Personalized Health Alliance Basel – Zürich, 2nd Workshop
Clinical Data Warehouses - USB example

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Introduction

- Markus Obreiter
- Strategic Project Manager, ICT USB
- Focus: Personalized Health

Background

- Medical Informatics
- Genetic Epidemiology, German Cancer Research Center
- Biotech lab data management, Proteomics data pipeline
- Pharma lab data management & automation
- Business Intelligence / Warehouse
Main goal and tasks of USB ICT in SPHN landscape

Main goal: Provide standardized USB clinical/patient data for swiss-wide research, compliant to ELSI regulations

Main tasks: Contribute to definition of interoperability standards

Make clinical data shareable
for this, we require a Clinical Data Warehouse (CDWH)
Data Sharing and Clinical Data Warehouse
Conceptual view and challenges

- Many data is stored in separate clinical expert systems (> 100 at USB): data silos
- High data variety: formats, different structures/coding, including unstructured and uncoded data
- Clinical Data Warehouse for data harmonization and integration (hospital specific)
- De-/Re-identification prior to data sharing for research

Swiss wide standards are most important to align the USB infrastructure

Challenge: handle unstructured/uncoded data, e.g. in clinical reports
Opportunity for Natural Language Processing
Outlook 2018+

- Implement **basis roadmap** for CDWH infrastr. & organisation, **SPHN collaboration** agreements
- USB long term goal: set up of CDWH for later use in Clinical Decision Support
- Work with you in **SPHN infrastructure development & driver projects**

- Extend the CDWH infrastructure **incrementally** by following steps:
  
  **High impact on success to build the system YOU need**

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1) Requirements «WHAT»
   - User stories-
   - Data Requirements -

2) System Design «HOW»
   - IT Architecture -

3) Realisation «SYSTEM BUILD»
   - IT Engineers-

4) «TEST» & Prepare «GO LIVE»
   - All -
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**Incremental system extension, «agile approach»**
Benefit from learnings of prior cycles
Repeat the cycle with phases of limited scope, e.g. by single user story.
Summary
Clinical Data Warehouses - USB example

- Main Tasks: define standards and make clinical data shareable
- Challenges: data silos, data variety, unstructured & uncoded data, etc.
- Clinical Data Warehouse as hospital specific «technical tool»
- USZ and USB Clinical Data Warehouse teams are prepared & work closely together
- Support you in SPHN infrastructure development & driver projects

Thank you
Looking forward to our collaboration

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