Making the Digital Vision of the NHS Long Term Plan a Reality

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Two quotes…

'Starting now and lasting until forever, your health and healthcare will be determined, to a remarkable and somewhat disquieting degree, by how well the technology works.'

Robert Wachter – author 'The Digital Doctor – Hope, Hype and Harm at the Dawn of Medicines Computer Age'

'Too often, digital is neglected and seen as something that can be deferred and deferred again; the mantra 'IT is not free' needs to be reiterated and drummed into every board in the NHS – digital ambition requires prioritisation and funding.'

Richard Corbridge – Chief Digital Information Officer Leeds Teaching Hospitals

The NHS Long Term Plan – Digital First…

- The NHS app will provide the gateway into services
- Digital-first primary care will become a new option for every patient
- Services will be redesigned to avoid up to a third of face to face outpatient visits
- The connecting of home-based and wearable monitoring equipment will increasingly enable the NHS to predict and prevent events that would otherwise have led to a hospital admission
- Clinicians can access and manage patient records and care plans wherever they are and have ready access to decision support and artificial intelligence
- Predictive techniques will support local integrated care systems and optimise care for whole populations
- The hardware to support 'mobile health' is already in most peoples pockets – in the form of their smart phone
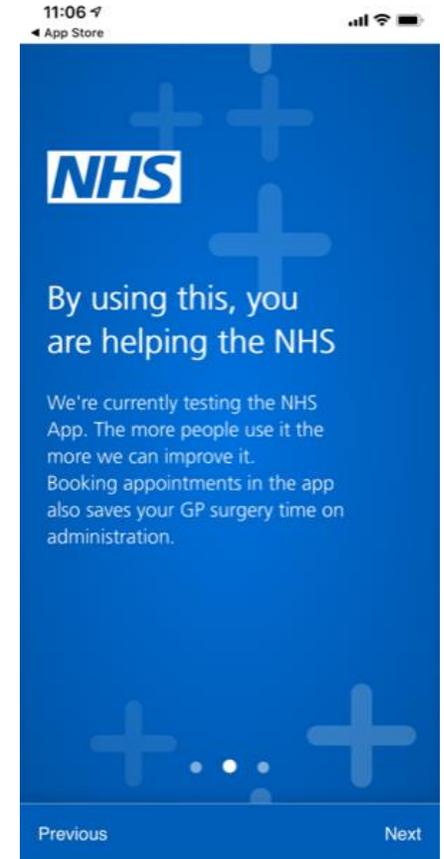
NHS Long Term Plan – Milestones…

