UniversitätsKlinikum Heidelberg

Experiences with Personal Electronic Health Records in the Rhine-Neckar-Region

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Once upon a time...

Our story

Previous experiences in Telemedicine

- Teleradiology
- Teleneurology
- Tele-oncology (pediatric)
- Home Care Monitoring
- ....

Learned

- The usage of separate Telemedicine components is beneficial but:
- Information from all HIT-systems and Home Care belongs together!!

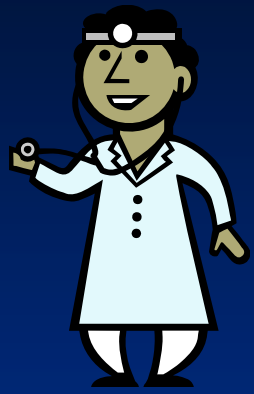
Solution:
a cross-institutional record

Vision 1

Patient + Family

Communication Module
Phone, Video Conf.

HC Professional



Sensors

Shared Care Record

EHR
PHR
Record of TMC

IT systems
HIS/CIS
TMC system
GP system
Pharmacy system

Sensor Platform

EMR, EHR and PHR BB4

Record type	Characteristics	Main Advantages	Main Disadv.
EMR Electronic Medical Record	All clinical data of a patient to document, monitor and manage care delivery in one institution Case-based accessible within the care delivery organisation (CDO)		Not accessible for other doctors or the patient
EHR Electronic Health Record	Subsets of each CDO‘s EMR presently assumed to include summaries (CCR, etc.) Longitudinal access across multiple institutions	Viewing in other CDOs possilbe Easier data import from professional systems (high quality and completeness)	No patient involvement for viewing and access management
PHR Personal Health Record	Contains patient input (home care devices, diet, sports). Acess for multiple institutions is managed by the patient	Fully controled by the empowered patient	No automated data import from other systems

BB4

user/target groups

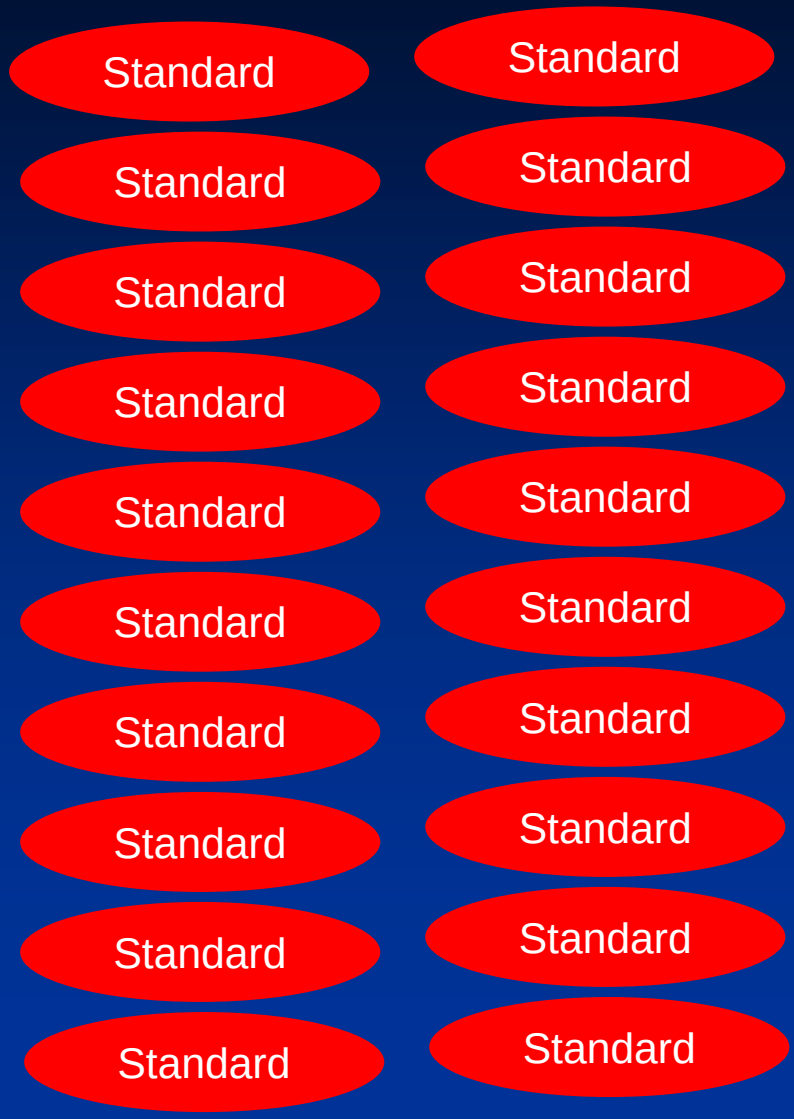
Prof. Dr. Björn Bergh; 26.8.2009 r.

