

NPIC: Northern Pathology Imaging Co-operative

Darren Treanor

Consultant Pathologist, Leeds Teaching Hospitals NHS Trust &
Honorary Clinical Associate Professor, University of Leeds

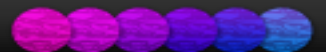
darrentreanor@nhs.net



Christopher Herbert

Director of Operations, Research and Innovation, Leeds Teaching Hospitals NHS Trust

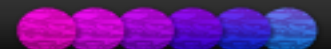
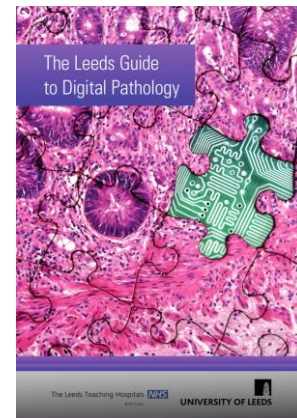
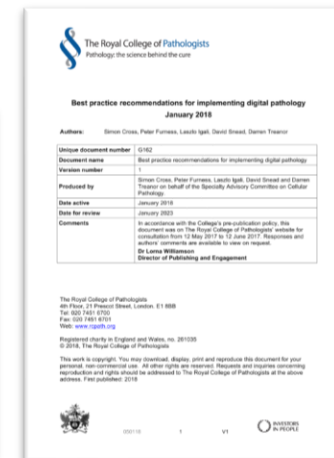
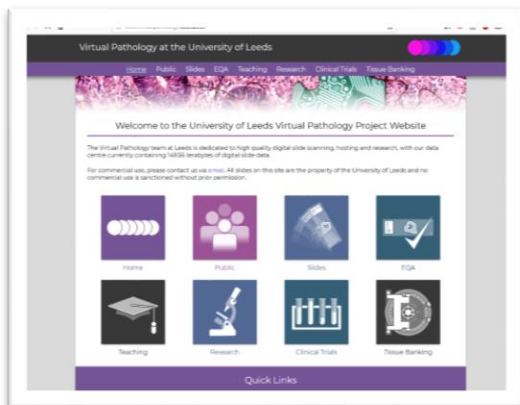
christopher.herbert@nhs.net





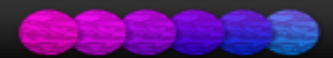
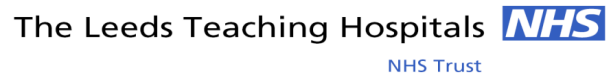
Existing capability and track record

- Innovator in digital pathology for 15 years
- Impactful partnerships with industry, with **proof of delivery**
- Strong foundations
 - 23 scanners
 - University of Leeds: 150 TB, 386,000 images
 - Leeds Teaching Hospitals NHS: 100% digital scanning since Sep 2018
 - Regional collaborations already in place (NHS-I)





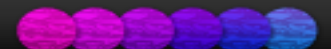
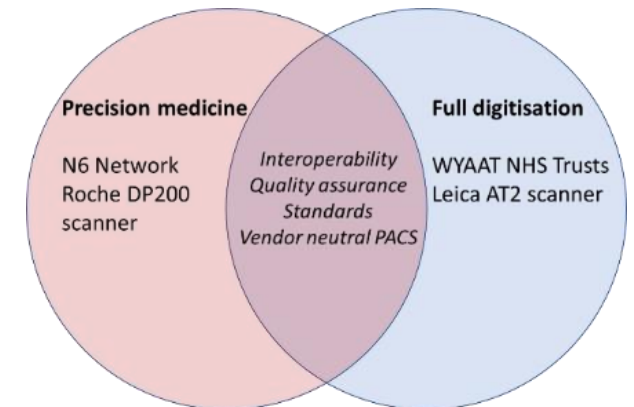
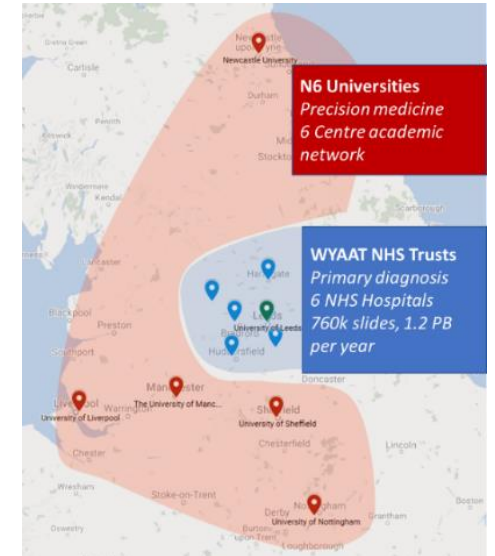
Partners





