UNIVERSITÄT LEIPZIG

Medizinische Fakultät

# Accessing Patient Information for Probabilistic Patient Models Using Existing Standards

eHealth 2016

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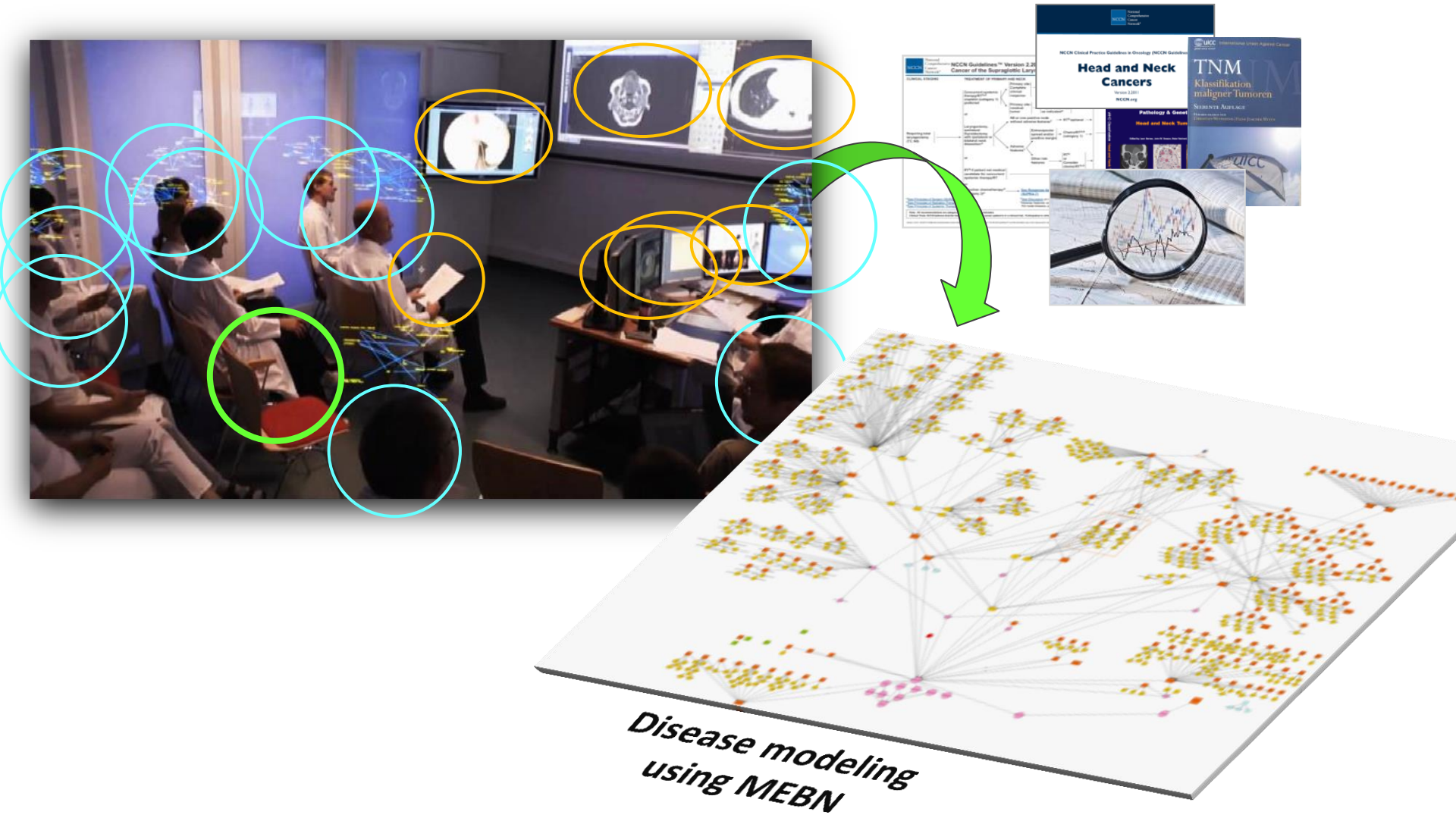
# Presentation Outline