Two main issues anticipated

- Architecture and systems integration with standards
- Ensure patient's right for data privacy

Integration with standards?

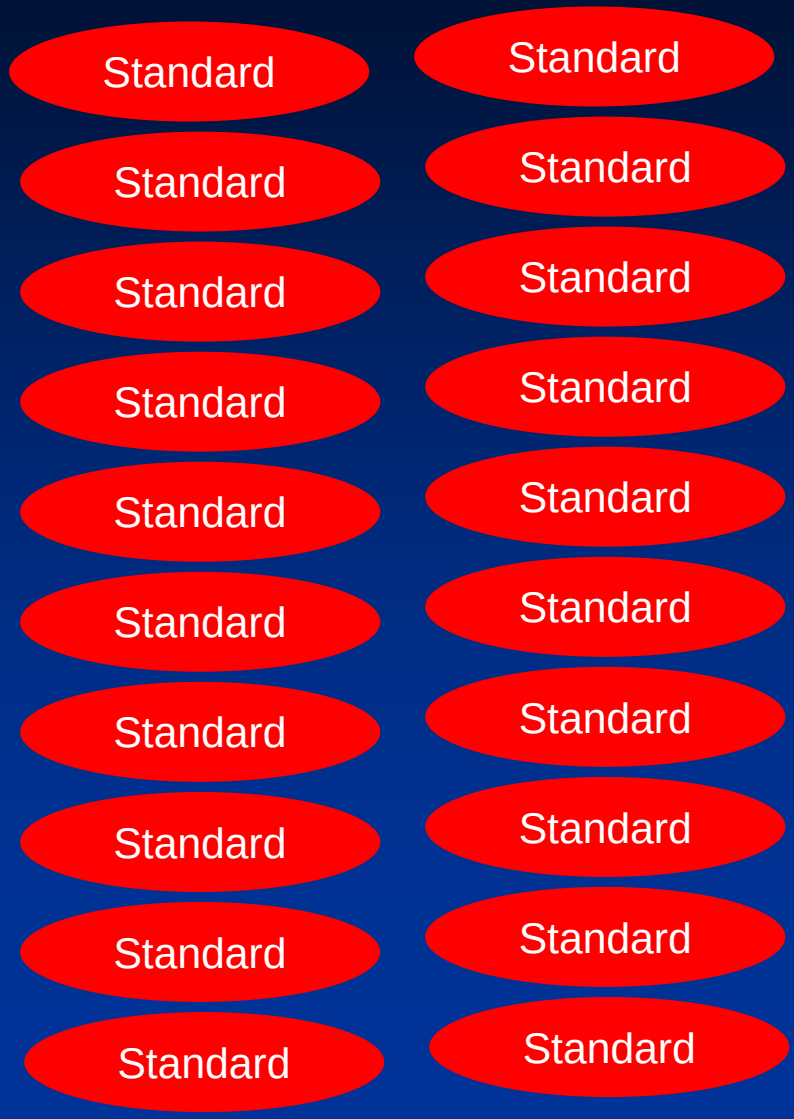
Existing eHealth standards



Integration with standards?

