

INTEROPERABILITY SUMMIT

7TH AND 8TH NOVEMBER 2016



WELCOME...

NATIONAL INFORMATION BOARD DOMAINS

A

Patient engagement: Self-care and prevention

Help patients to take control of their own health and care and reduce the pressure on frontline services.

B

Urgent and emergency care

Improve telephone and online triage and provide better technology to support clinicians so that treatment is better targeted.

C

Transforming General Practice

Use technology to free GPs from time consuming administrative tasks and provide patients with online services.

D

Integrated care and social care

Inform clinical decisions across all health and care settings and improve the experience of service users by enabling and enhancing the flow of patient information.

E

Digital medicines

Give patients greater choice and added convenience by enabling them to choose where, when and how their medicines are delivered. Improve prescribing accuracy.

F

Elective care

Improve referral management and provide a better treatment choice for patients by automating referrals across the NHS.

G

Paper free at the point of care

Equip the NHS with technology that will transform care and ensure the workforce has the skills to get the most out of it.

H

Data availability for outcomes for research and oversight

Improve the quality, availability and integrity of health data so that frontline staff, researchers and decision makers are better informed.

I

Infrastructure

Enable information to move securely across all health and care settings by providing and maintaining robust and future-proofed national systems and networks.

J

Public trust and security

Respect the data sharing preferences of patients and keep their data secure in all settings.

CONTEXT AND APPROACH FOR SESSION

- Context – we are all iterating – but are we clear on where we are trying to get to
- What is the target architecture that will enable us to:
 - bring care information together for that patient in real-time
 - create semantically normalised view for citizen/professional
 - compare against a population in real-time

To enable more precise intervention for patients as part of their direct care

- Approach for Summit - put existing/historic constraints to one side. Be Radical.
 - This is about taking a step-back and outlining the end-state and what are the levels of aggregation needed to enable this
 - **This is not just a rehearsal of what we already know**
 - Continuously push boundaries of thinking through the summit
 - This is not about the granular technical detail but the overall/meta-architecture

OBJECTIVES OF THE ARCHITECTURE

What are the objectives that the target architecture needs to provide for different stakeholder groups...

CARE TEAM

- enabling MDT working across an integrated locality team
- Collaborative care-planning across the team, and with the patient.
- Application of best practice pathway management and adherence to clinical guidance
- identify cohorts for upstream preventative care and disease management.
- Work-flow management & transfers of care within and across services
- Enabling triage and demand management for direct access services (primary, urgent care).
- Social prescribing
- Supporting / guiding patients with self-care

COMMISSIONER

- Population health need, utilisation and predictive modelling
- Capacity and demand modelling
- socio-demographic health needs analysis
- Outcomes measures and performance
- Developing capitated budgets
- Strategic health needs analysis

PATIENT/CITIZEN

- Access to services
- Appointment booking
- Getting access to my records
- Managing my health conditions as a partner with my care team
- Helping me to stay fit and healthy
- Getting results
- Finding out what services are available and relevant for my needs.
- Avoiding unnecessary visits to the GP, clinic, hospital etc.
- Confident about how my data is being used

OPERATIONAL

- Managing flow and anticipating demand in real time
- Managing and allocating resources efficiently
- Supporting staff to work with digital tools (inc. remote working)
- Optimising medicines use
- Supporting clinicians to make safe, timely and effective decisions
- Understand cost-drivers

CRITERIA TO ASSESS THE ARCHITECTURE AGAINST?

- Enables local leadership and buy in (local human effort)
- Supports evolving local service reconfiguration
- Provides optimal security
- Instils trust by citizens/professionals
- Technical feasibility
- Performance and scalability
- Efficiency - avoiding unnecessary duplication
- Encourages wider market ecosystem
- Cost

GIVENS AND ASSUMPTIONS

- What are the givens:
 - Capabilities that should be done once?
 - Standards – data format specifications, APIs, user and patient context preservation
 - Master demographics service
 - Citizen identity service
 - Messaging, Handling and Routing system (including Audit)
 - Record Locator Service - identifying patient record locations and key contacts involved in the care of a patient.
 - Consent management
 - Directory of services
- What are the assumptions:
 - That governance, readiness, leadership are pre-requisites
 - That the approach is based upon an open architecture and open standards
 - That there is a varying maturity across health and social care services

