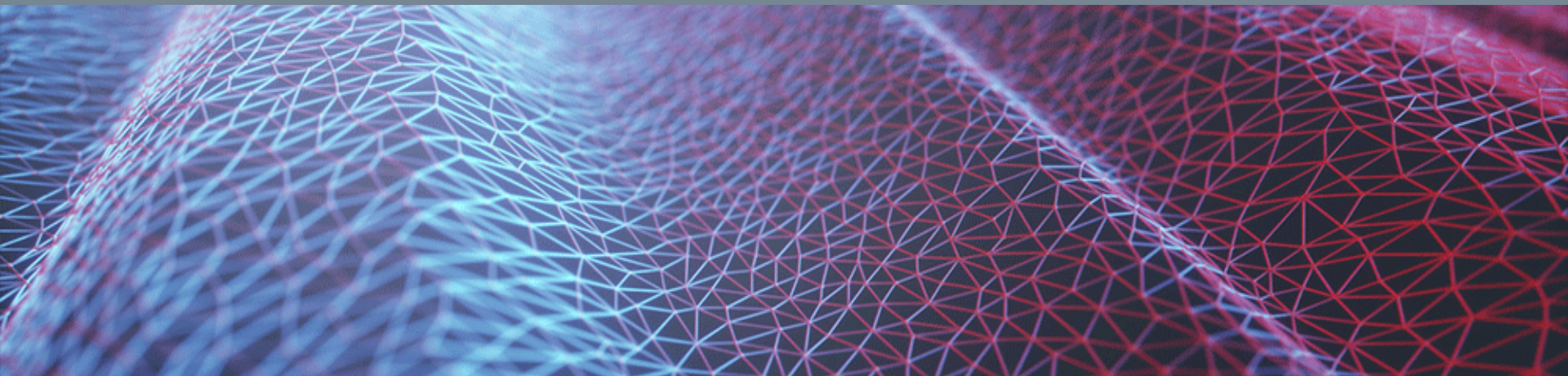


Connecting digital systems in England



Dr Simon Eccles

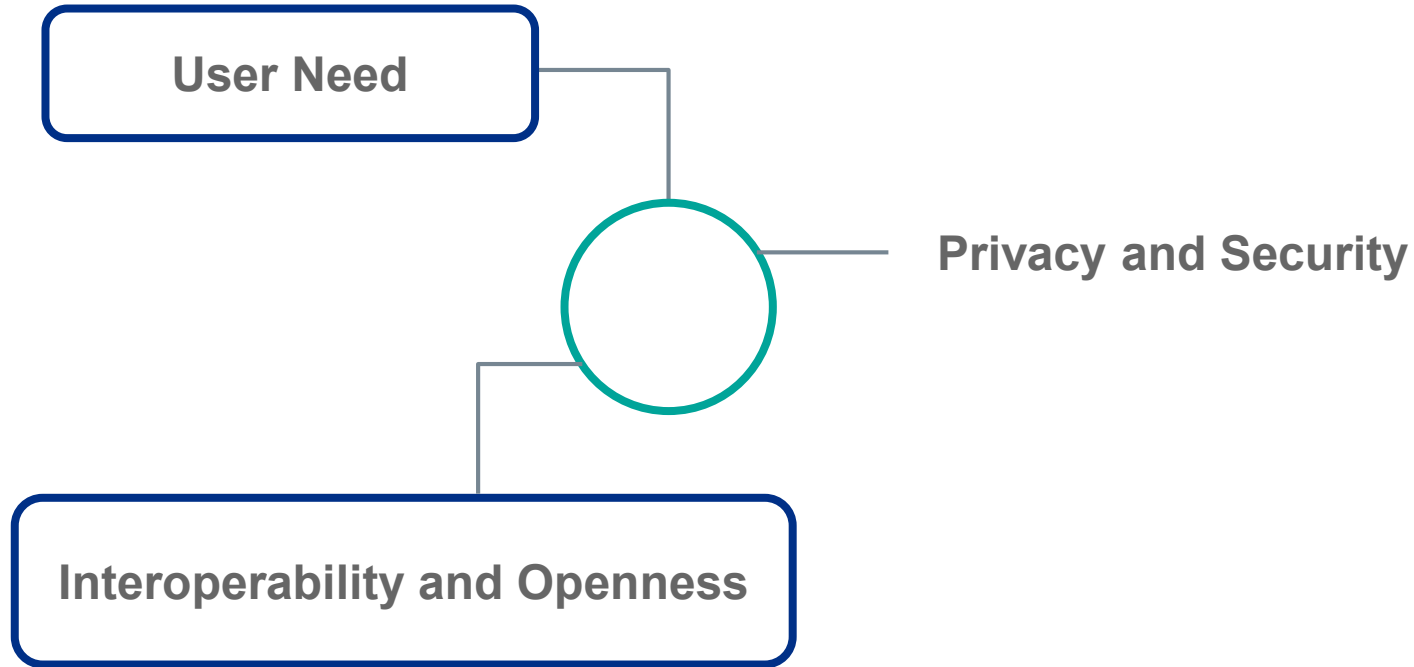
Deputy Chief Executive, NHSX
Chief Clinical Information Officer for Health and Care

NHSX

**Overseeing the
comprehensive
digitisation of health
and care in England
by 2024**



Technology vision: guiding principles



NHSX Missions



Reduced
burden on staff,
so they can
focus on
patients

Citizens have
tools to access
information and
services
directly

Clinical
information can
be safely and
digitally
accessed

Improvement of
patient safety
across the NHS

Increased
NHS
productivity

CCIO 7

1. Citizen ID
2. Staff ID
3. Medications
4. Dates and scheduling
5. Clinical observations
6. Basic pathology
7. Diagnostic codes



Technology vision: our approach

- **Standards and platforms** – a model of centrally agreed standards and local delivery.
- **Market-led digital innovation** - only building from the centre where it makes sense for us to do so, e.g. platforms and common technologies.
- **Developing local capability** - help to build up local tech skills and capability.