Existing eHealth standards

Understandable and complete

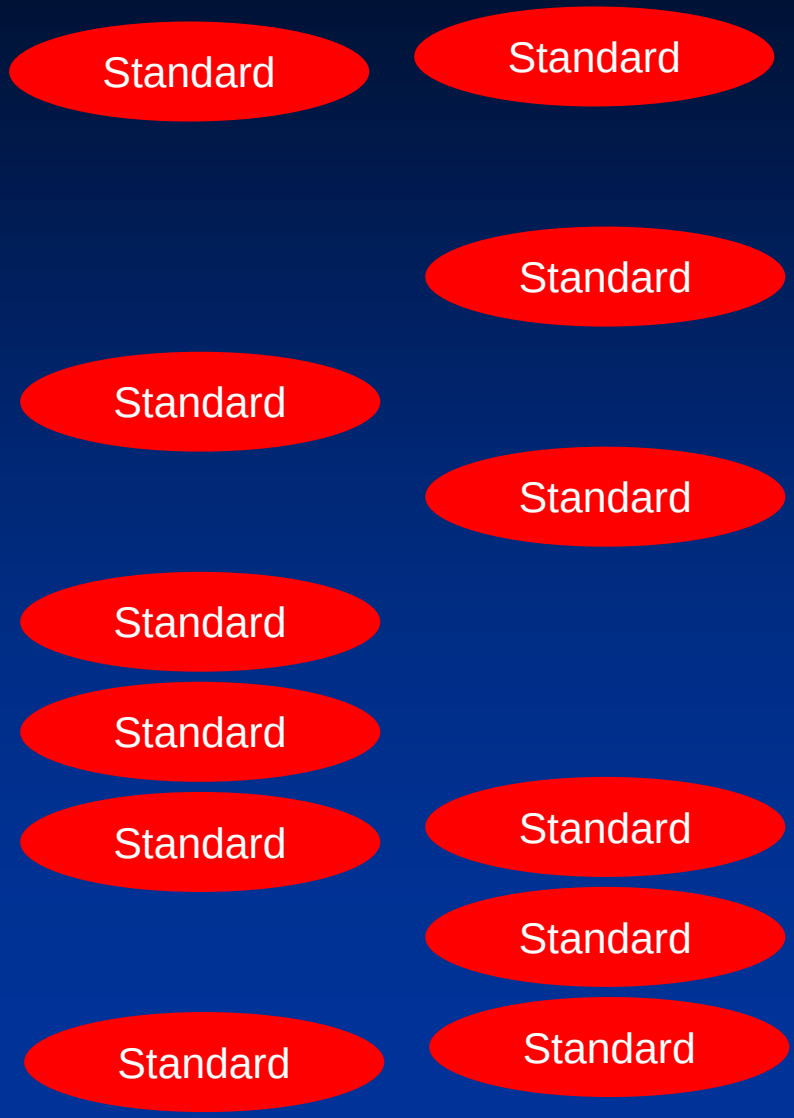


Integration with standards?

Existing eHealth standards

Understandable and complete

Industry accepted and Implemented (EHR)



Integration with standards?

Standard

Existing eHealth standards

Understandable and complete

Industry accepted and Implemented (EHR)

Industry accepted and Implemented (HIS-CIS)

HL7 + DICOM
=> IHE

Standard

Data Privacy and EHR

eHealth + EHRs
are totally safe!