- Probabilistic models for clinical decision support
- Restricted integration into HIS
- System architecture for integrating CDSS
- Benefits and weaknesses

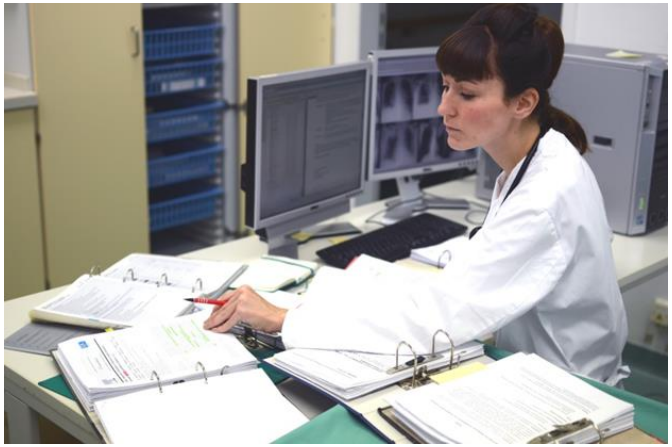
# Decision support for laryngeal cancer

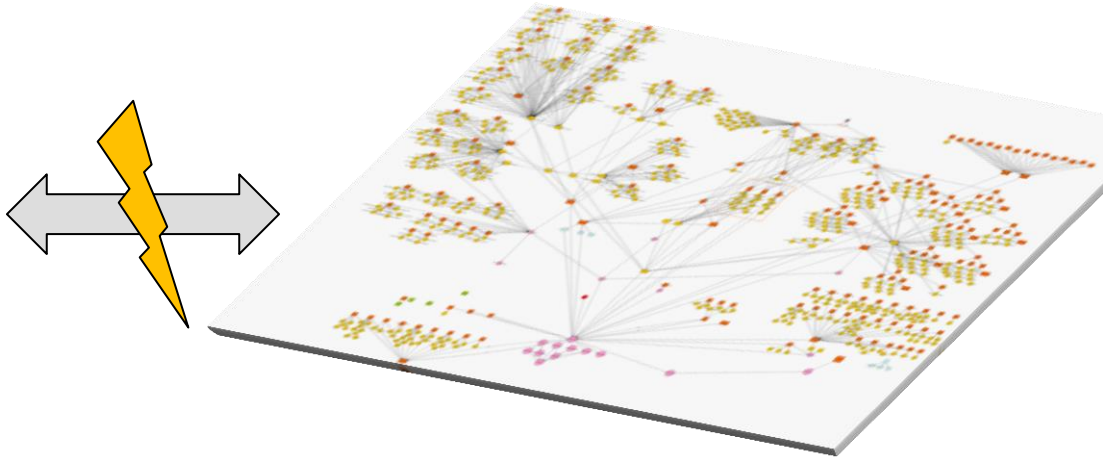
# Probabilistic disease models



# Restricted information access

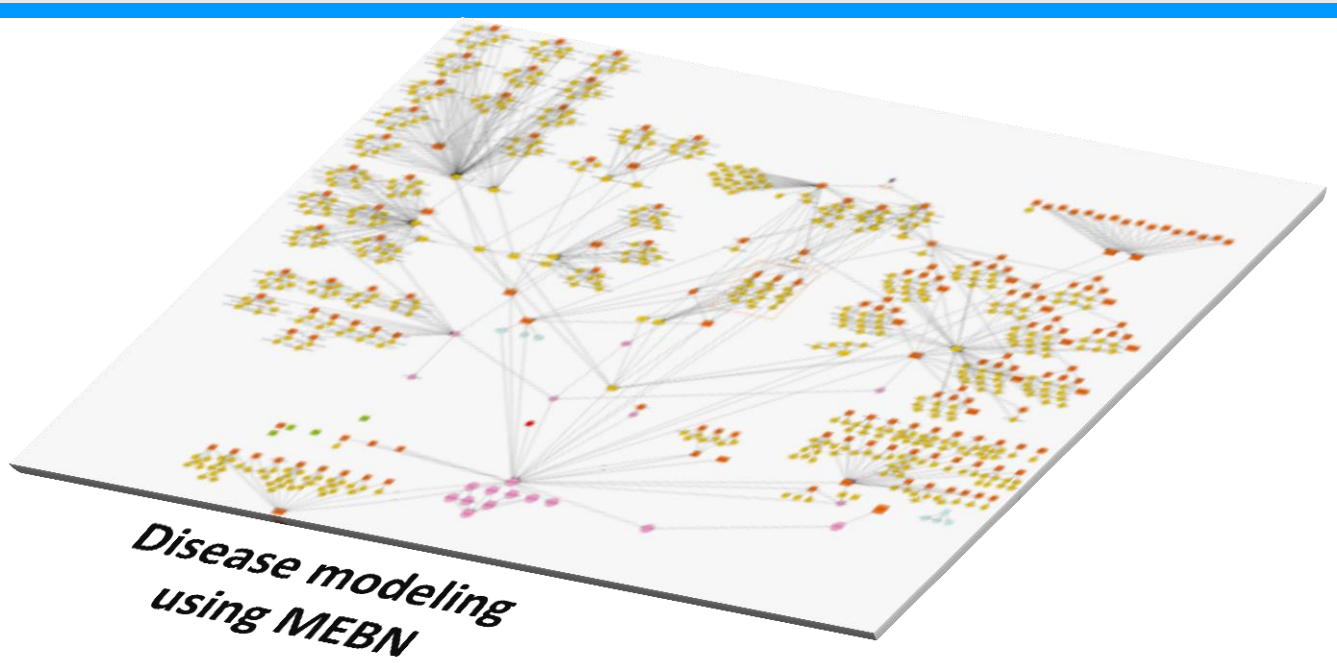
- Direct information access needed
- No efficient solutions for utilizations of patient data*
- European Commission: 27 IHE-Profiles to be referenced





* Lemke HU. Medical device integration in the OR, Interoperability Standards and Issues relating to International Approval Procedures. Health Management Journal. 2015; 15(1):66-73.