- *2019* - All new systems will need to comply with standards
- *2020* - Five geographies will have a longitudinal health and care record and people will be able to access care plans and communicate with clinicians via the NHS App
- *2021* - We will have systems that support population health management in every integrated care system and there will be a CIO/CCIO on the board of every local NHS organisation
- *2023* - Every patient will be able to access digital first primary care
- *2024* - Secondary care providers will be fully digitised including clinical and operational processes across all settings, locations and departments and data will be captured, stored and transmitted electronically, supported by robust infrastructure and cyber security
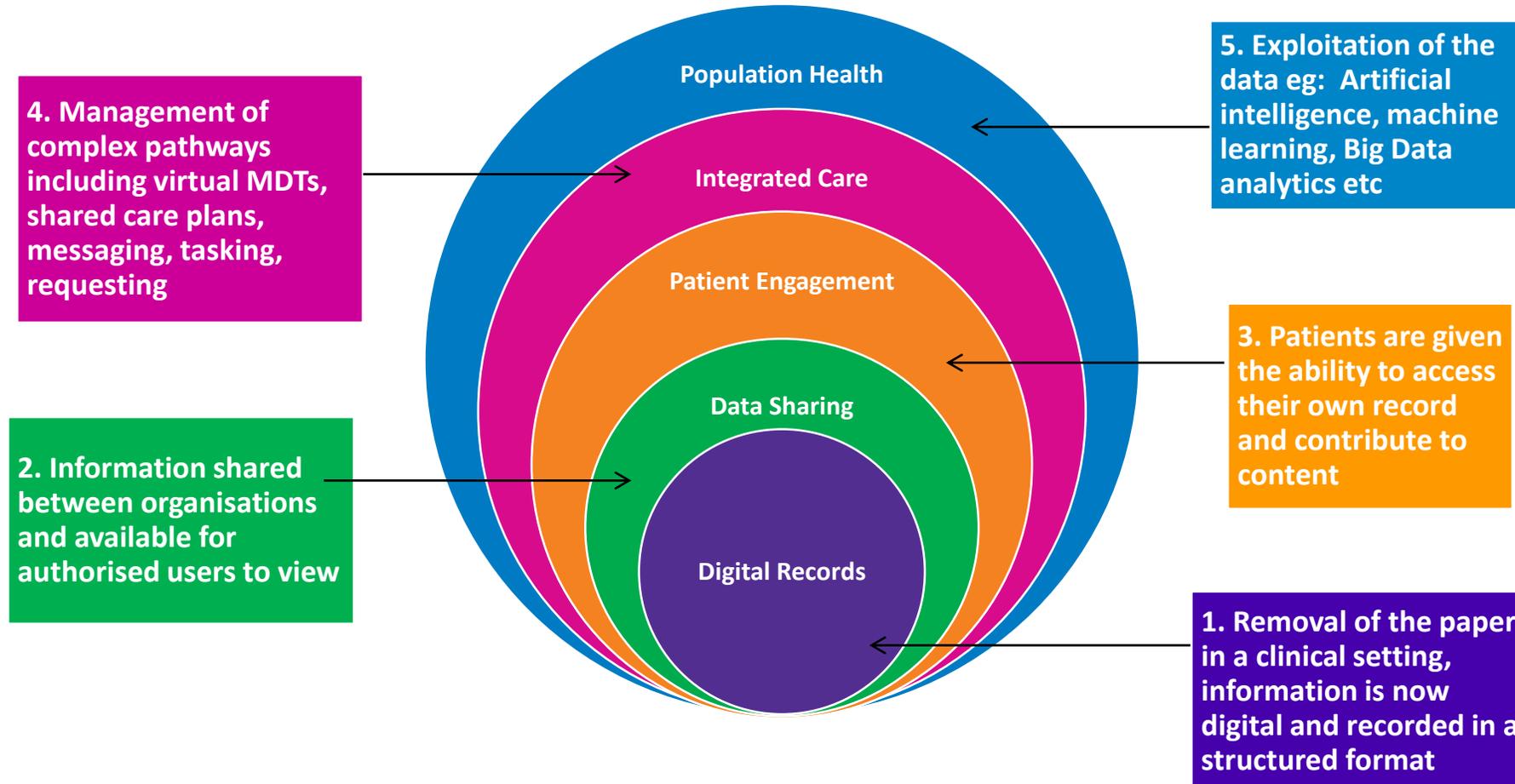
How achievable is the digital first ambition…