Goya

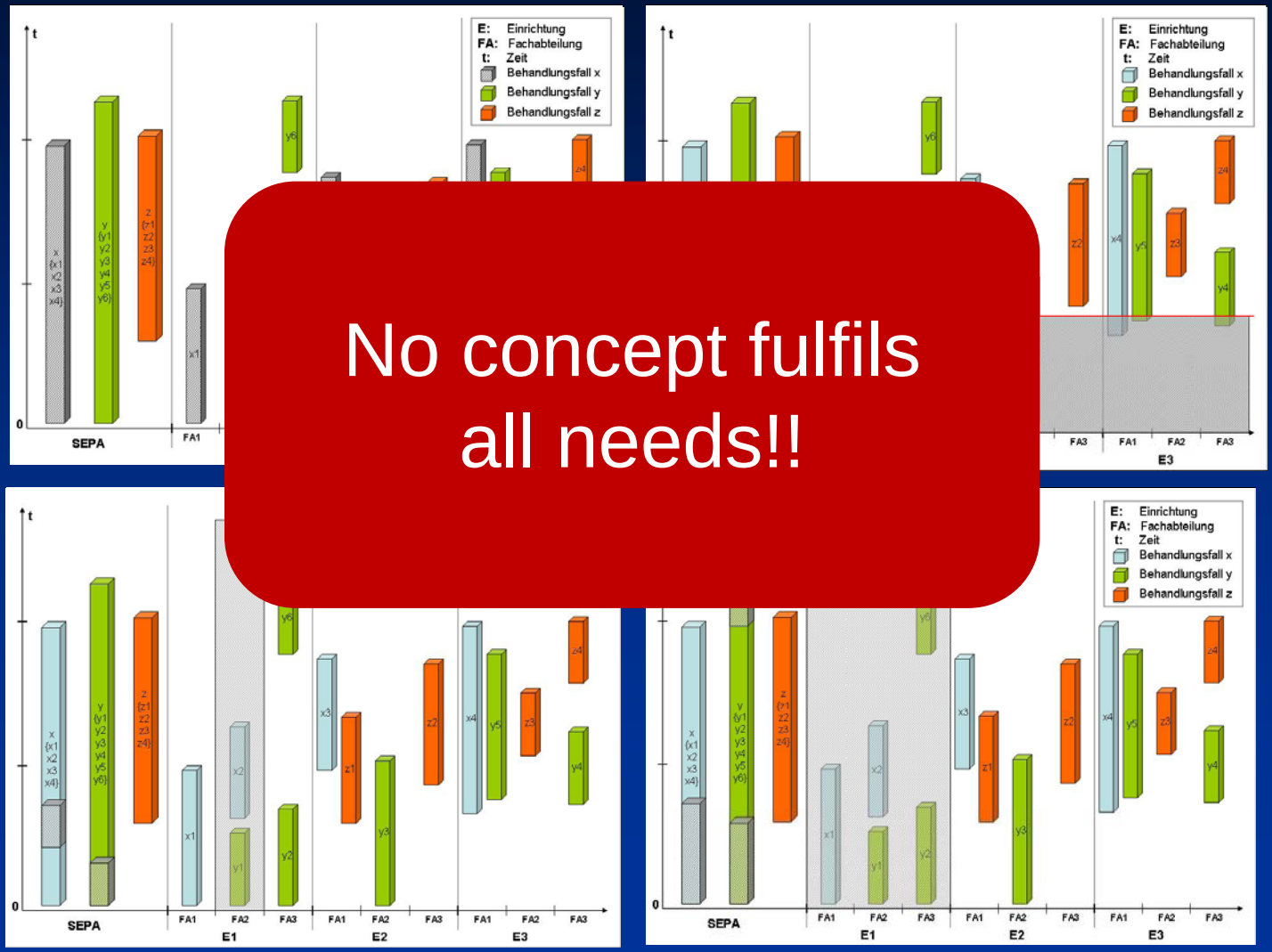
Goya

EHR Data privacy study - Methods

- Requirements analysis
  - Patients
  - Physicians
  - Data privacy officers
  - Review federal and state regulations

  => High level requirements
- Technical capabilities
  - Access concepts HIS-CIS systems
  - Access concepts EHR projects and vendors
- Matching requirements and capabilities

EHR Data privacy study - Results



No concept fulfils all needs!!

Data Privacy and EHR

eHealth + EHRs are totally safe!

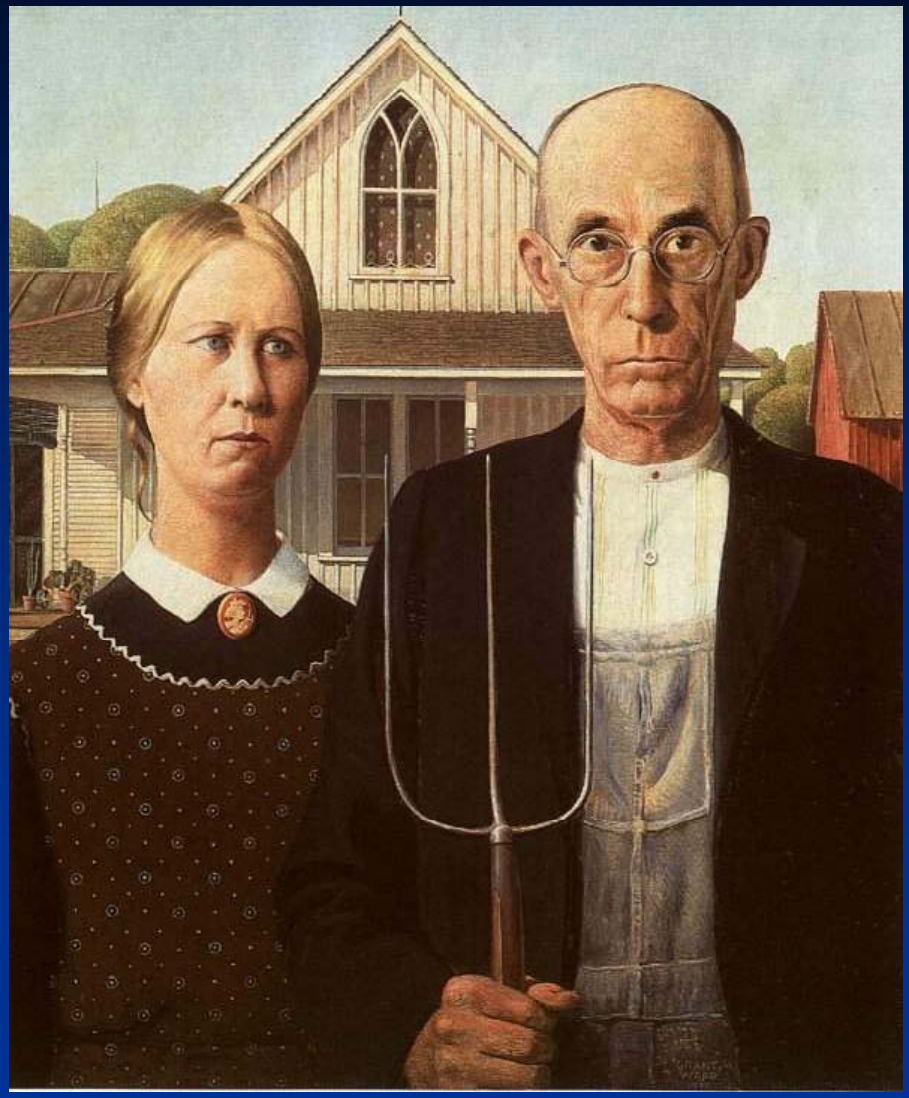
They most certainly are not!