NPIC: Overview

- Two complementary networks
 1. West Yorkshire Acute Trusts (WYAAT) – 3m
 - Full digitisation of routine clinical practice
 - 760,000 images per year
 - 1.2 Petabytes
 2. N6 Academic NHS Trusts – 15m
 - Precision medicine application of digital pathology





Workpackage 1: Deployment

1.3 National pathology image and data exchanges

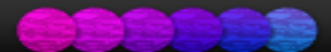
- UK wide transfer of images & data
- Standards based



National Pathology Data Exchange (X-Labs)

National Pathology Image Exchange (Sectra)

AI Tools	Leica	3 rd Party AI tools	Roche
PACS	Leica eSM	Sectra PACS (DICOM)	Roche uPath
Storage	Datacentre/ Microsoft Azure hybrid cloud		IMS Server
Capture	Leica scanner		Roche scanner

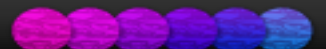


Workpackage 2: Create and share datasets



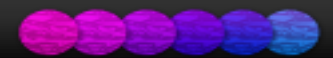
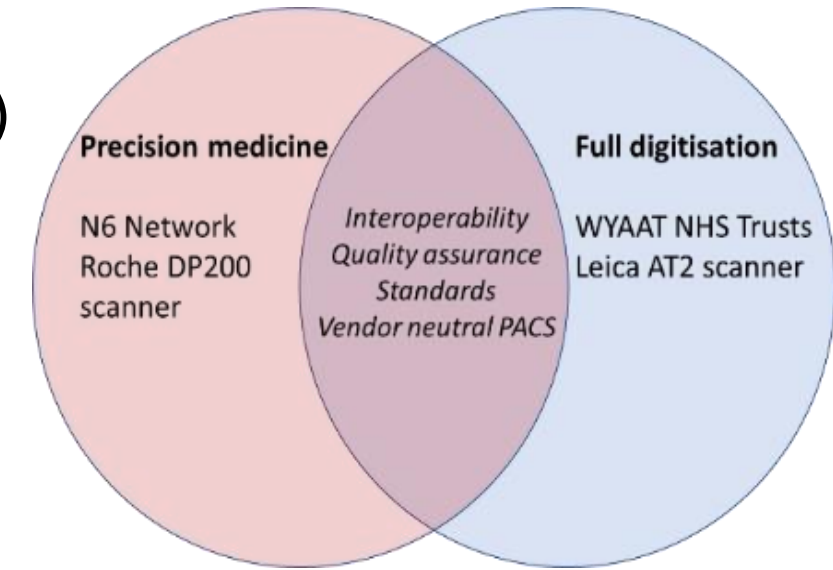
- 2.1. Ethics and public trust
- 2.2. Anonymisation and secure sharing
- 2.3. Creation of clinical data linkages
- 2.4. Grand challenges and **processes for sharing data**
- 2.5. Image library

NPIC Data sharing models
Fully customised datasets <i>On demand</i> <i>Bespoke datasets</i>
Large clinical datasets <i>Annotations, labels</i> <i>Clinical information & outcomes</i>
Tissue and image libraries <i>Fundamental libraries for AI</i>
Grand challenge datasets <i>International competitions</i>
Samples <i>Freely available</i>



Workpackage 3: Interoperability, standards, regulation and quality assurance

- 3.1. Interoperability and standards (DICOM, HL7, FHR)
- 3.2. Quality assurance for DP / AI
- 3.3. Clinical validation and assessment of AI





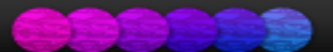
Workpackage 4 & 5

4.1 Clinical adoption

- Factors affecting success of AI
- Engagement activities (pathologists, industry, academia)

5. Exemplars x 3

- Multi-centre data gathering
- Pivotal studies for product approval
- **Re-usable processes** demonstrating utility of two networks





Summary: NPIC

- World leading foundations
- Team with track record of delivery
- Ambitious & Comprehensive
- Long term global vision

- Contact us

Darren Treanor

Christopher Herbert

darrentreanor@nhs.net

christopher.herbert@nhs.net

