Welcome to the 6th NHS Pathology Conference!

4th November 2025
The Studio, 3rd Floor, 7 Cannon St,
Birmingham, B2 5EP

CONVENZIS TRAINING

Please scan the QR Code on the screen below to register your interest for our accredited training courses.

HESUK

Powered by - CONVENZIS

Join the Healthcare Engagement Society (HES)

- **What it is** – A secure, year-round platform bringing NHS professionals together across six specialist communities.
- **Why it matters** – Stay connected beyond today's event, share challenges, and learn from peers facing the same priorities.
- **Your benefits** – Exclusive access to interviews, insights, best practice, and real-time discussion threads with colleagues nationwide.
- **How to join** – Simply scan the QR code, choose your community, and start connecting today.

SCAN ME

Today's Sponsors & Partners

Source LDPath

Canon imageFORMULA

G2 SPEECH DOING MORE WITH SPEECH

Haier Biomedical Intelligent Protection of Life Science

DIAGNEXIA Remote Expert Pathology

Stago Diagnostics is in our blood.

SECTRA Knowledge and passion

aiforia AI for image analysis

LG

HEALTH HN NOW

Backlogs

CIRDAN Improving Wellbeing Through Innovation

ProfilerLive

AIRA MATRIX

InterSystems Creative data technology

PathQA QUALITY AS STANDARD

pathologynews

Genetic Signatures

Cogent Skills Apprenticeships

EVIDENT

Slido

Please scan the QR Code on the screen. This will take you through to Slido, where you can interact with us.

SCAN ME

Chair Opening Address

Mr Chris Sleight MSc BSc FIBMS
Ex Diagnostics Leader within the NHS

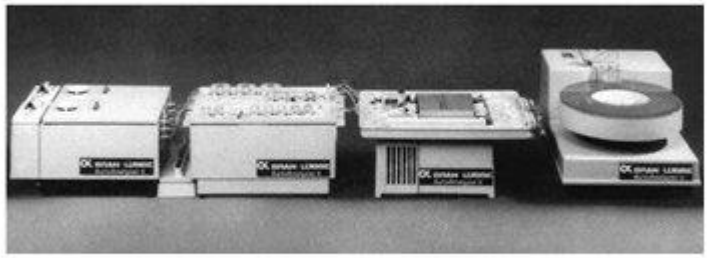
Keynote Presentation

Bruce Daniel
Head of Pathology
NHS England – South West Region

The Role of Pathology in Delivering NHS 2035

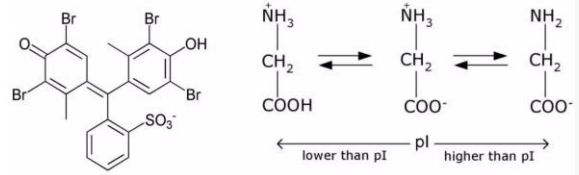
Presented by:
Bruce Daniel
Head of Pathology, NHS England South West region

"A long time ago in a galaxy far, far away...."



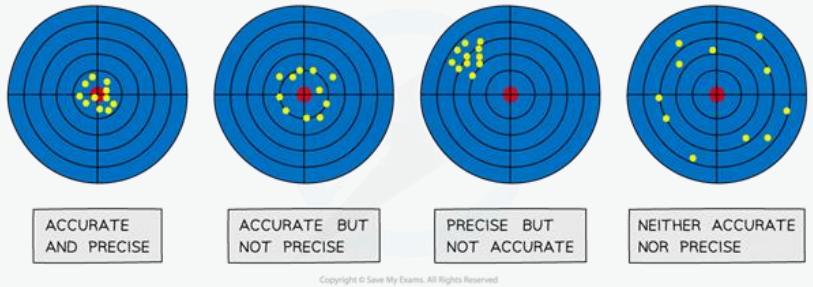
Bromo-Cresol Green Method

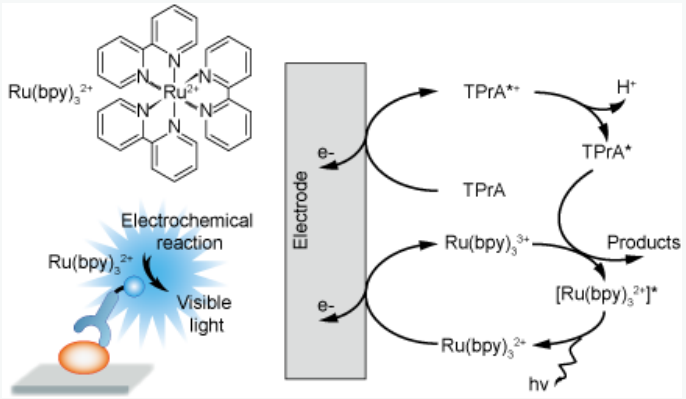
- BCG reagent at pH 4.3 is negatively charged
- pI of Albumin is 4.7

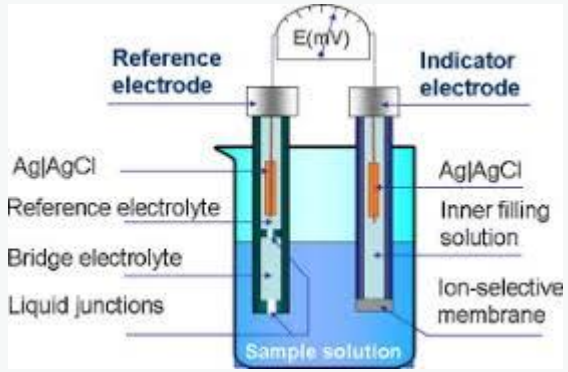


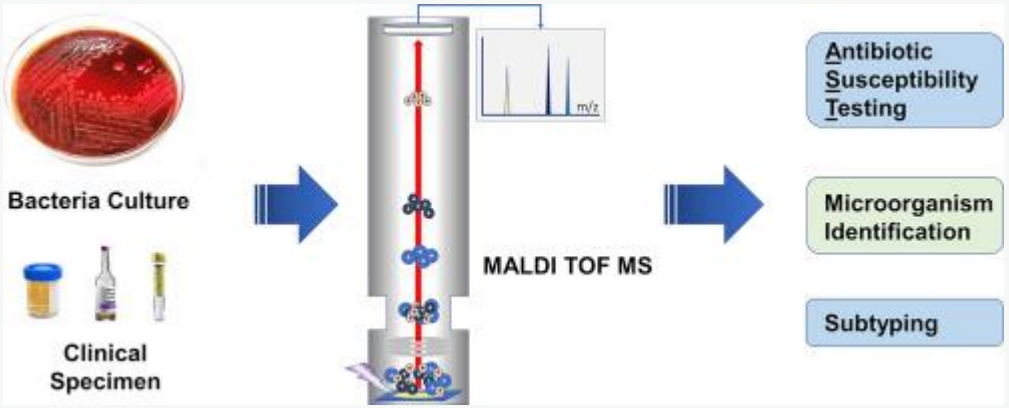
Bromocresol green binds quantitatively with albumin to from an intense blue-green complex with an absorbance max at 670 nm.

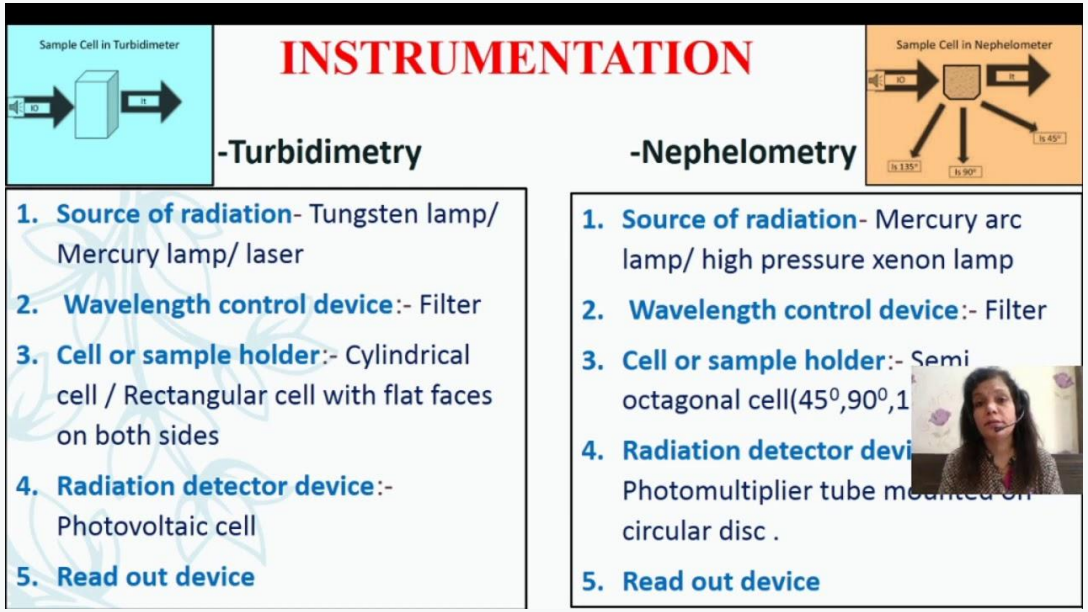
and then the world continued to turn around,



