention of Adverse Events such as medication errors, one of the leading causes of medical errors. CDSS should be integrated in CPOE but the frequent overwriting of medication suggestions shows that additional effort should be made (Human Computer Interface, CPOE system for routine use). Like Antoine, she stressed the fact that DSS should be *integrated in the process (i.e. nurse workflow)* in the organisation and across boundaries. Another issue discussed was the need for an industrialisation of CPOE beyond the home-grown systems used by academic institutions that helped establish the case. The rapid change of knowledge could also be considered. The *economic impact of an achievable error reduction rate* is documented but not easily understood by key players since it relies mainly on models rather than on primary real data from the accounting systems in use. A robust business model should be established to be shared and understood by decision makers and the industry.

**Maureen Baker**, National Clinical Lead for Patient Safety, NHS, UK

Maureen explained that the National Program for IT of the NHS (Connecting for Health) has evolved in order to take into account the Patient Safety issue. At the beginning it was assumed that the users (healthcare professionals) will address instinctively Patient Safety. A collaboration of the NPSA to the program has been established and it was stated that the project was not using Patient Safety as an explicit primary goal within the general objectives of modernisation of the NHS. As one of the results, a more robust structured proactive manner was designed that led to the implementation of a generic standard for safety applied to the supplier of IT solutions to the CfH project. Introduction of *safety incident monitoring process* is mandatory to fix the problems such as those described in the previous presentations. The work is in progress since there is a growing interest for a more robust Safety approach for CfH.

**Daniel Grandt**, Head of Department of Internal Medicine, Klinikum Saarbruecken, Germany

Daniel stressed the fact that medication errors are not only an IT problem. The workplace specificity should be taken into account and difficulties met are more often on the *social/organisational* side than on the pure technical side. Part of the solution is the research of a comprehensive approach of Patient Safety by healthcare professionals as well as by managers and policy makers. He agrees with Maureen that unattended possible consequences after IT/CPOE implementation should be collected and managed. Acceptance is a key factor and is a prerequisite to any plan for Return on Investment.

**Marc Overhage**, Director of Medical Informatics, Regenstrief Institute, Inc.; USA

Marc began his presentation by reminding us that part of the medical errors are due to *underutilisation of care (omission)* and not only overuse (commission). Focusing on CPOE, he confirms that CDSS is needed but very difficult to implement. One issue is in the way knowledge should be managed at the workplace. Adaptation of alerts, as an example, should be made if the system is to be used effectively. With CPOE, it is possible to state that IT could be a *"power tool"* that could bring more harm than good if not designed and used appropriately. CPOE at the present stage of diffusion still needs a *careful assessment*.