- The progress to date in two NHS organisations that are collaborating on the implementation of electronic patient record
  - Imperial College Healthcare NHS Trust
  - Chelsea and Westminster NHS Foundation Trust
- Located within the North West London Health and Care Partnership (aka the STP)
- Part of the Global Digital Exemplar programme
- Both organisations have CIO/CCIO representation at Board level
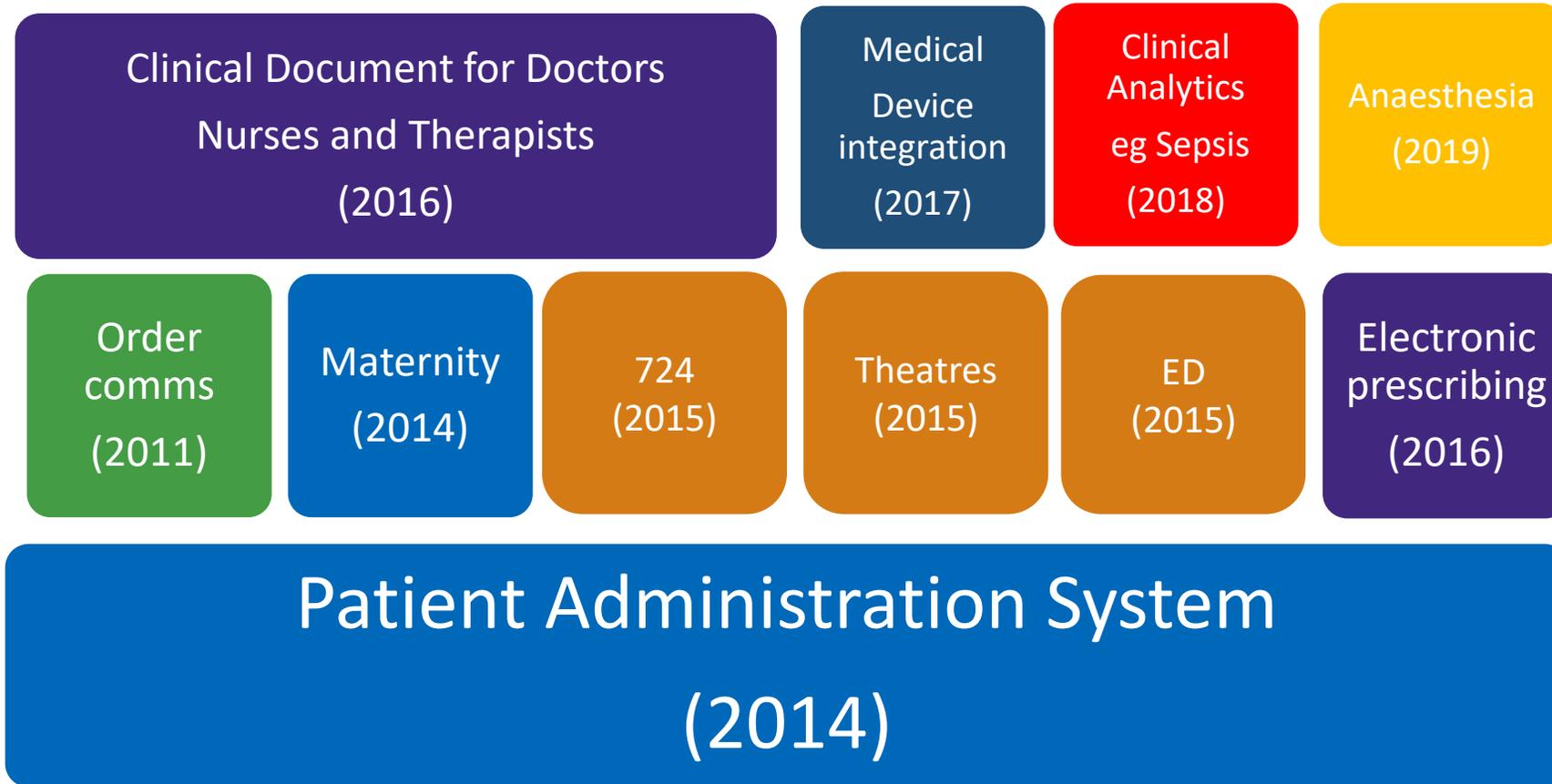- With a vision and strategy that anticipated much of the NHS Long Term Plan….

The Vision: a Simple Ambition…

- When a clinician interacts with a patient they should have access to all of the information we hold on the patient
- They should be able to access the digital patient record at the patient bedside and update the record in real time
- The system they use should be secure and reliable 24/7
- It should be possible to extract high quality data from the system for a range of secondary uses including clinical audit and research
- It should be possible to share the digital patient record with the patient and other care providers outside of our hospitals