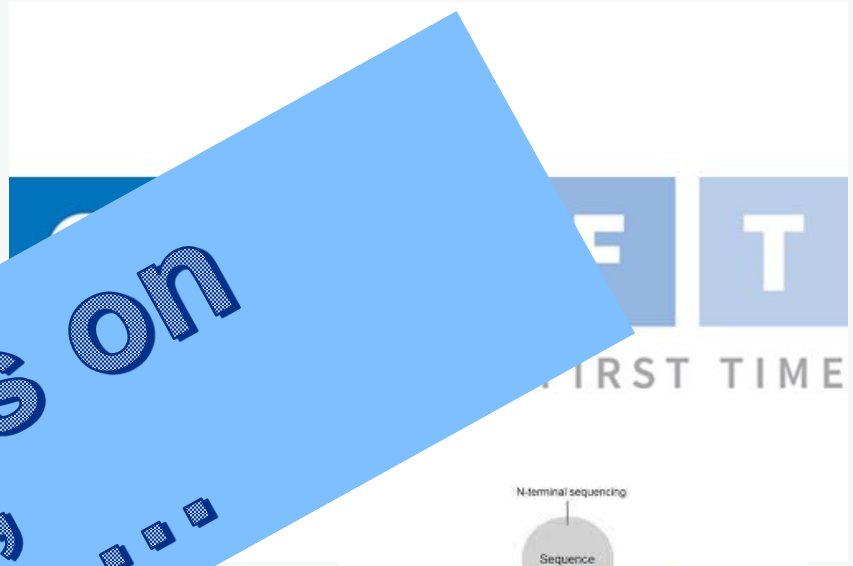




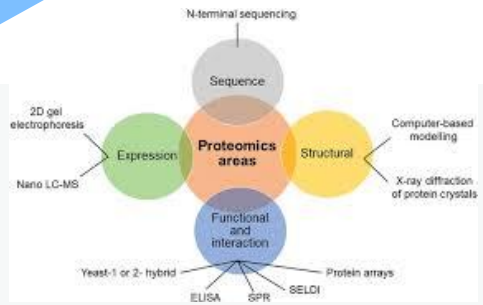


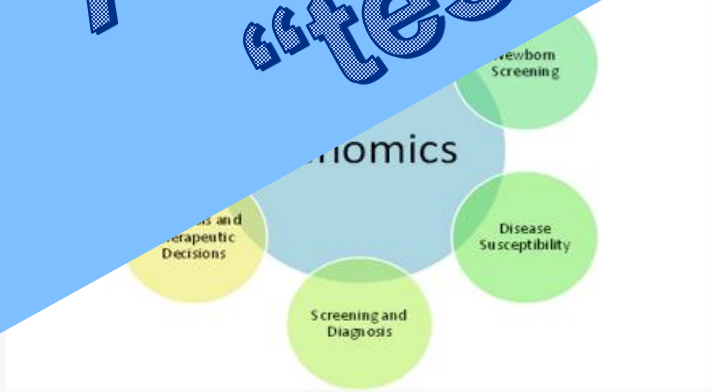


and around



A real focus on "testing" ...





Policy Journey to Pathology Networks in England

From initial Carter recommendations to mandated regional networks and future optimisation.

2006
Carter Review of NHS Pathology

Carter identifies fragmentation and cost pressure

Finds pathology is fragmented, variable and expensive.

Calls for consolidation into managed networks / hub-and-spoke models to improve quality and efficiency.

2010 to 2014
Early regional consolidation pilots

Regional pathology consolidation pilots begin

Strategic Health Authorities launch “pathology transformation”.

Trusts form joint ventures (shared labs, shared IT) targeting ~20% cost savings.

2016
Carter Review on operational productivity

Carter shifts from variation to consolidation

Exposes unwarranted variation in pathology cost and productivity across acute trusts.

Recommends all acute providers move to consolidated pathology networks.

2017 to 2019
NHS Improvement & NHS Long Term Plan

National expectation for 29 pathology networks

NHS Improvement proposes 29 regional pathology networks for all non-specialist pathology.

The NHS Long Term Plan embeds pathology networking as part of the national diagnostics strategy.

2021 to 2024
Near-universal network adoption

Standardising the approach

National benchmarking of network maturity (governance, workforce, shared LIMS, hub-and-spoke logistics).

Capital investment in digital pathology infrastructure.

2025+
Shaping the Future of Pathology Networks

Next phase

Sustain networks at scale - workforce, digital interoperability, turnaround performance, and system resilience across ICSs.

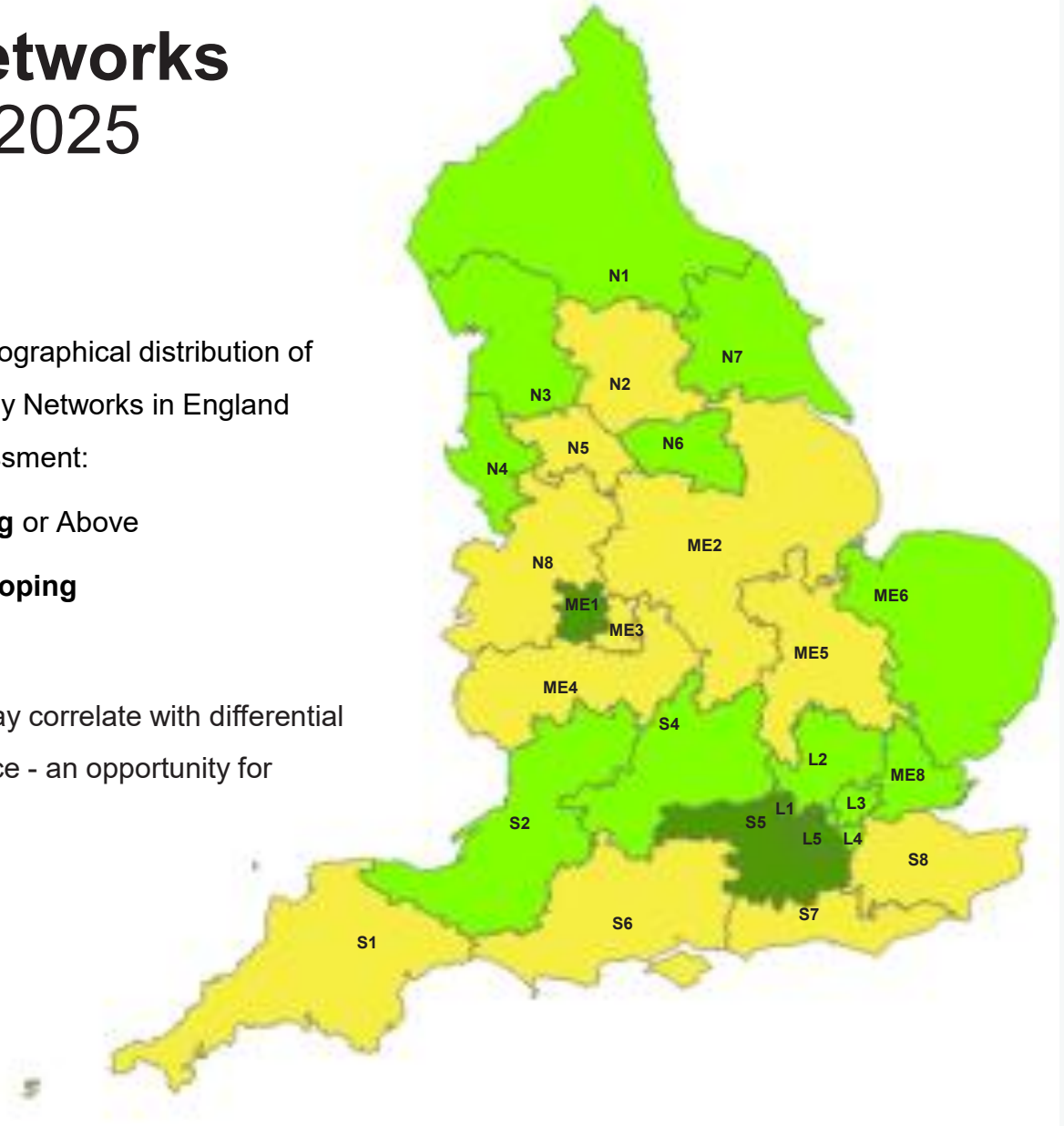
Pre Mandate | **Mandate and Rollout** | **Future**

Pathology Networks
Maturity Map 2025

The Maturity Map shows the geographical distribution of maturity across the 27 Pathology Networks in England following the Spring 2025 assessment:

- 16 network asses at **Maturing** or Above
- 11 networks assess at **Developing**

Regional variation in maturity may correlate with differential productivity and cost performance - an opportunity for targeted support.