KEY QUESTIONS

- What is the level of aggregation needed (national, regional, local) for:
 - Bringing care record information together for that patient in real-time?
 - Sharing of care record information with/from the citizen?
 - Comparing that individual with a population cohort?
 - Enabling services such as terminology and pseudonymisation
- At what level and where should this data be held?
 - How do we create efficiencies in where/how the data is held?
- How should we be accessing/storing this information?
 - As episodic documents or care record elements

STRUCTURE OF THE SESSION

- How to structure the session?
 - What are the hypothesis/key questions that we can use to test out the architecture?
 - Recognise that there will be nuances and intricacies but this is about the broad direction

QUESTION 1

What is the governance level that information sharing for direct care should occur and be aligned to the care workflow?

- The STP should be the level of “regional information sharing” - this aligns with patient flow and population size (unless justified reason why not - e.g. STP boundaries artificial or super-STP level appropriate).

QUESTION 2

At what level should the data for information sharing provided to and with professionals be held?

- National
- Regional
- Local
- Assumptions:
 - Clinical systems will be accessing and sharing information through standards-based APIs
 - SSO and consistent security model in place and access through native systems
- Options:
 - Professional access to patient information to be at a national level. Information for a patient with local additional content variations dealt with at a local level
 - Professional access to patient information to be at a regional level and then federated and normalised on demand
- Options:
 - Information accessed as care record elements (move away from document-centric) approach

QUESTION 3

At what level should the information about a citizen/from a citizen be exposed?

- National
- Regional
- Local
- Assumptions:
 - Citizen facing apps/systems will be accessing and sharing information through standards-based APIs
 - SSO and consistent security model in place and access through native systems
- Options:
 - Information for citizens to be held at a national level
 - Information for citizens should be held at a regional level and then federated and normalised on demand
 - But then where should information provided by a citizen be held?
- Options:
 - Information accessed as care record elements (move away from document-centric) approach

QUESTION 4

At what level should the information in comparing an individual to a population be held?

- National
 - Regional
 - Local
-
- Assumptions:
 - IG model and rules in place for sharing information for population health to enable direct intervention
-
- Options:
 - Information for population health held at a regional level and normalised at a regional level with the ability to bring together at national level
 - Information for population health should be held at a national level with direct extract from clinical systems/regional exchanges
-
- Options:
 - Information accessed as care record elements (move away from document-centric) approach

QUESTION 5

How do the decisions for information sharing, citizen access and contribution and population health come together coherently?