Goya

Solutions?

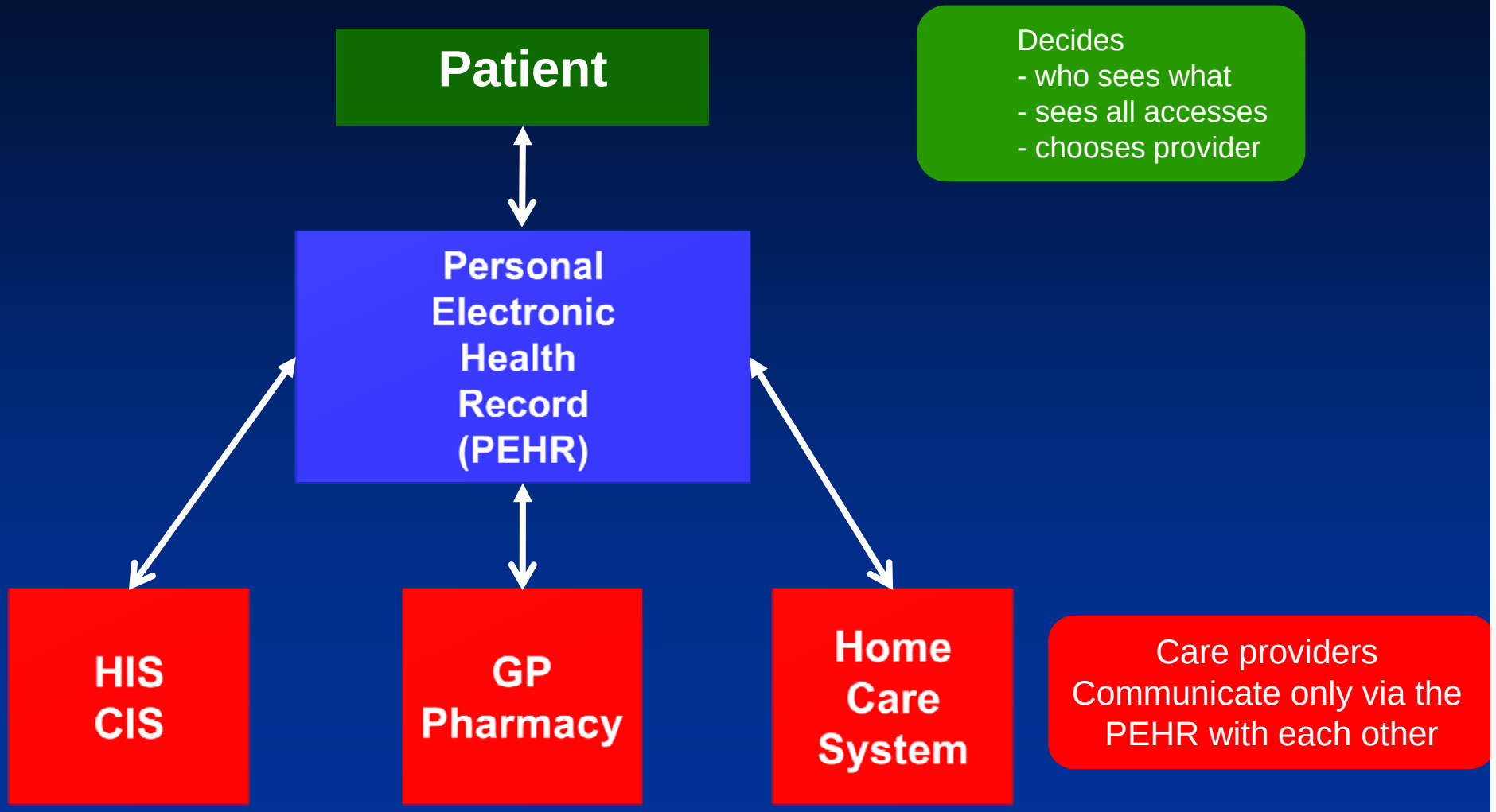
- Open access and logging (patient controls)
- Give the power to the citizens/patients