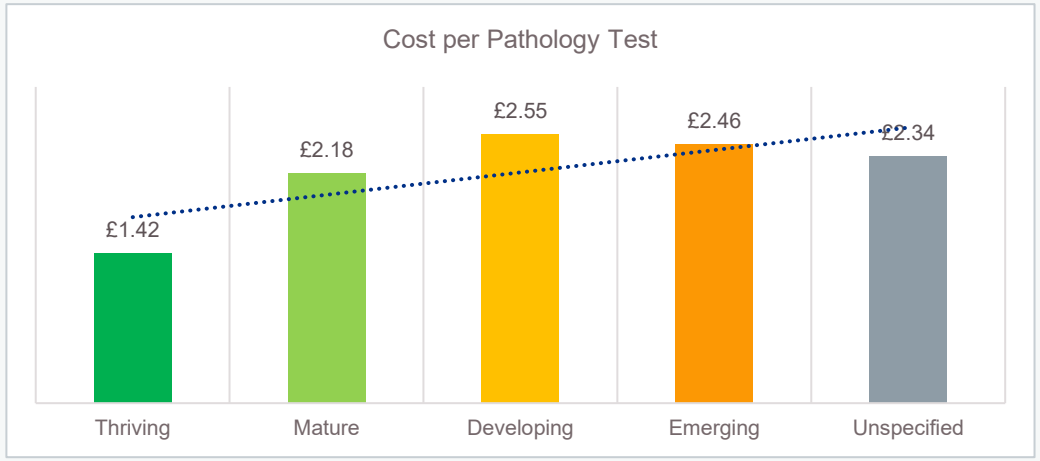


Overall Pathology Network Maturity 2025

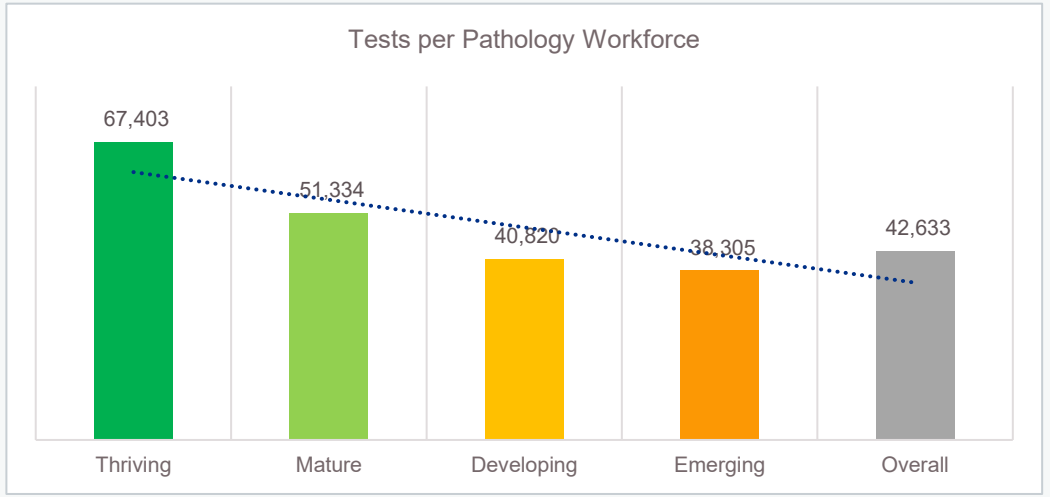
Region	March 2025
London	
L1 - North West London Pathology	Thriving
L2 - North Central London Pathology Network	Maturing
L3 - NHS East and South East London Pathology Partnership	Maturing
L4 - South East London Pathology	Maturing
L5 - South West London Pathology	Thriving
Midlands	
ME1 - Black Country Pathology Services	Thriving
ME2 - Midlands and East 2 Pathology Network	Developing
ME3 - Birmingham and Solihull Pathology Network	Developing
ME4 - South Midlands Pathology Network	Developing
N8 - North Midlands and Cheshire Pathology Service	Developing
East of England	
ME5 - Midlands and East 5 Pathology Network	Developing
ME6 - East Coast Pathology Network	Maturing
ME8 - Mid and South Essex Pathology Service	Maturing
North East and Yorkshire	
N1 - North East and North Cumbria Pathology Network	Maturing
N2 - West Yorkshire and Harrogate Pathology Network	Developing
N6 - South Yorkshire and Bassetlaw Pathology Network	Maturing
N7 - Scarborough Hull York Pathology Service	Maturing
North West	
N3 - Lancashire and South Cumbria Pathology Collaboration	Maturing
N4 - Cheshire and Merseyside Pathology Network	Maturing
N5 - Greater Manchester Pathology Network	Developing
South East	
S4 - South Four Pathology Partnership	Maturing
S5 - Berkshire and Surrey Pathology Services	Thriving
S6 - Southern Counties Pathology	Developing
S7 - Sussex Pathology Network	Developing
S8 - Kent and Medway Pathology Network	Developing
South West	
S1 - Peninsula Pathology Network	Developing
S2 - West of England Pathology Network	Maturing

Benefits of Pathology Networks

- **Improved Efficiency and Cost Savings**
- **Enhanced Access to Specialist Expertise**
- **Increased Service Resilience**
- **Innovation and Standardisation of Practices**
- **Improved Turnaround Times and Patient Outcomes**

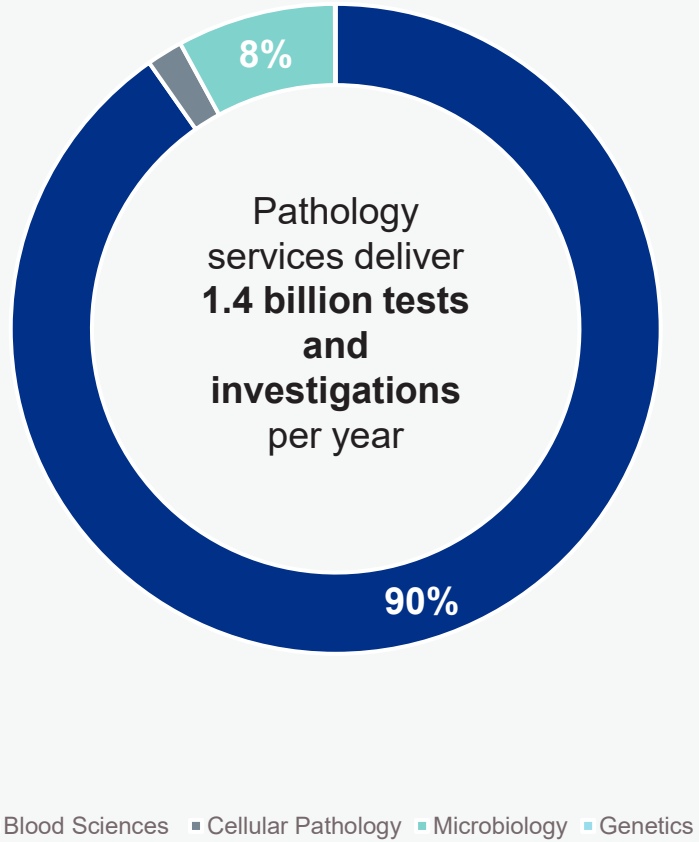


More cost effective



More productive

Providing NHS Pathology Services in England



Pathology services are fundamental to the provision of health care services for patients across England with an **estimated 95% of all healthcare decisions that affect diagnosis or treatment involving a pathology investigation.**

Pathology Networks were established to **address the disparities in access to high-quality pathology services** identified in the Carter Review and further emphasised in the Richards Review.

These networks have matured to become essential mechanisms for fostering innovation and delivering large-scale improvements across England with efficiency and speed.

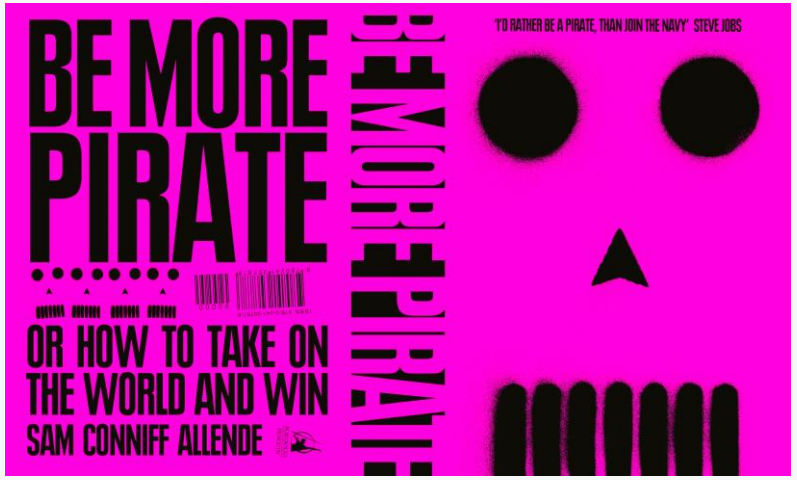
The NHS Long Term Plan committed to all pathology networks achieving 'maturing' status.

Building on this foundation, pathology networks are coordinating resources, efforts, and strategic planning to **bolster performance in the historically fragile histopathology services**.

The **Digital Diagnostic Capability Programmes,** aimed at enhancing the digital infrastructure of pathology services, including Laboratory Information Management System upgrades, replacements, order communications, and the implementation of Digital Pathology, have been made possible through the establishment of pathology network structures.

The world will continue to turn and evolve ……

and, looking ahead towards 2035, will we evolve, will we revolt, will we just “let it happen” ?



Mischief, purpose and power

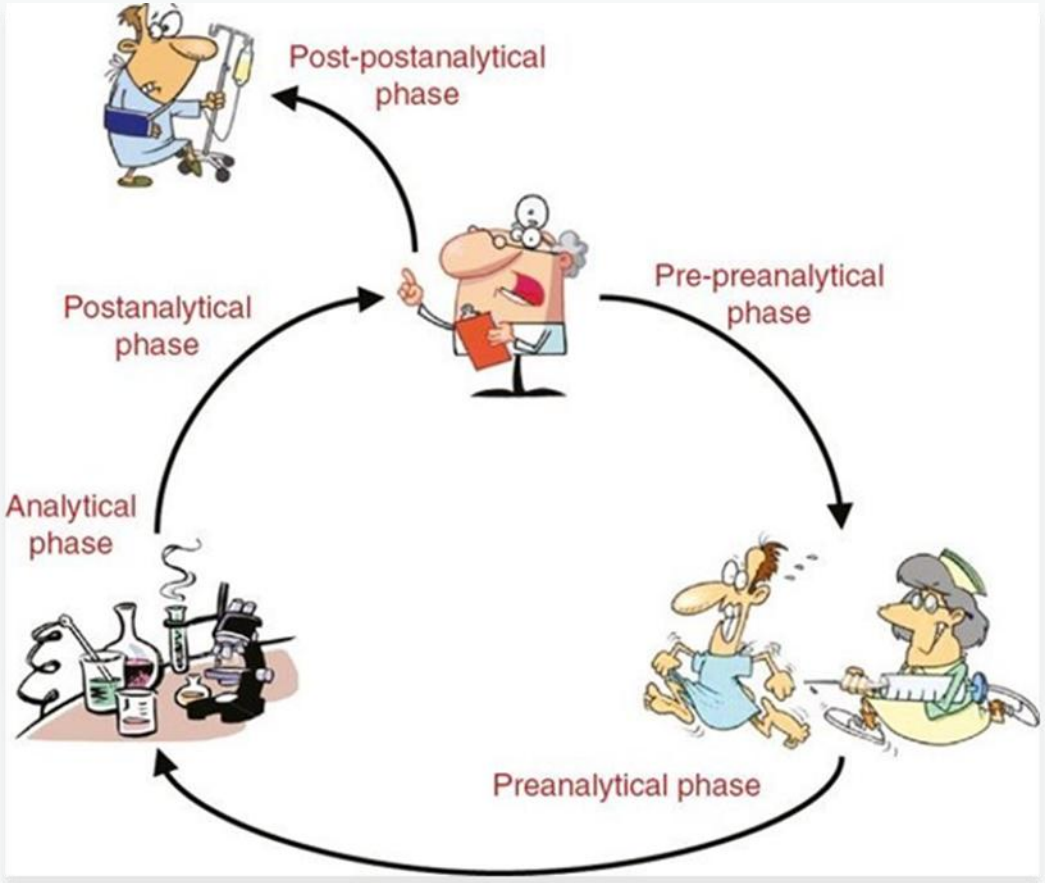
Dr Tammy Watchorn, Innovation, NHS
“This book has reignited our approach and we’re gaining more pirates by the day”

But will NHS Pathology still “just do testing” ?

“Realising optimal patient pathways through digitally enabled, productive, efficient, and sustainable networked pathology services that are integrated into those pathways and work effectively with partner organisations.”

– National Pathology Vision

NHS Pathology can do more then “just” testing



Testing is not something that is just done and counted. It is a process with clinical purposes for individual patients, for those who care for them and for the population at large. It is a conscious and targeted use of valuable materials and highly skilled professionals within the context of a pathway and purpose.

