

# An International Minimal Patient Care report Exemplified in FHIR to Facilitate Standardisation and Interoperability of Emergency Medical Services Data

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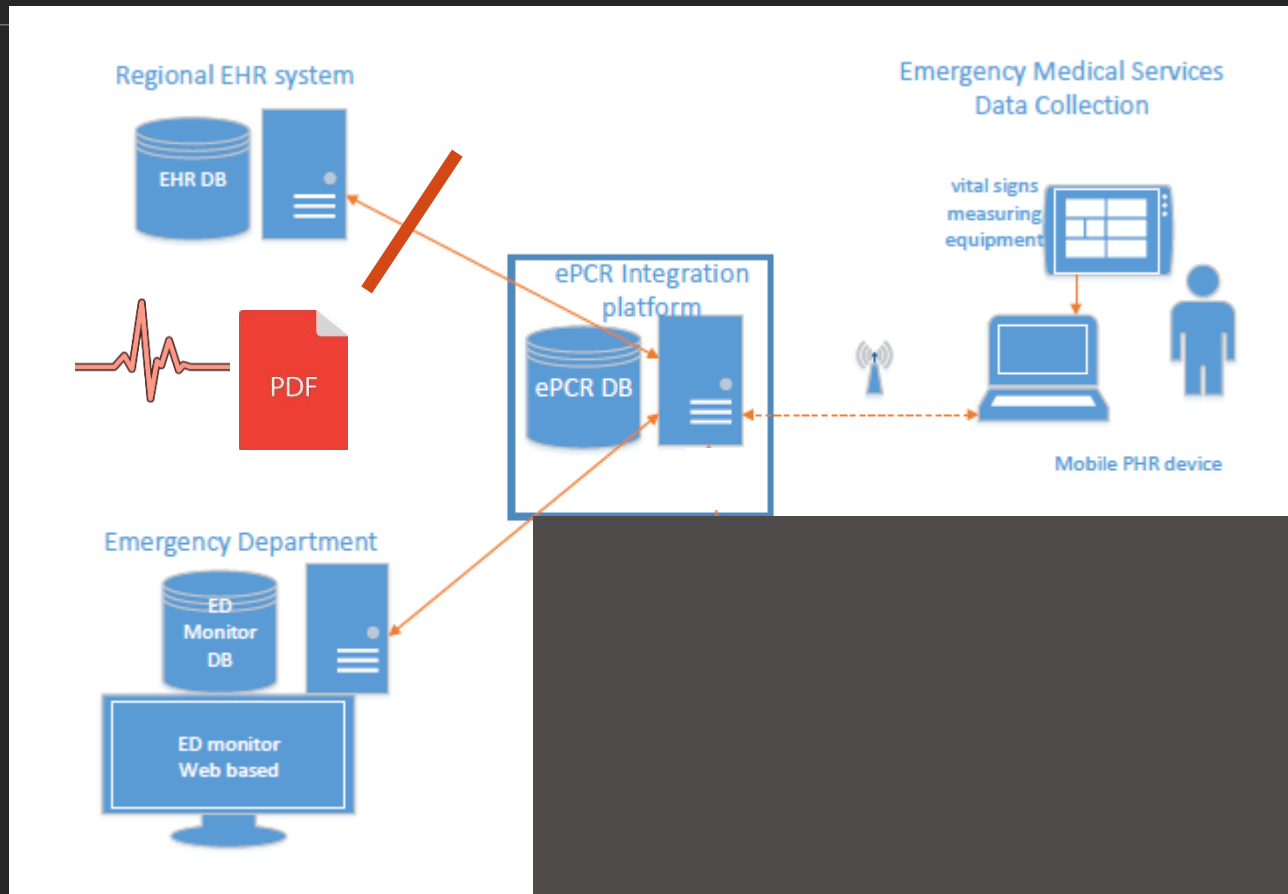
# The problem in healthcare IT

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- Data silos
  - Differing standards
  - Differing vendors
  - Systems accumulated over time
- Clinicians requires overview of patients
- Cross sectional care is paramount



# Danish Patient Care Report Case



# Interoperability

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## Structural/syntactic

- Structure of data guaranteed
- Meaning/interpretation not guaranteed

## Semantic

- **Meaning** of data is guaranteed
- Machines can process it
  - Enables clinical decision support

# Achieving semantic interoperability

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1. Same data
2. Data exchange standard
3. Terminology binding (Massive area, out of scope)

# Common data collection(IMPCR)

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- Why?
  - Standardise data collecting intra and inter country
  - Enable research and cross country/county care
- How
  - Danish and American data set
  - Literature when no consensus

# Why FHIR?

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- A tool for interoperability
  - Structured data exchange
  - Can use terminology
  - Context
- Resources = LEGO blocks
  - Consistent across different implementations
- Vendor adoption





# What was done

STORY	IMPCR CATEGORY	FHIR RESOURCE(S)
<p>...Kathrine Smith, a 24-year old women The EMS personnel notes that she has no known allergies and is an otherwise healthy young woman</p>	Patient + Additional patient information	Patient, AllergyIntolerance, Observation
<p>..fallen off her horse... horse was in mid jump..</p>	Injury	Observation
<p>..is conscious but has pain in her pelvic area, she rates it an 8 out of 10.</p>	Vital signs + Diagnose/symptoms	Observation.Vitalsigns
<p>...put in a hard collar and taped to the hard spine board to ensure spinal stability...</p>	Procedure	Procedure
<p>Once in the ambulance her vitals are measured Temp: 36.2C, HR: 90/min, RR: 22/min, BP: 110/ 65 mmHg, SpO2: 98%OA and GCS 15</p>	Vital signs	Observation.Vitalsigns
<p>She is given a 50 mcg bolus of Fentanyl for the pain along with an additional 75 mcg via IV during the ambulance ride</p>	Medication	MedicationAdministration
<p>The iliac crest feels tender when palpated. The EMS personnel suspects a pelvic fracture ...</p>	Diagnose/symptoms	Condition
<p>..Performs a triage..</p>	Triage	Questionnaire







## Patient

☑ Patient  

...Kathrine Smith, a 24-year old women  
The EMS personnel notes that she has  
no known allergies and is an otherwise  
healthy young woman

Patient +  
Additional patient  
information

Patient, AllergyIntolerance,  
Observation

- deceased[x]
- ▶ address (\*)
- ▶ maritalStatus
- multipleBirth[x] (0) 
- ▶ photo (0) 
- ▶ contact 
- ▶ animal (0) 
- ▶ communication (\*)
- ▶ generalPractitioner (\*)
- ▶ managingOrganization
- ▶ link (\*)

## Should be considered

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- Granularity of the data set
  - (research vs clinical application)
- Flexibility of FHIR

# Thank you

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