Our decision: Focus on the citizen/patient



Grant Wood

Vision 2 - PEHR



TELEMED Award 2008

How did do it?

Partner

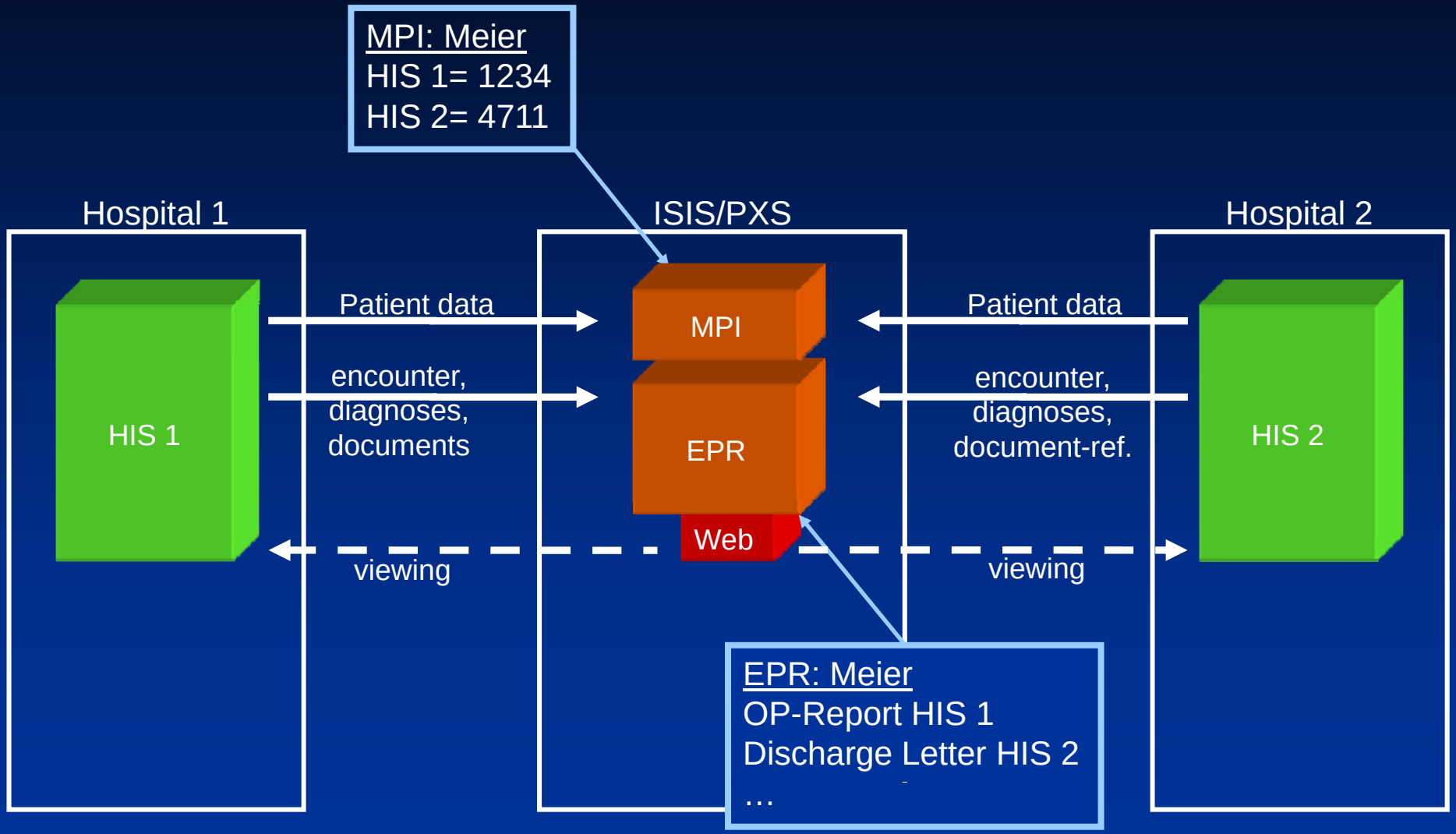
- InterComponentWare AG Walldorf
  - Product: Professional Exchange Server (PXS)
  - MPI and Record Module (EHR)
  - Lifesensor (PHR)
- CHILI GmbH
  - WADO+ Gateway + DICOM Webserver
- Rhine-Neckar Health Centers (GRN gGmbH): 4 Hospitals (1000 beds)
- Specialist practices (2 oncology)
- University Hospital Heidelberg (2000 beds)
  - Maximum medical care
  - 60.000 inpatients/a
  - 250.000 outpatients/a