Professor Jo Martin *Past President (2017 - 2020) and Lead for the Pathology Portal*

10 Year Health Plan

The Government launched Fit for the Future: 10 Year Health Plan, which set out three big shifts:

From hospital to community

- More care will be available on people's doorsteps and in their homes

From analogue to digital

- New technology will liberate staff from admin and allow people to manage their care as easily as they bank or shop online

From sickness to prevention

- We'll reach patients earlier and make the healthy choice the easy choice

To find out what the next decade of health and care looks like, read Fit for the Future: 10 Year Health Plan for England.

Neighbourhood Health

It **signals the end of the short-termism** that has held the local NHS back for so long, providing local leadership teams and boards with the opportunity to break the cycle of 'just about managing' by creating the environment and headroom to fix the fundamental problems we face, while in parallel improving care in the immediate term.

2.2 Delivering neighbourhood health at pace

2.8 Genomics, life sciences and research

Neighbourhood Pathology

- Funding has been secured through Neighbourhood Health.
- A rapid discovery phase is in progress to shape the delivery approach.
- In parallel, early exploration of home testing is underway.

Opportunities to re-imagine ?

Diagnostics Digital Capability Programme

Original Aims

- ✓ To support development of imaging and pathology networks by **improving connectivity** within, and between networks, to allow for requests, tests and results across **wider geographical areas** and provide **seamless care pathways** for patient crossing traditional boundaries, leading to improved productivity of services.
- ✓ To increase **system capacity** and resilience of diagnostic services through enhanced digital capability to support continued response to elective care recovery and increase in complexity and demand.
- ✓ To **level up access** to diagnostic services across the NHS through the development of Digital capabilities for imaging and pathology
- ✓ To **improve safety and experience** for patients and NHS staff, through reduction in manual processes, reduced turnaround times and flexible working

Future Digital Vision

01 Invest in compatible systems

Clarify standards and reference architecture to guide procurement, ensuring best return on investment.

Support service delivery in multiple locations, e.g. across labs, CDCs, community phlebotomy and mobile apps

Share diagnostic data with any other national consumers

02 Standardise data for exchange and storage

Standardisation to support better like-for-like comparison of diagnostic tests and results, for better safety and reduced repeat testing

03 Establish a national sharing architecture

A system where any diagnostic order, digital image, or result/report is available to everyone across consistently performant networks

04 Harmonise practice around the patient

Common ways-of-working to support a modern, mobile workforce, and to better meet the needs of our patients

05 Enable AI, decision support, and automation

Decisions to be fully supported by personalised data and AI: requesting, testing, diagnosis, and reporting

Make diagnostic data available for research, feed learning back into pathways, and processes become safer and more efficient

DDC 26/29 opportunities

National priority workstreams for the next four years

Several workstreams have been identified as national priorities for funding over the next four years. See **Priority workstreams detail document** for further details

Workstream		Network type			
		Pathology	Imaging	Endoscopy	PS
1	Delivering networked pathology systems	✓			
2	Connecting pathology with genomics systems	✓			
3	Connecting pathology with blood and transplant systems	✓			
4a	Optimising histopathology workflows - Automation	✓			
4b	Optimising histopathology workflows - Digitising histopathology slides	✓			
5	Creating a national digital pathology platform	✓			
6	Connecting neighbourhood pathology	✓			
7	Delivering networked imaging systems		✓	✓	✓
8	Delivering a national imaging registry (NIR)		✓		✓
9	Optimising MRI productivity		✓		
10a	Optimising diagnostic pathways - Embedding clinical decision support	✓	✓	✓	✓
10b	Optimising diagnostic pathways - Optimising referral, requests and results management	✓	✓	✓	✓
10c	Optimising diagnostic pathways - Intelligent booking and scheduling	✓	✓	✓	✓
10d	Optimising diagnostic pathways - Enabling single patient tracking and waiting list management	✓	✓	✓	✓
11a	Accelerating deployment of artificial intelligence (AI) - Scaling of chest x-ray and CT AI		✓		
11b	Accelerating deployment of artificial intelligence (AI) - National piloting and scaling of AI innovations	✓	✓	✓	✓

A greener future for pathology: work to date

Developing awareness to drive change: **‘How Green is Your Lab’ event**

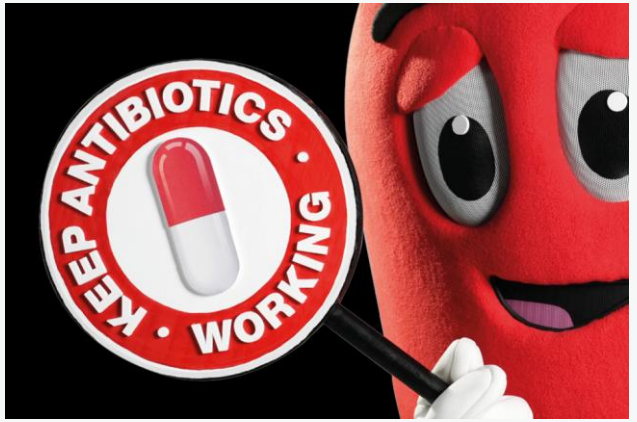
Hosted by The Royal College of Pathologists in London, NHS England Pathology and Greener NHS supported by professional bodies, hosted a “How Green is Your Lab?” event bringing together change-leaders to discuss, debate, and ultimately come together in recognising opportunities to integrate sustainability into pathology.

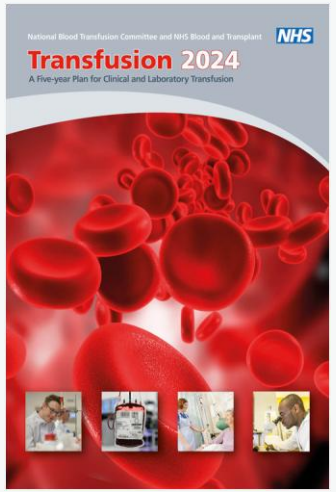
For a recording of the event, papers and other supportive resources, please visit our NHS Futures Page: https://future.nhs.uk/Pathology/view?objectID=49464912

Externalise collaboration and alignment opportunities

Health Innovation Network
Local change, national impact

NHS
NHS Genomic Medicine Service





NHS
Cancer Vaccine Launch Pad

Externalise by working with key stakeholders

Effectiveness or **effectivity** is the capability of producing a desired result or the ability to produce desired output. When something is deemed **effective**, it means it has an intended or expected outcome, or produces a deep, vivid impression.

Right Test, Right Time

NHS England is delivering a programme of diagnostic demand optimisation initiatives which will free up capacity for tests that add the most value to patients, helping to reduce waiting lists. It has three strands:

Focused on 12 tests that Diagnostics National Speciality Advisors (NSAs) and National Clinical Directors (NCDs) have advised are being used in breach of NICE Guidelines

Linked to reducing diagnostic waiting times, ensuring no patients wait for a test they do not need, so we free up diagnostic capacity to provide faster access to tests that add value to patient care

Using engagement with tests' referrers to develop communications that will resonate, which is underpinned by patients' views on diagnostics and tested with patient groups to make sure it doesn't appear to be restricting patient access

Delivered in partnership with the AoMRC (through relevant member professional bodies / royal colleges) and underpinned by the alternative patient management, testing or Advice and Guidance that can be used in place of unwarranted tests

12 tests - requested in breach of NICE guidelines	
	Gastroscopy in people <55
	Echo for suspected heart failure without a prior NT-pro BNP
	CT for resolved transient ischaemic attack (TIA) unless clinical suspicion of alternative diagnosis that CT could detect
	CT for suspected stroke unless indicated by National Optimal Stroke Imaging Pathway
	CT for established epilepsy
	EEG to exclude epilepsy when the clinical presentation is suggestive of an event other than an epileptic seizure
	MRI for headaches, to rule out brain tumours
	MRI for non-specific low backpain
	MSK ultrasound for osteoarthritis without any atypical features
	Routine vitamin D testing in adults/CYP who are asymptomatic for vitamin D deficiency
	Chest X-ray in babies or children with suspected mild/moderate bronchiolitis
	Ultrasound to diagnose undescended testes in children

We are working up a further list of tests for a second wave to the campaign later in 2025/26 with support from NSAs, NCDs and professional bodies / royal colleges.

This could include a major focus on **reducing routine repeat testing** as part of follow up appointments or patients on surveillance lists.

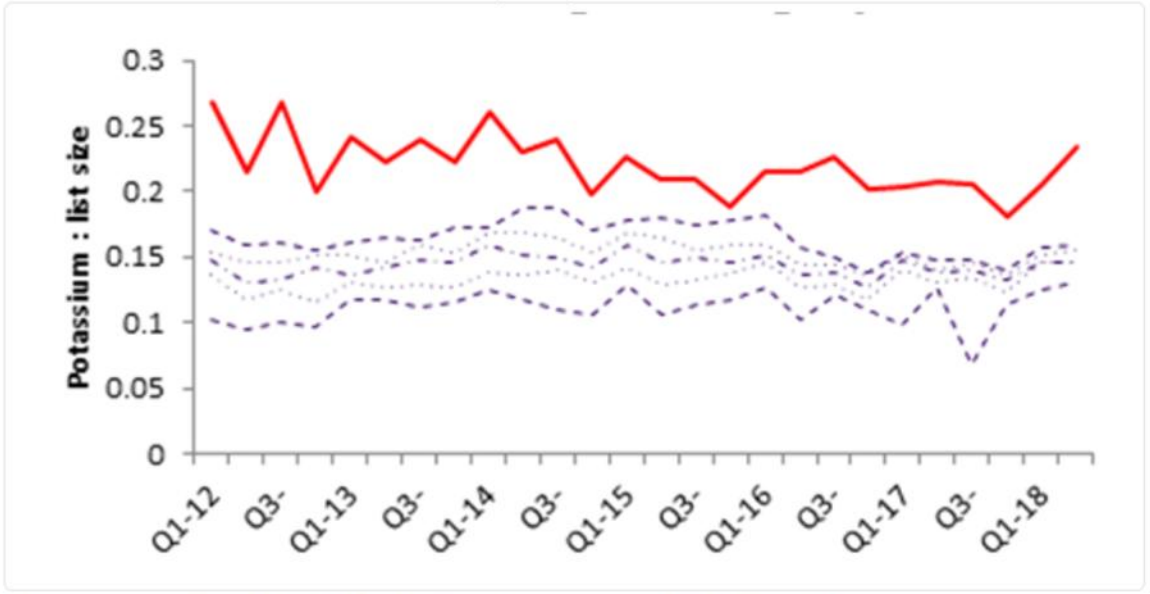
We are also working with Royal College of Pathologists and Association of Coloproctology of GB & Ireland to support dissemination of emerging guidance produced by the British Society of Gastroenterology and the Association of Upper Gastrointestinal surgery on endoscopy biopsies.

