

# Regional information sharing in health and social care: UK case studies

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# Acknowledgments to colleagues

- Peter Camboropoulos, Hampshire Health Record
- David Hancock, Coordinate My Care, London
- Gary Leeming, DataWell, Greater Manchester
- Dr Libby Morris, Emergency Care Summary, NHS Scotland
- Dr Nick Booth, Great North Care Record
- HL7 International Patient Summary project team

# Topics

- UK NHS background
- Regional EHR case studies
- National clinical & technical standards
- Patient summaries: national & international

# Background

# The UK 'federation'



- Devolved governments control health policy.
- Current UK populations and NHS expenditure:
  - England (55m, £116bn)
  - Wales (3m, £6bn)
  - Scotland (5m, £12bn)
  - Northern Ireland (2m, £5bn)
- England since 1990s has pursued “internal market” and “plural provision” (some outsourcing) but US-style “Accountable Care Organisations” are seen as the future.
- Wales and Scotland maintain central NHS coordination.
- Northern Ireland healthcare is managed with social care.

# “The” NHS?



# Regional EHR case studies



# Too many to cover more today!

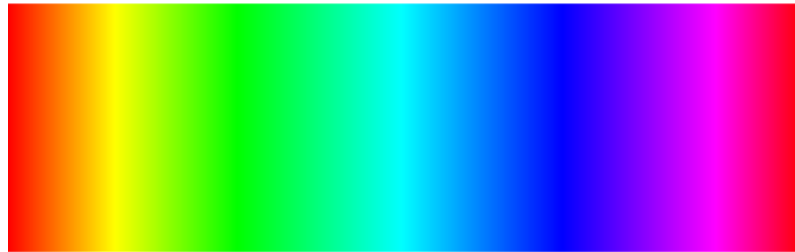




# Spectrum of EHR types

*Generic*

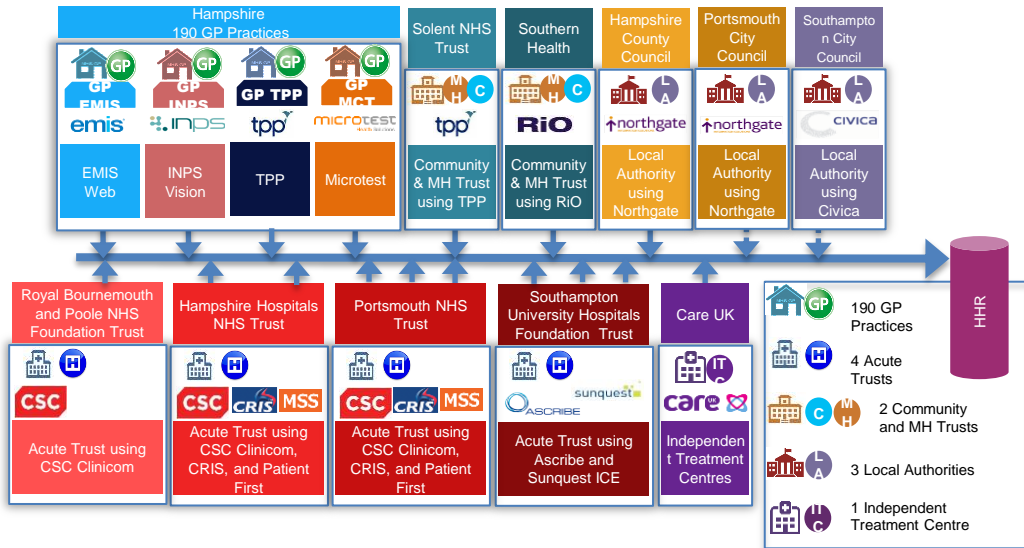
*Use-case specific*



*Thin*

*Fat*

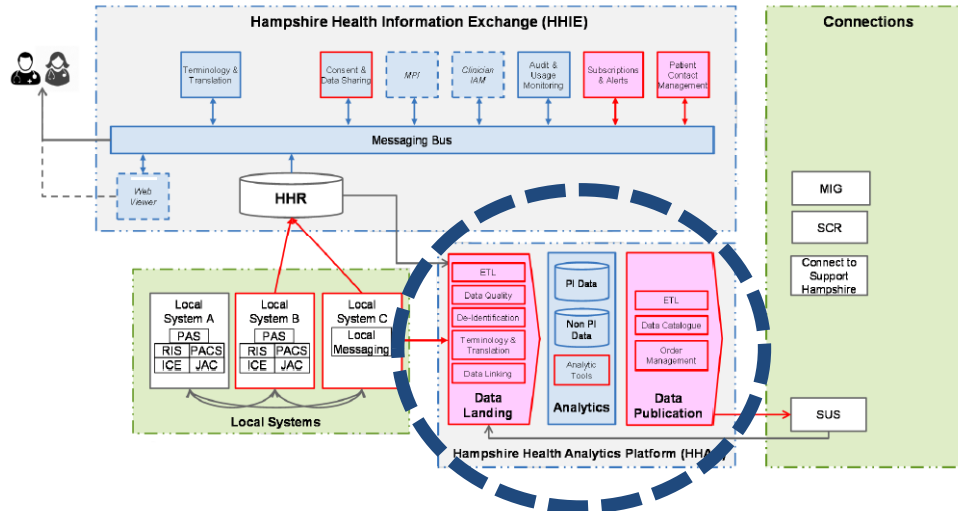
# Hampshire Health Record (HHR)



# Pro-active care with HHR

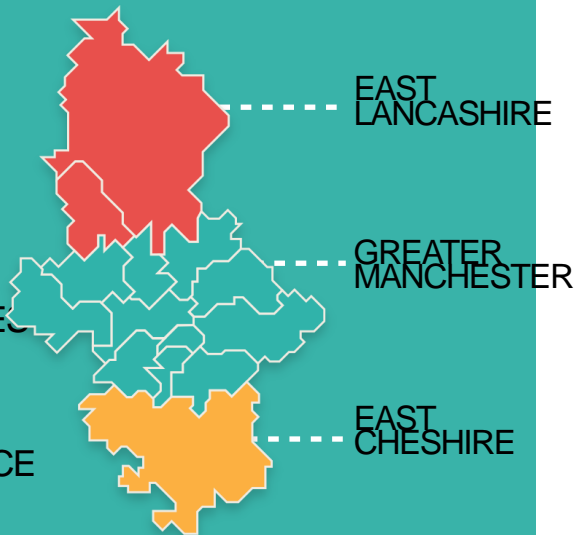
- First step: Child vaccination alerts
- Future planning for patients
  - Patients with deteriorating long term conditions with known likely outcomes
  - Patients with long term conditions with exacerbations/known risk factors
- Event-driven health and care
  - Facilitated planning for discharge from elective decision to admit
  - Alerts on unscheduled admission
- Risk based population health surveillance
  - Identifying patients at risk of adverse event
  - Interventions with patients at risk of developing specific conditions