PEHR Scope

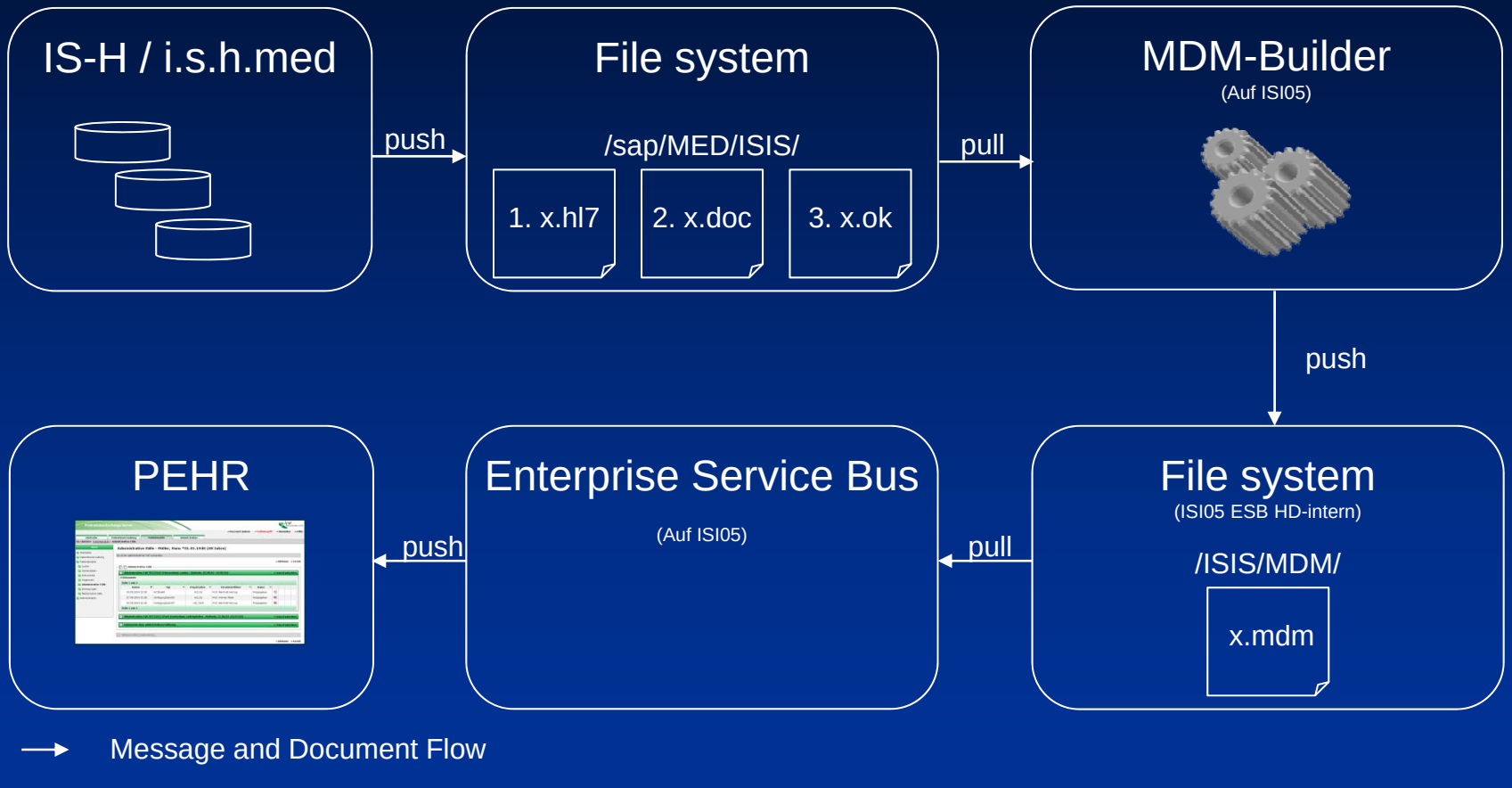
- Rhine-Neckar Region about 2,4 Mio. inhabitants