But which pathway or pathways ?

- Replacing Rheumatoid Factor with Anti-CCP. Pathway updated to require a positive Anti CCP for referral to Rheumatology
- Revised testing regimen for B12 Testing
- Reduced inappropriate testing of NT-Pro BNP in Primary care
- Point of care testing in some PCN's and/or care homes using nationally supplied Lumira DX or alternative technology
- Increased Point of care testing support for SAU to reduce length of stay
- Revised allergy testing guidance
- Revised ANA testing guidance
- Molecular testing for Bacterial Vaginitis
- Reducing drug monitoring frequency where evidence it is safe to do so. E.g. Methotrexate
- Review use of Calprotectin
- Review use of FIT testing
- Renal anaemia monitoring
- Multi-morbidity pathways/clinics e.g. renal/cardiology/diabetes
- Phlebotomy Availability
- Algorithmic Liver Fibrosis scoring - FIB-4 preferred
- CTX ???
- Neurone Specific Enolase (NSE)
- Kidney Failure Risk Equation (KFRE)
- Common Order Sets
- Reflex testing aligned to unexpected abnormal results
- Raised platelets

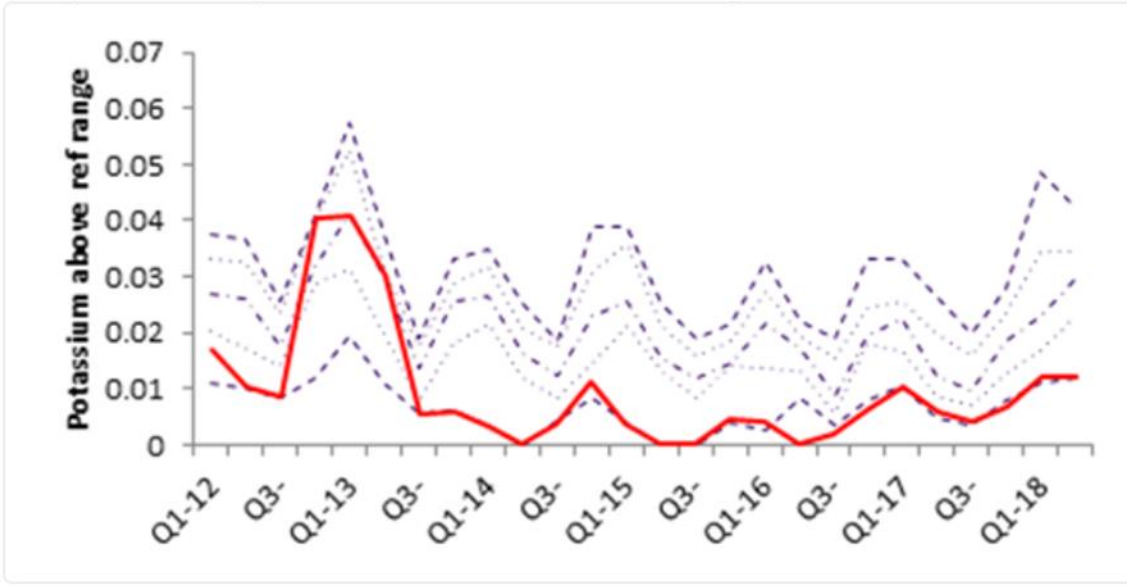
Data is vital: Open Pathology – a new “Atlas of Variation”

Number of Potassium tests per person



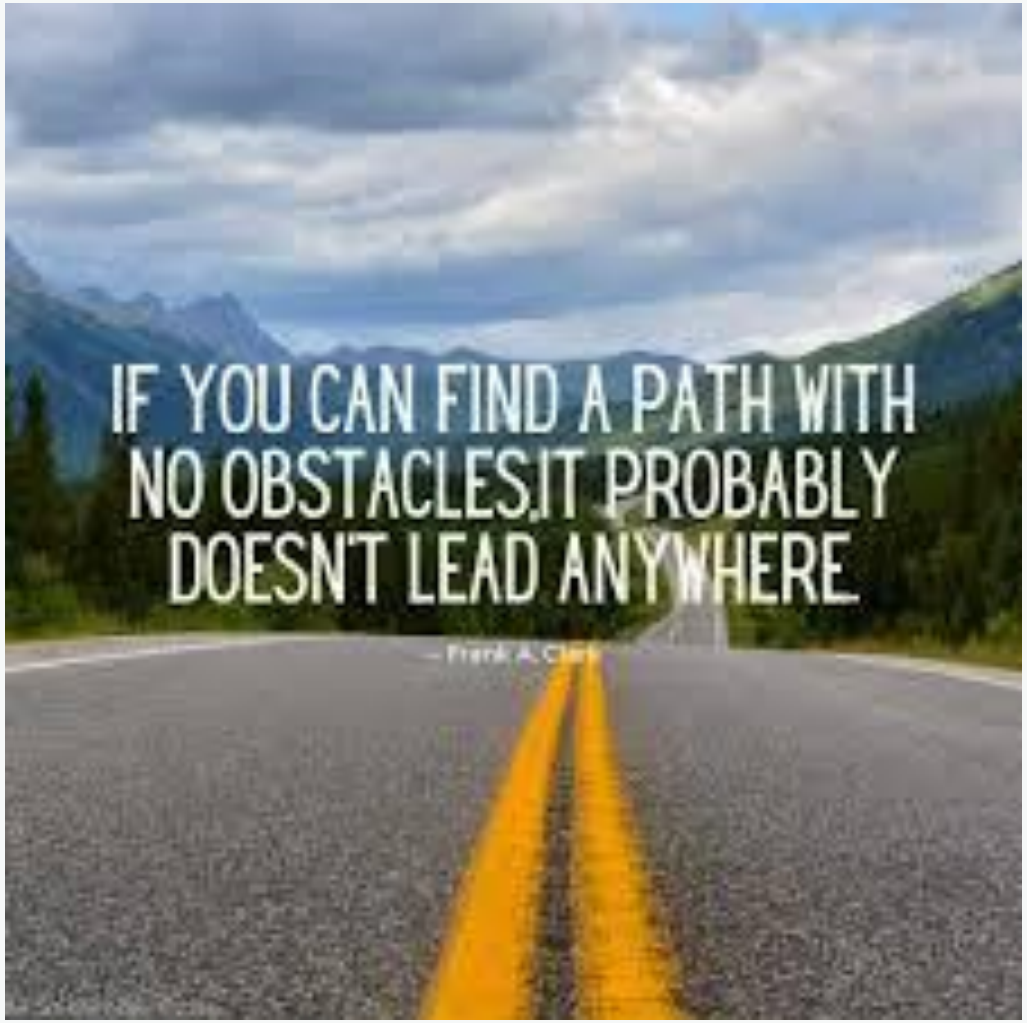
This practice requests relatively more than other practices in the CCG.

Proportion of potassium tests that are high



You can see big winter peaks across the region, but this practice has reduced the seasonal fluctuation in high potassiums, and reduced the baseline across the year.

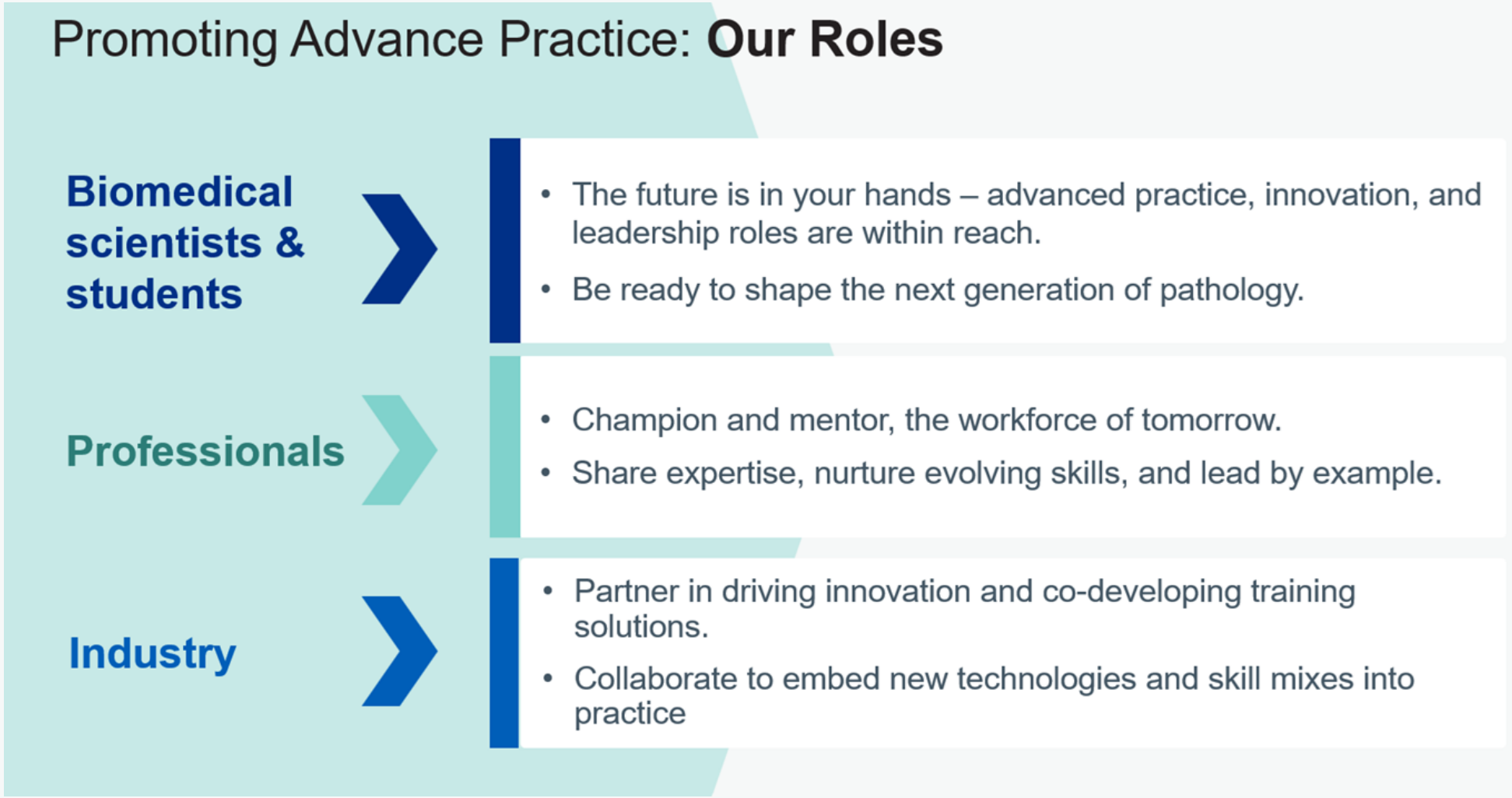
But what can possibly get in the way ?