# HHR Integrated Population Analytics

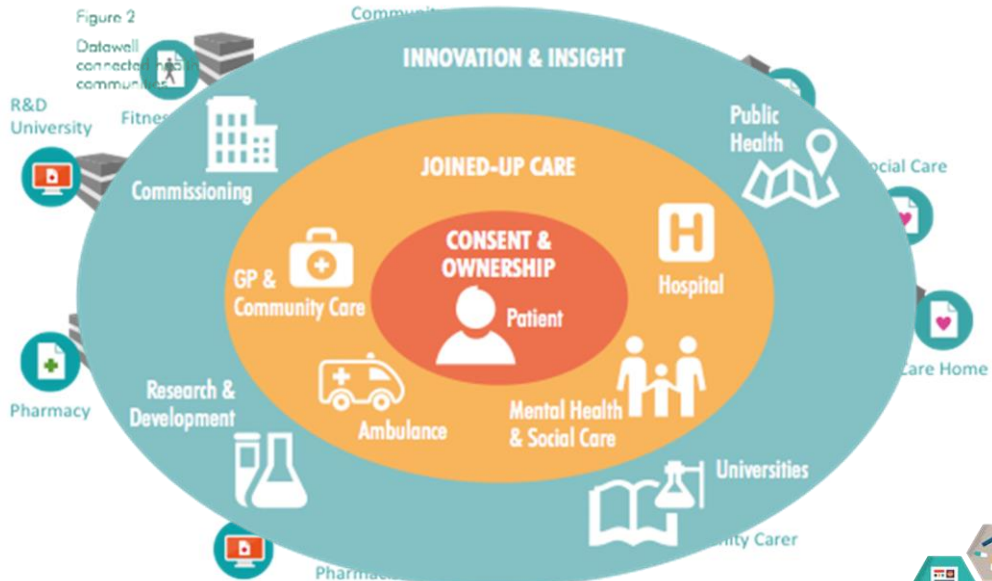


# Greater Manchester

- 14 COMMISSIONERS
- 500 GP PRACTICES
- 16 PROVIDER ORGS
- 12 LOCAL AUTHORITIES
- 4 UNIVERSITIES
- 1 AMBULANCE SERVICE



# Patient-centred care?



# Coordinate My Care



GP

Create,  
Update,  
Review



Urgent Care Plan

Publish



Community  
Nurse



Urgent Care Plan



View  
(Mobile)



Emergency



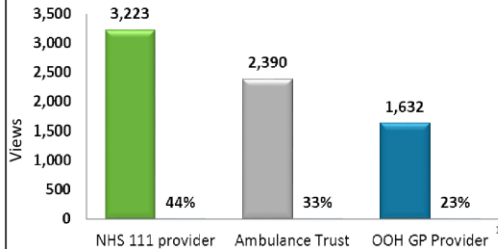
*“Now I have a plan, I feel so much happier. Because I’ve got some control over things. I will probably need urgent care in the middle of the night again – that’s how cancer goes. But, this time, everyone will know what to do with me. I won’t have to explain it all and repeat myself to different people. I’ll get the right painkillers, at the right time. And I’ll be in my own home, instead of sitting in pain, in A&E. I’ll get the care I need, the way I want it.*

*Sitting here, feeling strong today, I can’t tell you how reassuring that is.” - Patient*

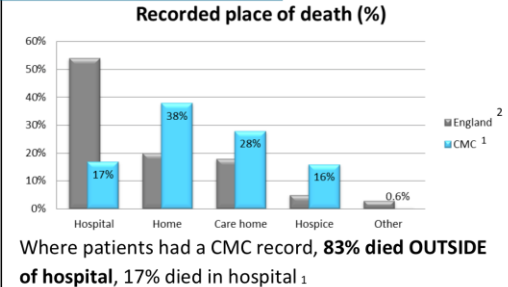


# CMC Results

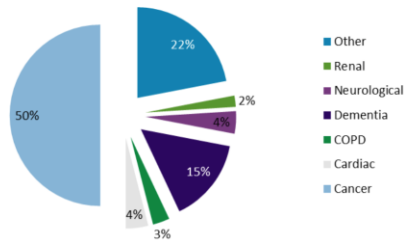
## 1. Access to CMC by urgent care providers



## 2. Actual place of death

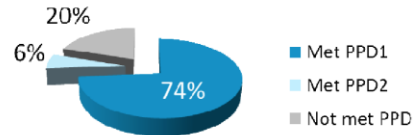


## 3. Recorded diagnosis



An increased trend of dementia as primary diagnosis<sup>3</sup>

## 4. Preferred place of death



**80%** of CMC patients have died in their preferred place<sup>3</sup>

**Every patient with a Care Plan saves £2,100 on average**

# Common issues (1)

- Citizen consent and information governance
  - Most projects use **implicit** consent for upload, **explicit** consent for access (except in emergency).
- Technology
  - Standards-based (CDA, FHIR, XDS) versus proprietary.
  - Insufficient PC/network infrastructure hinders adoption.
  - Many hospitals only have PAS and departmental specialty systems, not corporate EHR.