IMPLICATIONS OF THE DESIGN DECISION ON ARCHITECTURE

National population health management approach

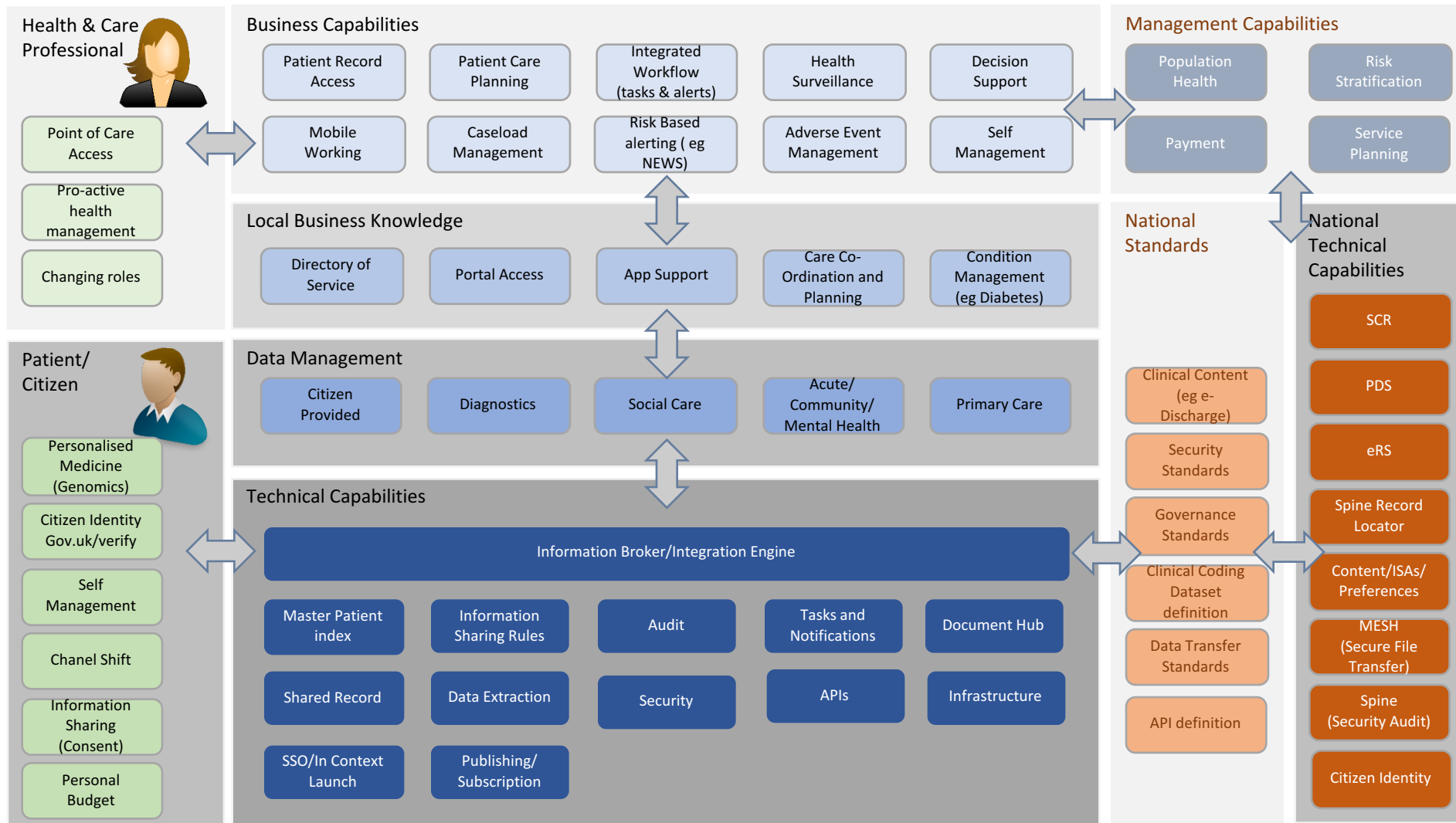
Citizen access and contribution approach

Regional
information
sharing
exchanges

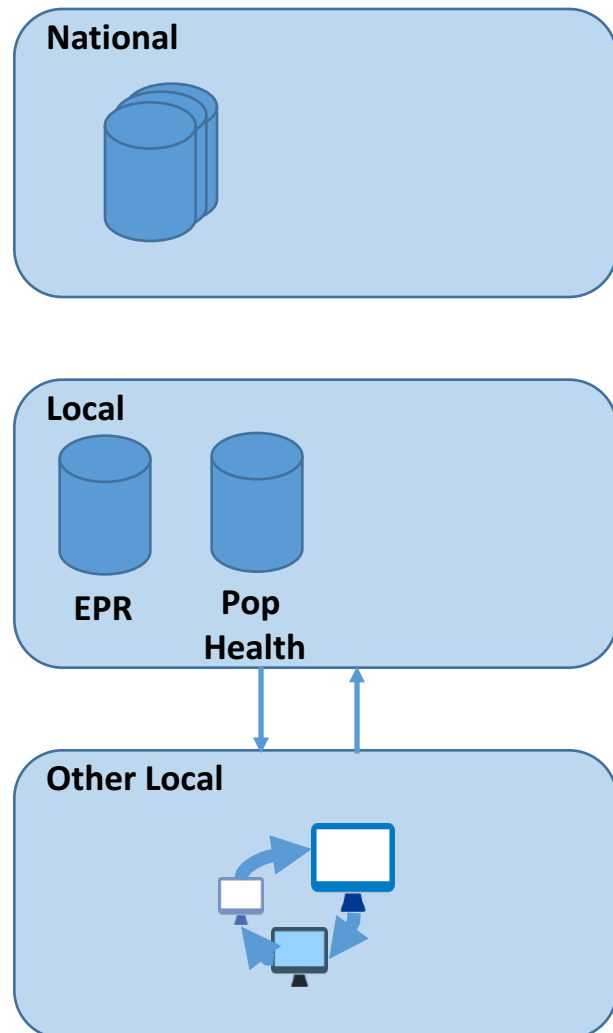
Regional
information
sharing
exchanges

Regional
information
sharing
exchanges

Regional
information
sharing
exchanges



ARCHETYPE 1 – MINIMUM NATIONAL



With option 1 there are a minimum number of national services being provided with the emphasis on local development and deployment