“Money” ……


allocation
laboratorie
vaccination
payment
funding
price
acute
diagnostics
local
tariff
commissioning
screening
value
laboratory
blood
provider
QO
DES
contract
pathology
tests
unit
agreement
services
request
activity
LVA
England
NHS
ICB
Scheme
direct
arrangement
mechanism
lab
collaborative
network

“Workforce”


Promoting Advance Practice: Our Roles
Biomedical scientists & students
The future is in your hands – advanced practice, innovation, and leadership roles are within reach.
Be ready to shape the next generation of pathology.
Professionals
Champion and mentor, the workforce of tomorrow.
Share expertise, nurture evolving skills, and lead by example.
Industry
Partner in driving innovation and co-developing training solutions.
Collaborate to embed new technologies and skill mixes into practice

“Leaders and Leadership”

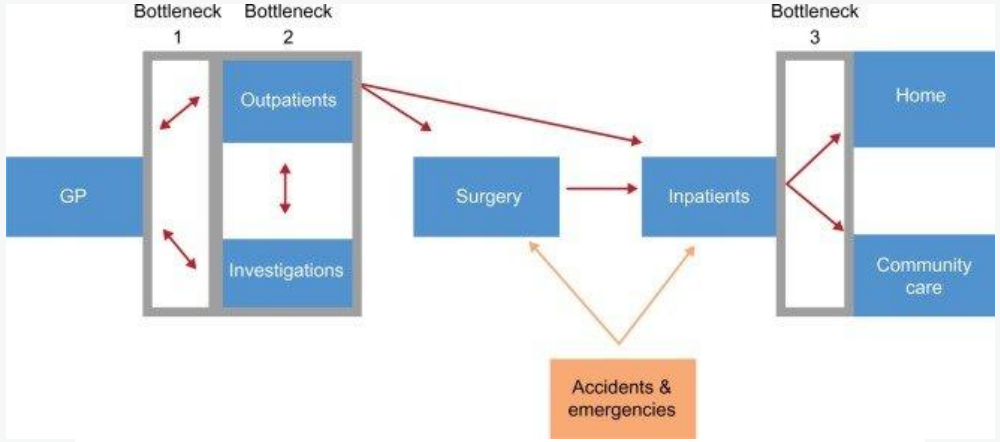
The 5 Generation Workplace

Traditionals	Baby Boomers	Generation X	Generation Y (Millennials)	Generation Z (Digital Natives)
DOB: 1900–1945	**DOB:** 1946–1964	**DOB:** 1965–1980	**DOB:** 1981–1996	**DOB:** 1997–2015
• Loyal to the company • Dedicated • Disciplined • Job for life • Retiring later	• Dedicated to work • Optimistic • Committed • Team orientated • Experimental	• Open-minded • Appreciate diversity • Work–life balance • Competitive • Entrepreneurial • Independent	• Career determined by switching roles often • Keen on mobility • Socially vocal • Tech-savvy • Immediacy	• Critical and selective • Career multitaskers • Technology is intuitive • High expectations • Coached, not managed
				

“What is quality?”

UKAS MEDICAL

or



GIRFT
GETTING IT RIGHT FIRST TIME

or both ?

Politics and/or politics and/or policies

- How many governments ?
- How many Health secretaries ?
- Public expectation/perception ?
- NHS England/DHSC ?
- ICB, Foundation status ?
- Regions, local government ?

A Journey to NHS Pathology in 2035 might be about:

Effectiveness

Right test, right time, data led

Patient and pathway centred

Externalisation of benefit

Networks

Sustainable

Right size

Autonomous with authority

Finance

Commissioning

Costs

Finance flows

Quality

Re-define ?

What is the “right” quality ?

Laboratory vs pathway ?

Efficiency

Value for money

Productivity

New technologies

Access & equity

Digitisation of whole pathway

Patient centricity

Phlebotomy & POCT

NHS England South West

Thank You

“Now and then we had a hope that if we lived and were good, God would permit us to be pirates”

Mark Twain

Slido

Please scan the QR Code on the screen. This will take you through to Slido, where you can interact with us.

SCAN ME

Q&A Session

Beth Loudon
Head of Market Access
BIVDA

Angela Douglas MBE
President
BIVDA

Slido

Please scan the QR Code on the screen. This will take you through to Slido, where you can interact with us.

SCAN ME

CONVENZIS

Main Sponsor

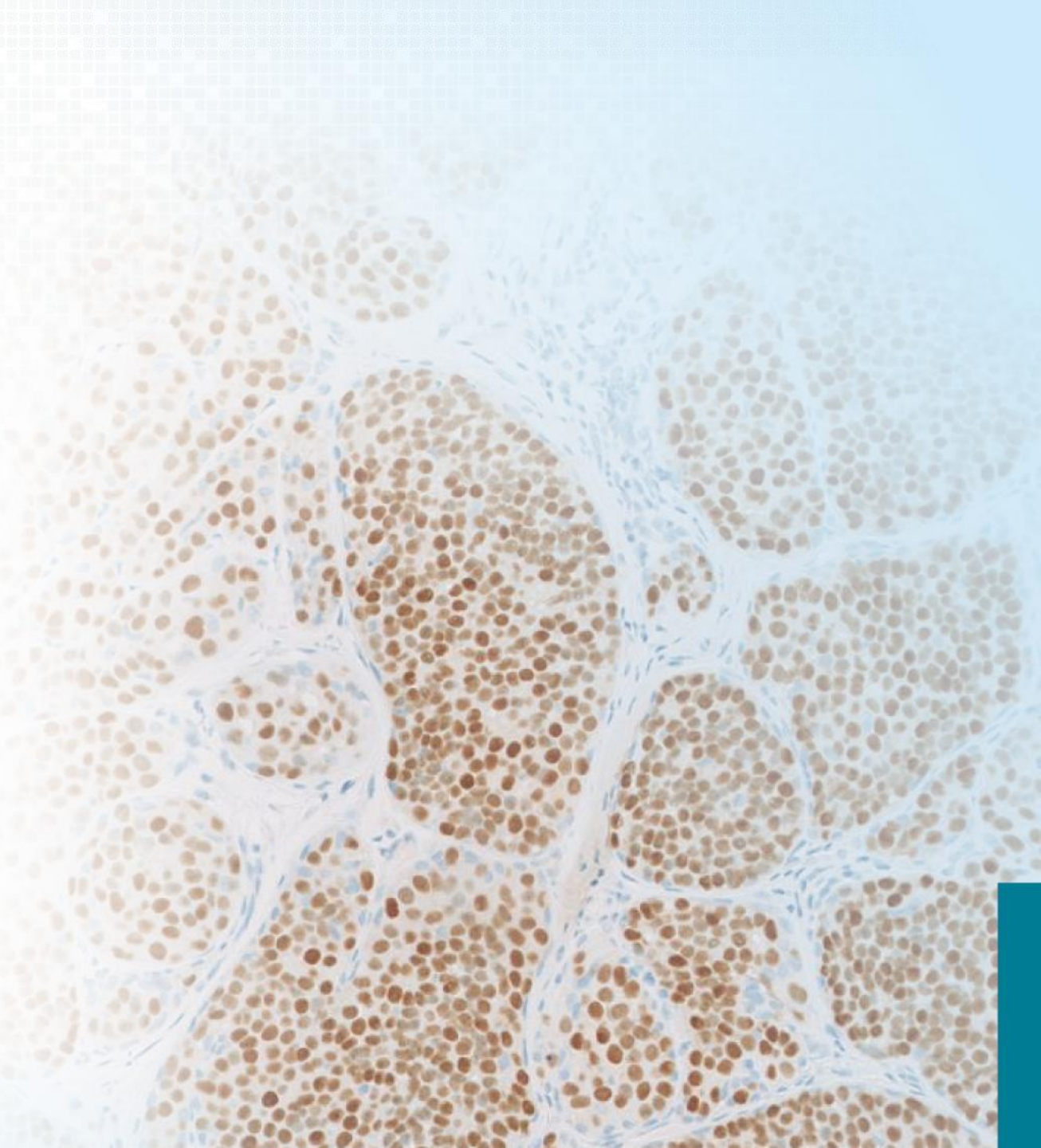
Source LDPath

Main Sponsor

Jade Erwin
Digital Integrations Manager
Source LDPath

Source LDPath

Analogue to Digital: Revolutionising Pathology to Cut Diagnostic Delays



Digital Integration Manager – Jade Erwin

Source LDPath

Two accredited, self-sufficient laboratories delivering histopathology services across all disciplines

- **Nottingham (North)**
- **Cambridge (Genomics Centre)**
- **Chichester (South)**