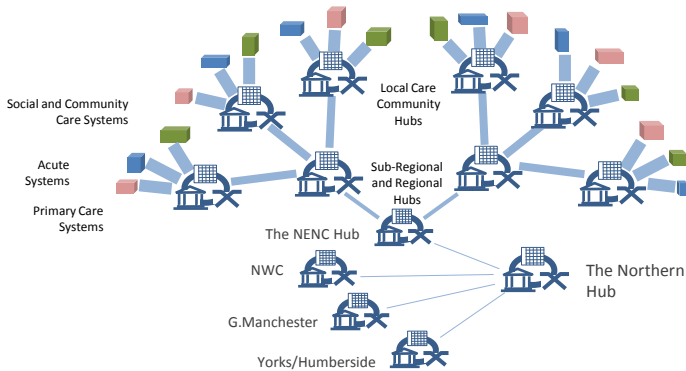
# Common issues (2)

- Clinical content terminology standards
  - Most hospitals don't yet use national drug dictionary (“dm+d”).
  - Laboratories don't yet use standard test catalogue (e.g. LOINC).
- Patient identification
  - Legacy data and legitimate NHS number exceptions.

# Common issues (3)

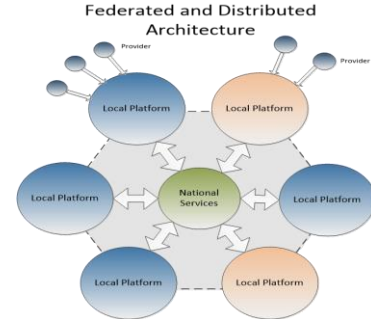
- Need clinically-led transformation programme
  - Lead process change (e.g. hospital admission protocol) and EHR adoption.
  - Benefits need baseline measurement and lifecycle monitoring (and look out for unintended consequences).
- Most regional EHRs have some focus on secondary uses:
  - Population health.
  - Service management.
  - Biomedical research.
  - Most ambitious aim to build a “*Learning Health System*”.

# Emerging “health internet”



A regional view (reality)

National view (idealised)



# National clinical & technical information standards

# PRSB: Patient & Professional Voice

- “Technical standards alone do not ensure the ability for information systems to transfer interpretable health data around the NHS” (DHID Joint Working Group, 2012).
- **Professional Records Standards Body for health and social care** (PRSB) was established in 2013, with representation from all UK nations.
- PRSB members are the Royal Colleges and other professional bodies including patient representatives and British Computer Society (BCS).
- PRSB has been confirmed as 'the preferred route for clinical involvement in patient record keeping national activities' by the National Information Board (England).

# Existing and developing standards

Current standards	In development/planned
Ambulance handover	Care Home Information Flows
Discharge	Child Health Events
Discharge from Mental Health	Outpatient letters
Emergency Care discharge	Care plans
Clinical validation of FHIR profiles (proof of concept)	Self care
Crisis Care (Healthy London)	Referrals



# PRSB information standards are technology agnostic



**Generic clinical information standard**



**openEHR archetype model (pilot)**



**Mind map**



**CDA templates (current)**



**Clinical and technical interpretation**



**FHIR profiles (future)**

# Patient summaries: national and international



The screenshot shows the 'Emergency Care Summary' webpage. The title is 'Emergency Care Summary' with the subtitle 'Improving the Safety and Quality of Patient Care'. Below the title are three small images. The main content area includes a 'Welcome to the Emergency Care Summary homepage' section, followed by a paragraph of text and a 'Tags' section at the bottom.