# Requirements for information access



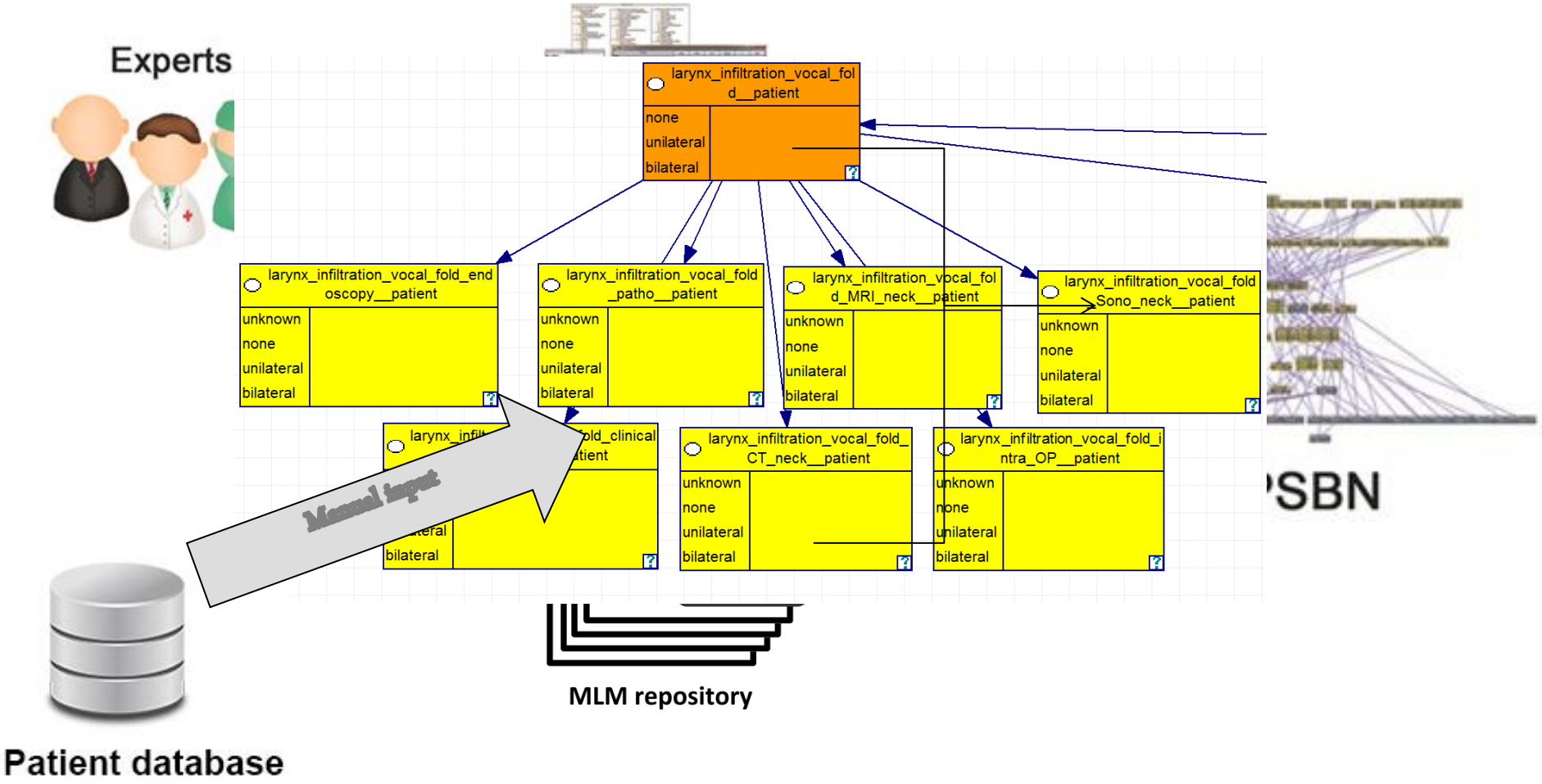

- semantic description and interpretation

The Arden Syntax for Medical Logic Systems Version 2.9

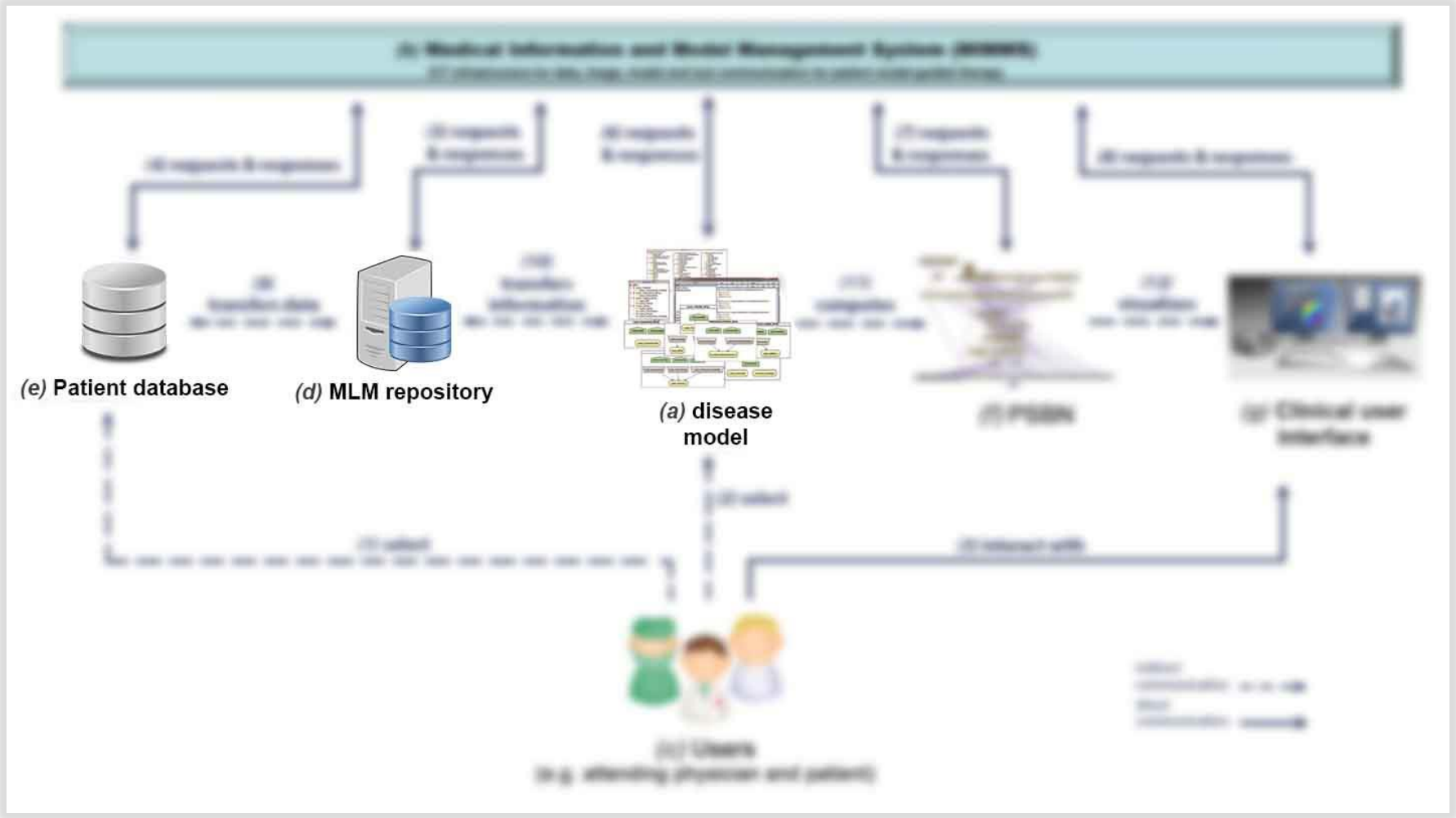
- structural description and communication

FHIR®©

# Previous system development



# Architecture concept for integrated system




* Lemke, HU, Cypko MA, Berliner L. 5. Der virtuelle Patient im Rahmen der Therapie-planung am Beispiel des Larynxkarzinoms. In: Der virtuelle Patient. De Gruyter, 2014. ISBN 9783110334296.

# Architecture concept for integrated system

- Public FHIR test server
  - http://fhir2.healthintersections.com.au/
- Exemplary data for TNM staging


- myCare2x
  - http://mycare2x.net/

# Conclusion

- Limited integration of CDSS into HIS
- Arden Syntax for information description and processing in probabilistic decision models
- FHIR suitable tool for identifying and communicating
- Routinely recorded patient data available for CDSS

- Different descriptions for information possible, various terminologies to be considered
- Further data processing needed depending on the data structure in HIS
- Increased complexity in modeling and maintenance
- Application of FHIR by vendors

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UNTERNEHMEN REGION
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# DORS 2016

## DIGITAL OPERATING ROOM SUMMER SCHOOL

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# Thank you


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