Source LDPath

Proven Expertise achieving average 90% KPI compliance for TATs

Scanning over 1.5 million slides per year

280+ Consultant Pathologists

Dedicated Teams – Courier/ Integration Team

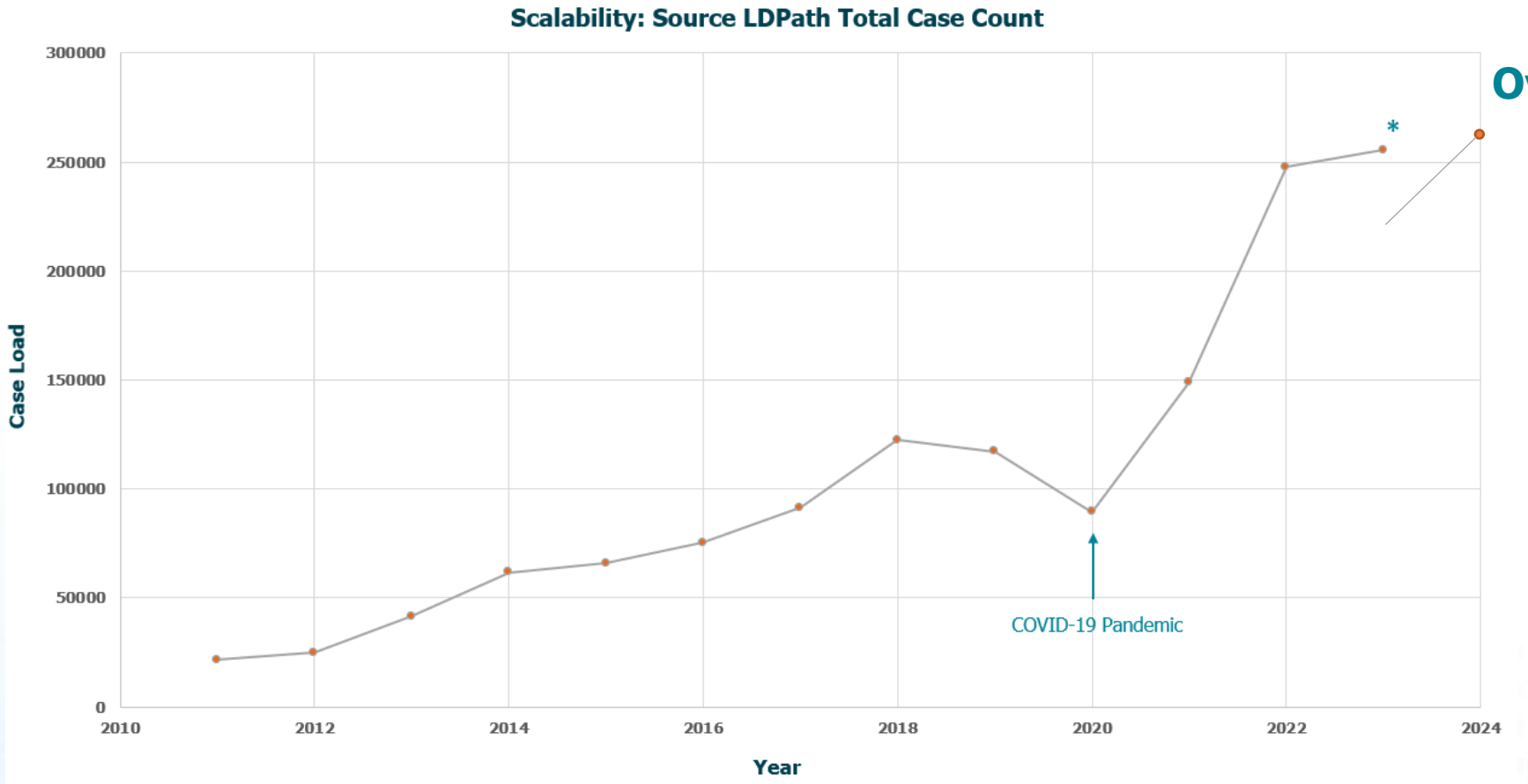
Large Test Repertoire - ALWs

15189:2022 UKAS accredited

Support over 90 NHS Trusts

300k+ cases reported & 1.5 million+ slides scanned last 12 months

Demonstrated Growth and Scalability



Over 300k cases in 2024

* 2023 – a year of internal development including the build and launch of our bespoke LIMS (HIVE LIMS+™) and facility expansion with our new Chichester laboratory.

In 2025 we are launching our HIVE LIMS+, a LIMS plug-in designed by pathologists for pathologists.

It is designed to seamlessly integrate with existing NHS systems, for faster reporting times, reducing admin required and getting patients into treatment faster.

1. HIVE LIMS+ Clinisys
2. HIVE LIMS+ Fujifilm
3. HIVE LIMS+ Sectra
4. HIVE LIMS+ Philips
5. HIVE LIMS+ Indica Labs
6. HIVE LIMS+ Apex

clinisys

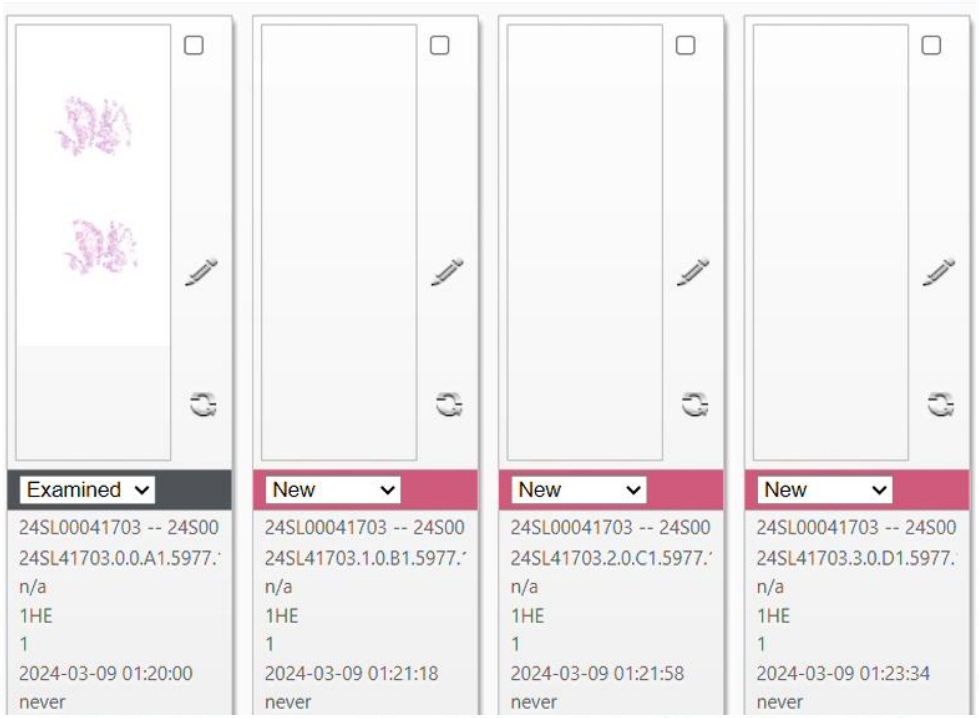
FUJIFILM

SECTRA

PHILIPS

indica labs
AI-POWERED PATHOLOGY

apexhealthware



1

Digital Integrations

Source LDPath – Leaders in Digital Pathology & AI

The acquisition of LDPath in 2021 enabled our combined team at Source LDPath to pave the way for large-scale digital pathology across the UK.

1. LIMS-to-LIMS

Bridging connectivity within and between hospitals with custom solutions for system integration.

Source HIVE™ - built by pathologists, for pathologists.

2. Scanning

Digital imaging directly to Source LDPath or by Source LDPath.

Source LDPath has consultant pathologists in every discipline for rapid reporting of digital images.

Benefits to the Trust

Faster turnaround times (TATs)
Scanned WSI are sent directly to Source LDPath for analysis by our validated digital reporting pathologists.

Making results easier to interpret
Digital pathology simplifies result sharing and enables second opinions. It also improves access to images for discussion during MDTs.

Supporting NHS Cancer Targets
The NHS aims to utilise digital pathology to enhance the analysis of cancer samples, improving diagnostic accuracy and efficiency.

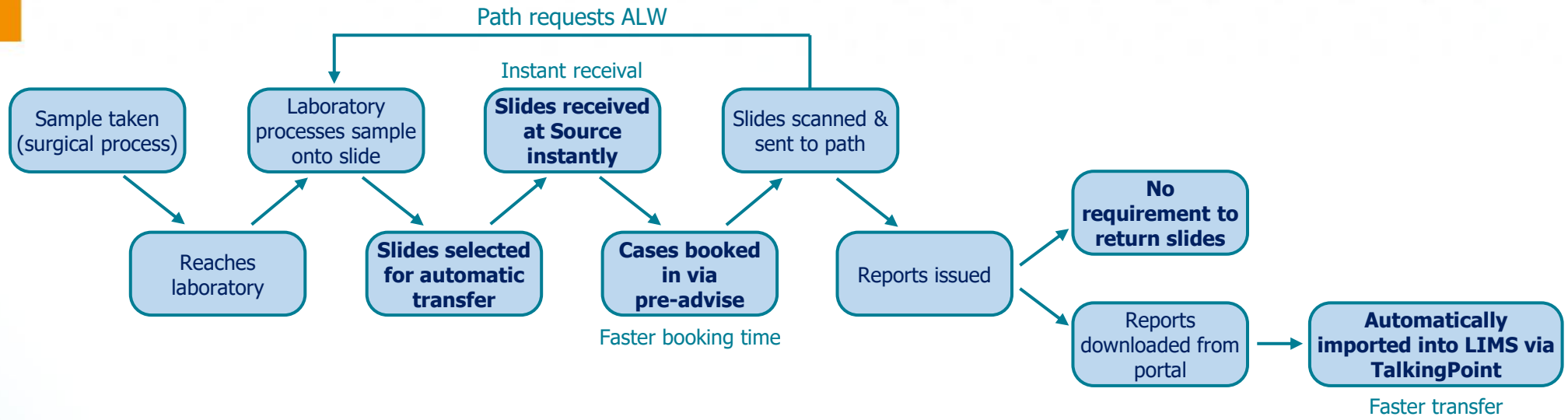
Reducing the risk of sample loss or damage
Digital pathology removes the need for pathologists to be physically present in hospitals, eliminating the risk of sample loss or damage during transit.