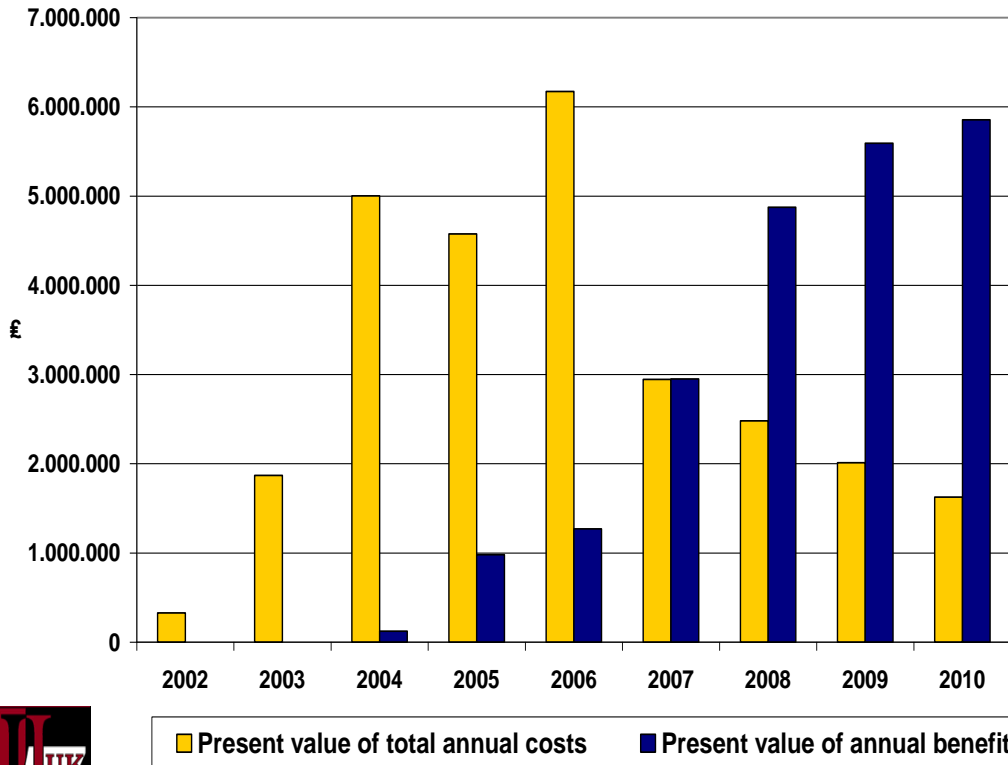
The diagram illustrates 'The International Patient Summary' as a stack of six colored arrows pointing to the right. The layers, from top to bottom, are: Medications (blue), Allergies / Intolerances (light blue), Problems (green), Immunizations (yellow-green), Results (yellow), and Procedures (orange). A pencil is shown at the bottom left of the stack.



A purple circular logo with the text 'Summary Care Records' written in white, slanted font.

# Summary Care Record (SCR)

- Survey of hospital pharmacy department – SCR used for medicines reconciliation
- Much more efficient (scale 1-6, mean 1.7)
- Much safer (scale 1-6, mean 2)
- Time saved per patient (**mean 00:47, CI: 25:00-01:00:00**)
- Limitations:
  - Small, self-selected sample (n=23)
  - Unvalidated instrument, no measurement study



# International Patient Summary



Published for  
HL7 ballot on  
August 4.

Initially CDA,  
but soon  
FHIR.

Working draft  
available now.



[http://international-patient-summary.net/mediawiki/index.php?title=IPS\\_implementationguide\\_1](http://international-patient-summary.net/mediawiki/index.php?title=IPS_implementationguide_1)

# Success factors

- Use international semantic and exchange standards.
- Build a coalition of citizens, clinicians and CIOs.
- Build in granular consent for both primary and secondary uses.
- Accept that Return on Investment takes years.
- Invest in infrastructure.
- Evaluate and improve!

# Спасибо за внимание

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