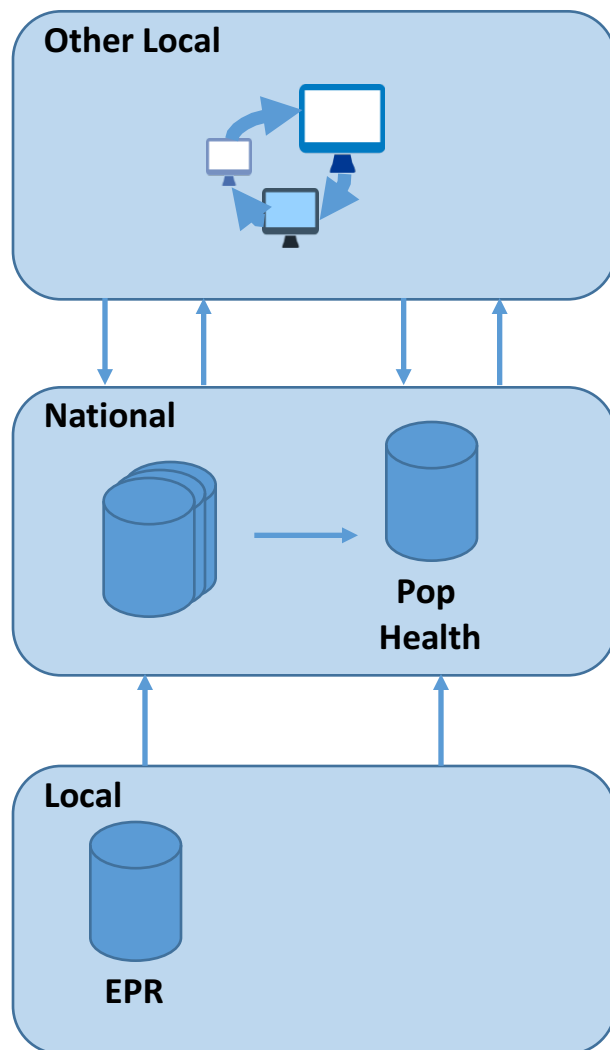
Features:

- Data is held locally and is shared via a locally hosted solution such as a shared care record
- Data for population health analysis is held and accessed locally
- Services such as PDS, eRS and EPS continue to be provided nationally
- Infrastructure services such as MESH, NRLS and SSP, Citizen Identity are developed to support local organisations
- Citizen interaction occurs at a local level in conjunction with local services and national services provided.

Assumptions:

- 1) Local organisations have the resources to ensure national level sharing of information
- 2) Local population health level databases cover a sufficient population
- 3) There are no IG related or trust issues as this is the status quo for data residency
- 4) That the cost will be acceptable to local organisations

ARCHETYPE 2 – CONSOLIDATED AT NATIONAL LEVEL



With option 2 there is a set a core national services .

Features:

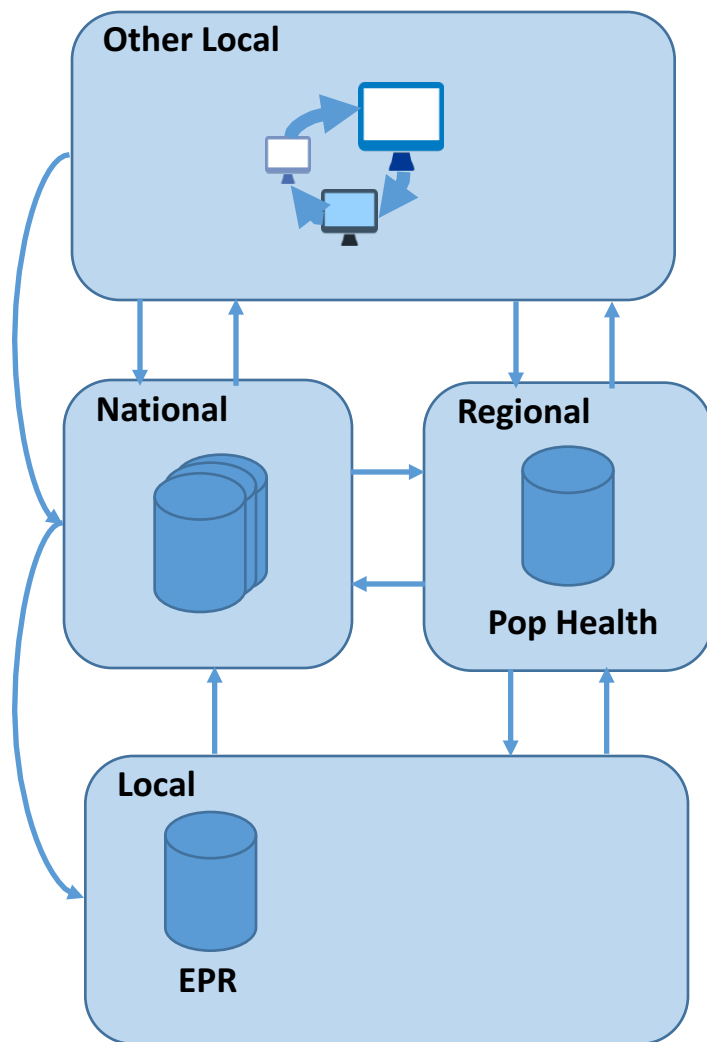
- Data is held locally with a copy of all records also being stored nationally via a “national shared care record” which can be accessed by other local areas to create a record on demand. This based upon capturing of episodic documents.
- Data for population health analysis is held nationally and is made accessible to the all local organisations via a new service. Normalisation occurs once.
- Services such as PDS, eRS and EPS continue to be provided nationally
- Infrastructure services such as MESH, NRLS and SSP, Citizen Identity are developed to support local organisations
- Potential for a single national flow to support both patient record access and population health
- Citizen interaction occurs at a national level in conjunction with local services and national services provided.

Assumptions:

- 1) IG issues can be resolved for such a national store of both the patient record and for population health level data
- 2) Trust issues can be resolved for the store of national data
- 3) That a scalable and performant solution can be developed at a national level
- 4) That local organisation buy in can be obtained in how this is used for local workflow
- 5) That funding would be available nationally to build a system

ARCHETYPE 3 – HYBRID

With option 3 there is a mix of national, regional and local services being provided



Features:

- Data is held locally and is retrieved on demand to build a longitudinal record of the patient (is this achievable?)
- Data for population health analysis is held regionally and is made accessible to the local organisations which are part of that region (but can this be brought together at a national level)
- Services such as PDS, eRS and EPS continue to be provided nationally
- Infrastructure services such as MESH, NRLS and SSP, Citizen Identity are developed to support local organisations
- Potential for a single national flow to support both patient record access and population health (can this be done in real-time using retrieval on demand regionally)
- Retained local ownership of population health level data
- Citizen interaction occurs at a local level in conjunction with local services and national services provided.

Assumptions:

- 1) That IG issues for a regional store of population can be resolved
- 2) That trust for regional rather than national data will be more acceptable
- 3) That a regional population health solution is feasible, scalable and performant to the needs of local organisations
- 4) Maintains buy in from local organisations
- 5) That funding can be distributed to support national systems and local infrastructure

OPTIONS CRITERIA

Option 1:

- Trust: typically local organisations hold their own data currently so the feeling of trust is high
- Security: will vary across localities with differing approaches e.g. local data centre, national, cloud based services
- Performance and scalability: will vary across localities
- Cost: expensive locally especially when combined across England but cheap nationally
- Local ownership: data for all purposes is held locally with control

Option 2:

- Trust: issues exist with the storage and use of information nationally in terms of perception
- Security: will be consistent and high across all data
- Performance and scalability: can be managed centrally and shared across localities on demand
- Cost: high national cost, low local cost
- Local ownership: little local ownership and potentially reduced buy in

Option 3:

- Trust: identifiable data can remain local with population level data national providing and increased perception of trust
- Security: will be consistent and high across all data for national services and infrastructure used to access data
- Performance and scalability: can be managed nationally for those services with support to deliver locally based upon demand in areas
- Cost: high national but will benefit from a “do once” approach. Local components for access to data
- Local ownership: control locally of data which is accessible and active management ability for data on pop health