Technical concept

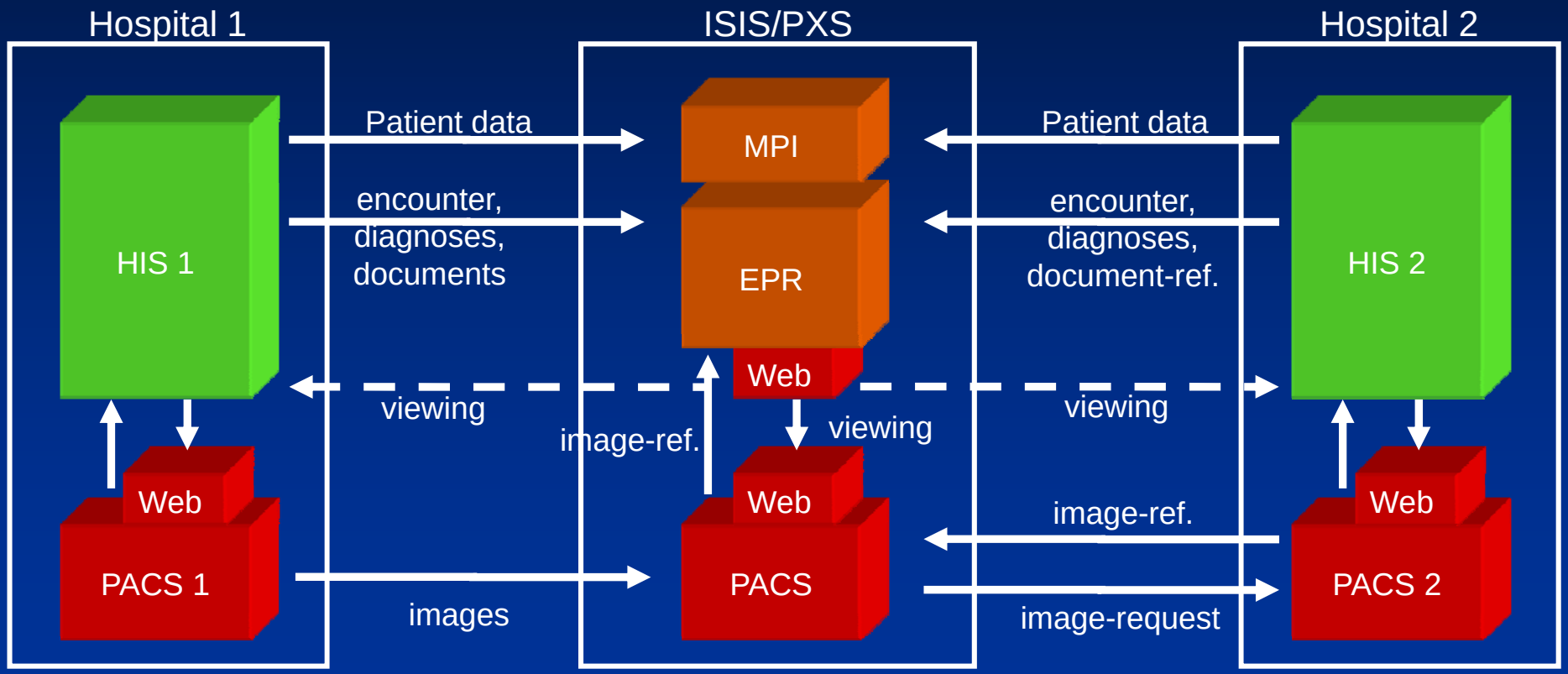
Patient allocation and document sharing



Interfaces - MDM



Patient allocation, document sharing and integration of PACS



Summary …

- …HIS / CIS Interfaces: feasible but complex
- …RIS/PACS Interface: feasible, complex too, but not sufficient
- …Implementation of consent management: decentralized works fine but several disadvantages, centralized feasible, but has to be implemented yet
- …Connection with GPs: until now unsatisfactory
- …Data security: No problem: SSL encryption, certificates
- …Privacy: Highly complex but acceptable, preliminary acceptance of data security officer
- …Access rights: feasible but complex with restrictions: pro PEHR
- …New processes inside units have to be implemented (sending trigger, consent) : problem of acceptance, sometimes top-down approaches required

Thank you!

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