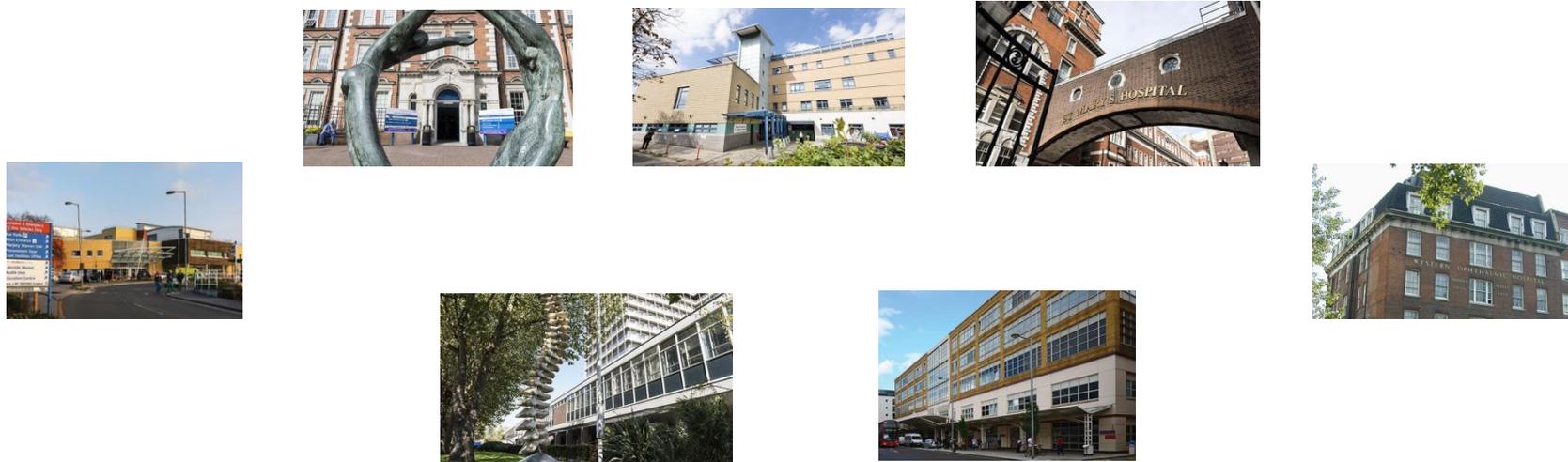# Our Digital Strategy – in five steps

Population Health

Integrated Care

Patient Engagement

Data Sharing

Digital Records

5. Exploitation of the data eg: Artificial intelligence, machine learning, Big Data analytics etc

4. Management of complex pathways including virtual MDTs, shared care plans, messaging, tasking, requesting

3. Patients are given the ability to access their own record and contribute to content

2. Information shared between organisations and available for authorised users to view

1. Removal of the paper in a clinical setting, information is now digital and recorded in a structured format

The Cerner EPR at Imperial

Clinical Document for Doctors Nurses and Therapists (2016)

Medical Device integration (2017)

Clinical Analytics eg Sepsis (2018)

Anaesthesia (2019)

Order comms (2011)

Maternity (2014)

724 (2015)

Theatres (2015)

ED (2015)

Electronic prescribing (2016)

Patient Administration System (2014)

Two Trusts are collaborating….

7 hospitals within 10 miles of each other

- Shared clinicians and shared patients in neighbouring hospitals
- A shared electronic patient record is a natural next step…

Why are we doing this jointly?

- We are sharing the one Cerner system to provide benefits to patients and clinicians:
  - A single patient record across the seven hospitals in the two trusts
  - One system for clinicians to learn
- This approach provides:
  - A system with clinical content that we know works (as it is in use across the five hospitals in Imperial)
  - A successful deployment approach that has been tried and tested
  - Cash savings compared to doing it alone that can be reinvested in patient care
  - Access to a pipeline of developments driven by the larger user base that the two trusts have

Global Digital Exemplar Plans

- The funding enables us to accelerate the delivery of our digital strategy
- The focus is on improving the three high level patient pathways:
  - **Outpatients**
  - **Elective**
  - **Non-Elective**
- The aim will be to maintain a high level overview of the pathway while developing local variations
- The aim is to make improvements to the pathways that will deliver:
  - Improved patient experience
  - Higher levels of staff satisfaction
  - Better clinical outcomes
  - Optimise the utilisation of resources

GDE Plans

- **Investment in technology**
  - Voice recognition
  - Visibility of community and GP records
  - Improved scheduling
  - Set up scanning bureau
  - Develop Care Information Exchange
  - Smartphone apps
  - Medical device integration
  - Diagnostics integration
  - Clinical analytics and population health management solution

- **Investment in people**
  - Divisional Teams
    - Chief Clinical Information Officer
    - Clinical Data Analysts
    - Clinical Fellows
    - Coaching Support
    - Technical support to tailor Cerner
  - Digital Transformation
    - Clinical leads for analytics and clinical assurance
    - Clinical Fellows
    - Clinical Data Analysts
  - ICT Project Support

Digital Maturity Assessment

HiMSS Digital Maturity Index

Level	HiMSS Digital Maturity Index Electronic Patient Record - Cumulative Adoption (English translation)
7	Complete electronic patient record used across the hospital, linked to external Health Information Exchange, clinical analytics, disaster recovery, privacy & security
6	Advanced clinical decision support, technology supports 'closed loop' process for administering meds, blood products and human milk
5	Medical documentation using structured templates, cyber security risk addressed
4	Order entry and decision support, business continuity
3	Nursing and Allied Health professional documentation integrated with the Clinical Data Repository, medicines administration, role based access controls
2	There is a single Clinical Data Repository; Internal Interoperability between systems; Basic Security
1	Laboratory, Pharmacy and Radiology Information Systems; PACS; Digital Non-DICOM Image Management

Digital Maturity Assessment

- As part of the Global Digital Exemplar Programme all participants are required to undergo a digital maturity assessment

- This is carried out using the internationally recognised HiMSS methodology.