What are our core standards?



Terminology and classifications

- SNOMED CT for clinical terminology
- dm+d for medicines and devices
- ICD10 for disease classification
- OPCS4 for procedure classification

Messaging

- FHIR for new developments
- Legacy national HL7v3 estate
- Legacy HL7v2 within hospital systems

Authentication and authorisation

- OpenID Connect for federation
- OAuth 2.0 for authorisation
- FIDO for authentication
- Verifiable Credentials for identity

What have we done so far?



CareConnect - a library of FHIR profiles which can be used across a range of specifications

Transfers of Care - FHIR based documents for Discharges from acute care, mental health and A&E and outpatient clinic letters

GPConnect - a service to access a HTML view of the GP record for any patient

NHS Number - a national identifier for all patients across England

SNOMED in primary care - roll out of SNOMED as the single terminology across all of our general practices in England (around 8000) is almost complete

dm+d in primary care - implementation of a single terminology for medicines across general practice and within the national prescriptions service

Medication standards - guidance for dose and product-based translation

Making medicine prescribing safer

- Improve safety
- Reduce waste
- Improve health
- Join up care
- Support people

Medicines use is increasing

Medication is the most common form of NHS treatment that people receive.



£17.4

Billion Spent on medications in the UK every year

That's

10%



Of the total NHS budget

But their use also comes with risks

237

Million errors in the medications process in one year.



Around **5 deaths** every day because of errors in prescription, dispensing or the monitoring of medications.



of people with long term conditions **don't take their medicines properly**

Why?

- Lack of understanding
- Side effects – Inconvenient or painful
- Doubts about its effectiveness
- Forgetfulness or lack of ordered lifestyle

£1

in every £25

spent on medicine is **wasted**



£500

Million in savings in five disease areas if people took their medicines better.





Dose-based

“Flucloxacillin, 250mg orally three times a day for 7 days”



Mental conversion

Product-based

“Flucloxacillin 125mg/5ml oral solution sugar free, two 5mls spoonfuls three times a day for 7 days”

or

“Flucloxacillin 250mg capsules, one capsule three times a day for 7 days”

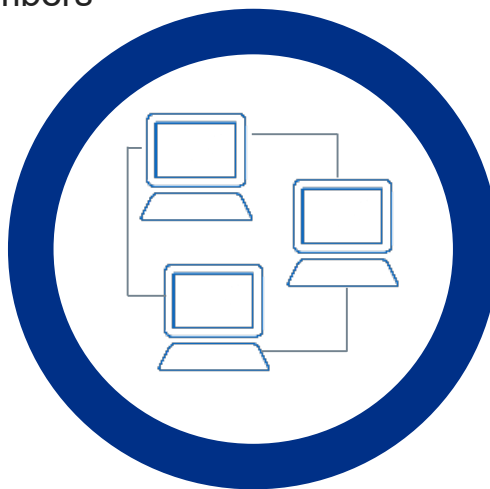
What systems support our interoperability?



Personal Demographics Service - master demographics and source of information on NHS Numbers

NHS Identity - a national service for managing the identity of health and care professionals

National Record Locator - supports the discovery of information about a patient from across the country



Terminology Server (in procurement) - a national service for accessing terminologies and classifications

National Event Management Service - supports subscriptions to national events such as changes to demographics, birth notifications and the creation of new records

Spine Secure Proxy - a national service for managing authentication and authorisation between providers and consumers

NHS Login - a national service for managing patient authentication

West Suffolk NHS Foundation Trust
and Cambridge University Hospitals
NHS Foundation Trust use Cerner and
Epic respectively.

The screenshot displays the HST-MOUSE, MR MICKY web application. The top navigation bar includes links for Home, Lab Results, Vital Signs, and various clinical data points like Patient, Lab Results, and Vital Signs. The left sidebar contains navigation options such as Home, Lab Results, Vital Signs, and various clinical data points. The main content area displays patient information, including the patient's name (HST-MOUSE, MR MICKY), age (27 years), sex (F), and a list of lab results. The lab results table shows various tests, including Hemoglobin, Hematocrit, and Hemoglobin A1c, with their respective values and units.

During the weekend of the launch of this link, a patient was admitted with stage 4 ovarian cancer undergoing chemotherapy. She was vague about her current treatment and prognosis but staff were able to access a recent scan to expedite her treatment and not require a repeat CT scan. This made a huge difference to her care and the time taken for clinical staff to provide treatment.

What's next for us?



GPConnect - access to structured information from the GP record

NHS Identity - rollout of our staff identity standards using OpenID Connect and OAuth 2.0

NHS Login - rollout of our patient authentication service using OpenID Connect and OAuth 2.0

SNOMED in Mental Health - rollout of SNOMED in Mental Health providers

CareConnect - rollout access to the data held in their systems using our FHIR standards

ICD11 - participating in field trials for the next generation of the standard

Pathology standards - creation of a common ordering catalogue and FHIR based messaging

Thank you