- A fully digitally mature hospital would score HiMSS Level 7 - at present there is only one hospital in Europe at that level

- Our assessment showed:
  - HiMSS Levels 1 to 5 – already delivered
  - HiMSS Level 6 – additional functionality required
  - HiMSS Level 7 – many requirements already met

- The evaluation team were impressed with:
  - The clinical leadership of our digital strategy
  - The ubiquitous use of the electronic patient record
  - The use we are already making of the data we are collecting

HiMSS Action Plan

- HiMSS Level 6 (by December 2019)
  - Positive Patient Identification
  - Closing the loop (ensuring a fully digital process) for prescribing and meds administration, management of blood products and human milk
  - Non Radiological Images need to be available in the EPR

- HiMSS Level 7 (by March 2020)
  - Evidence of the comprehensive coverage of the record
  - Linkage into the external Health Information Exchange
  - Exploitation of the data

The Health and Care Information Exchange for North West London

Building an online record of your health, for you and those involved in your care

www.careinformationexchange-nwl.nhs.uk

The NWL Health and Care Information Exchange – what is it?

- Launched with funding from Imperial Healthcare Charity
- It is now the largest patient portal in the country
- It enables patients to access, contribute to and control their health record
- It makes possible secure communication between patients and clinicians
- It supports integrated care and clinical transformation
- It is a strategic asset for the Heath and Care Partnership
- The system is supplied by Patient's Know Best

What does it do?

Clinic letters and discharge summaries

Appointments

Test results

Care planning

Medication

Symptom tracking

19

Where we are now?

6 acute and mental health trusts

16 GP practices

2 local authorities

1,336,678 patient records

28,061 registered patients

904 registered health and care staff

409 carers given access by patients

Figures updated on 23 April 2019

Patients and GPs

David uses the Care Information Exchange to manage his has type one diabetes.

He sees his blood glucose scores online and adjusts his insulin or what he eats accordingly.

Linda's Care Information Exchange record saved her from a weekend in hospital.

That's a patient delighted to be going home. And a hospital with a bed free for someone who really needs it.

Dr James Jensen-Martin is a GP at in Hammersmith.

The Care Information Exchange makes it easier to care for patients with complex needs. And reduces workloads for reception teams, the patient and clinicians.

Dr Nigel de Kare-Silver is a GP in Neasden.

The Care Information Exchange helps him to reduce patients' anxiety and take the next steps in their care

Hospital services

Dr Melissa Wickremasinghe and her colleagues care for patients with lung fibrosis. Many of them are at end of life stage. H&CIE makes a big difference to the quality and experience of their care.

Mel's patients may be on oxygen, weak and with reduced mobility. H&CIE makes video consultations rich and collaborative. Either patient or clinician can share their screen to show a test result, a symptom diary or a letter from a community physiotherapist.

H&CIE allows the team to use patient reported outcome and experience measures (PROMS and PREMS) to really understand how a patient is feeling and responding to treatment. This patient-centred care reduces the likelihood of emergency admissions.

Outpatient appointment benefits

Reducing face-to-face appointments

- Creates savings on patient transport, estate requirements and clinic staffing
- Triage appointments into unnecessary, virtual or face-to-face using H&CIE to capture patient entered symptoms and concerns
- H&CIE allows data to be shared between the clinician and the patient to support virtual appointments

In north west London there are 1.6m outpatient follow-up appointments in our acute hospitals:

- If it is assumed each of these is costed at £150 then the total value is £240m
- A modest target of 3% is worth £7.2m annually and 48,000 outpatient slots

Inpatient Benefits

- Providing patients with wearable devices to track vital signs, ECG, weight and other indicators. Patients can be monitored post discharge and between appointments

- The data can be used to reduce readmissions, surgical site infections, ED attendances and GP visits

- Patients can be discharged earlier. Vascular, Bariatric and Heart Failure services are piloting this in Imperial

- If 50 patients at any given time across the acute hospitals in the sector are discharged 1 day earlier, the sector has 50 more beds, worth over £5m per annum

Can we deliver the digital transformation set out in the NHS Long Term Plan?

- Yes but….

'A good guide to what happens next is to ask yourself how this could get any worse'

Questions?