2

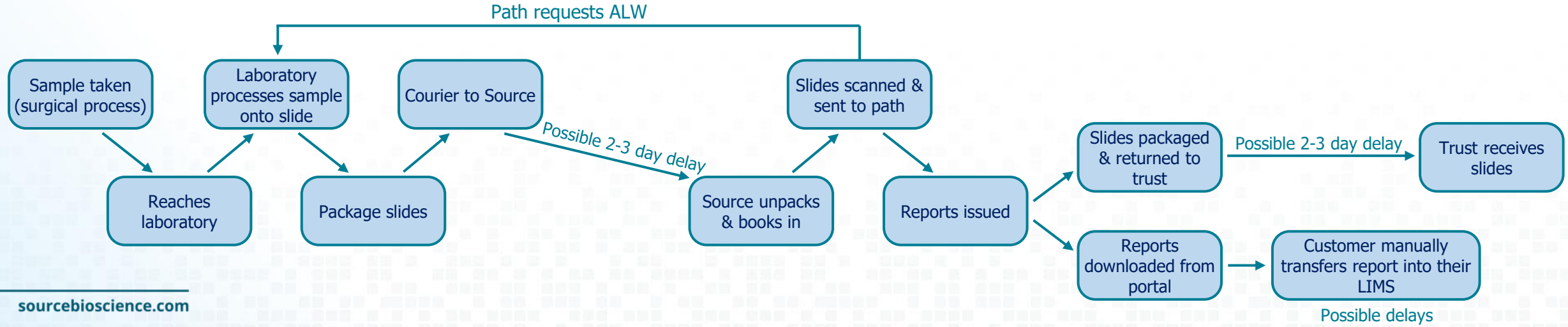
Digital WSI- Image Acquisition

Why Go Digital?

Digital Integration Process



Traditional Process



Scanner to Scanner

Digital Image Transfer to Source LDPath

We support direct image transfers and can convert files into the relevant format for viewing in Indica Halo.

Images can be transferred via:

File Push Model (†): Direct transfer of images to us.

File Pull Model (††): Retrieval of images from a secondary location.

Scanner Agnostic: We accept images from all scanner types directly.

Scanner	Image Format
Hamamatsu	NDP Image files
3D Histech	mrxs
Philips	iSyntax v2 iSyntax v1
Glissando	svs
Leica	svs
KFBIO	svs
Roche - Ventana Scanners	Roche TIFF
Sectra	WS DICOM
Others	JPEG JPEG200 BMP TIFF

3

Vendor Integrations

Sectra Integration

This allows us access the Sectra Cloud through the sending trust- so images can be obtained more easily rather than a manual approach.

Advantages:

- Quicker referral of cases to be outsourced
- Slides and patient information sent together

FujiFilm Integration

This allows us access the Fujifilm Cloud- so images can be obtained more easily rather than a manual approach.

Advantages:

- Quicker referral of cases to be outsourced
- Slides and patient information sent together

Image Storage and Archiving

Digital images are stored for a minimum of 8 years

- Any reported digital images remain on our primary servers (accessible at any time) for 3 months from the report date. This ensures sufficient time for cases to be re-opened or discussed at MDMs.

- Digital images between 3 months and 1 year old are moved to intermediary storage, where retrieval can take up to 5 minutes.

- Digital images between 1 and 8 years old are stored in deep glacier storage, where retrieval may take between 1 and 12 hours.

6

LIMS-to-LIMS

APEX LIMS to LIMS Integration
East Kent Hospital NHS Foundation Trust (EKHUFT)

LIMS Integration:

- ✓ **Enables seamless transfer** of cases between Source LDPath and the Trust.
- ✓ **Faster turnaround times** (TATs)—eliminates the need for shipping slides and request forms.
- ✓ **Improved case tracking**—all information is stored in LIMS, ensuring a full audit trail.
- ✓ **Simplifies case management** for Second Opinions (SO) and MDT support.

Collaborations

1. HIVE LIMS+ Clinisys
2. HIVE LIMS+ Fujifilm
3. HIVE LIMS+ Sectra
4. HIVE LIMS+ Philips
5. HIVE LIMS+ Indica Labs
6. HIVE LIMS+ Talking Point

Working with leading market LIMS and IMS systems to deliver results in any Trust or hospital.

4

TalkingPoint

TalkingPoint PathXchange

- ✓ TalkingPoint uses an import module to eliminate manual case handling when using outsourced providers.
- ✓ Automatically reads from and writes to LIMS.
- ✓ Spreadsheets (manifests) are automatically created for samples being sent out.
- ✓ Full case data is auto-written into LIMS.
- ✓ User-friendly system.

Benefits of TalkingPoint

It takes a secretary 2.5 minutes to copy and paste a case into LIMS from a PDF!

"With the auto import, the whole process takes less than **30 seconds per case**. A Trust processed 10,369 reports through the software- saving 345 hours, or the equivalent of 9 weeks of a WTE admin person (working 37.5 hours per week)."

- ✓ **Minimises human error -** in transcribing reports back into the Trust's LIMS.
- ✓ **Significantly reduced turnaround times—**reports are available in LIMS sooner than with manual transcription.
- ✓ **Improved staff utilisation-** freeing up time for more valuable tasks.
- ✓ **Improved case management-** permitting selective cases to be separated for further scrutiny

7

What does this mean for you?

Case Study 1: Direct Integration LIMS-to-LIMS

Capabilities:
- Outsource patient cases directly via hospital LIMS
- Reports returned to LIMS at point of authorisation

Coverage:
- 11,000+ cases reported in 2024
- 9 Specialities, 60 Consultant Histopathologists

TATs:
- **90% reported within 5 days**, including additional cases
- Hospital preferences: authorisation queue or auto-authorised
- 20% increase in outsourced cases post- integration
- **Reduced from 9 to 5 days** from procedure to outsourcing

- **Requirements:**
- Same SNOMED version, no conversion needed
- Locally adapted datasets, as if reported in-house

Case Study 2: Scanning

Capabilities:

- Slides scanned directly from NHS to our servers
- Ingested into SLDP IMS with out conversion
- Received via 3DHistech P1000 Scanners
- Linked to patient records in SLDP LIMS via HL7

Coverage:

- 6,000+ cases reported in 2024
- 7 Specialities, 2 Consultant Histopathologists

TATs:

- Average TAT from scanning to SLDP pathologist: **0.81 days**
- **92% reported within 5 days** including additional
- Procedure to outsourced time reduced from **7 to 3 days**

Case Study 3: LIMS-to-LIMS & Scanning

Capabilities:
- Direct LIMS-to-LIMS integration
- Slides scanned from NHS to our servers
- Case selection via hospital LIMS
- Final reports sent directly to LIMS at authorisation (no provisionals)
- Custom configuration to only receive final reports (no provisional reports sent)
- SNOMED and local datasets aligned-no conversion needed

Coverage:
- 14,000 + cases reported in 2024
- 5 Specialities, 42 Consultant Histopathologists

TATs:
- 90% reported within 4 days, including additionals
- Average TAT from SLDP receipt was **2.86 days**
- Procedure-to-outsource time **reduced from 18 days to 4 days**

What You Get?

- ✓ Project management support during the integration process
- ✓ End to end validation testing
- ✓ Post integration support

Our Vision

- **Partnership** working with hospitals to streamline their outsourcing needs.

- Be an extension of their laboratory with abilities to **accelerate digital** take up by the NHS through digital integrations.

- **Quicker turn around times** and quicker answers for the patient. **Patient Focused Care!**

Source LDPath

Contact the Team

sourcebioscience.com
enquiries@sourcebioscience.com

SCAN TO VISIT WEBSITE

Slido

Please scan the QR Code on the screen. This will take you through to Slido, where you can interact with us.

SCAN ME

Refreshments & Networking

CONVENZIS TRAINING

Please scan the QR Code on the screen below to register your interest for our accredited training courses.

HESUK

Powered by - CONVENZIS

Join the Healthcare Engagement Society (HES)

- **What it is** – A secure, year-round platform bringing NHS professionals together across six specialist communities.
- **Why it matters** – Stay connected beyond today's event, share challenges, and learn from peers facing the same priorities.
- **Your benefits** – Exclusive access to interviews, insights, best practice, and real-time discussion threads with colleagues nationwide.
- **How to join** – Simply scan the QR code, choose your community, and start connecting today.

SCAN ME

Chair Morning Reflection

Mr Chris Sleight MSc BSc FIBMS
Ex Diagnostics Leader within the NHS

CONVENZIS

Case Study

ProfilerLive

Digitising Staff T&C

The first step in unlocking workforce potential

Simon Brown
Director

4th November 2025

Who are we

UK business, customers in Healthcare, Financial Services,
UK Utilities and users across Europe

NHS

Deployed at scale in Pathology networks

ProfilerLive

We work collaboratively

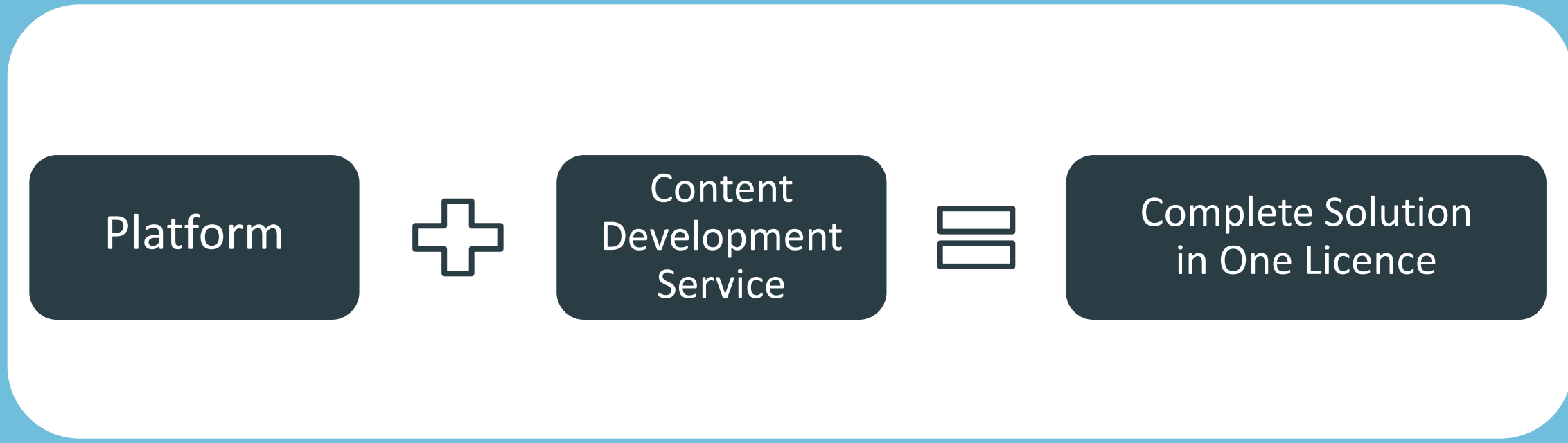
Your
technical knowledge
& understanding

ProfilerLive
expertise, tools
& experience

Digitising Staff T&C

The first step in unlocking workforce potential

How we do it



We enable productivity upsides worth £millions with fast payback

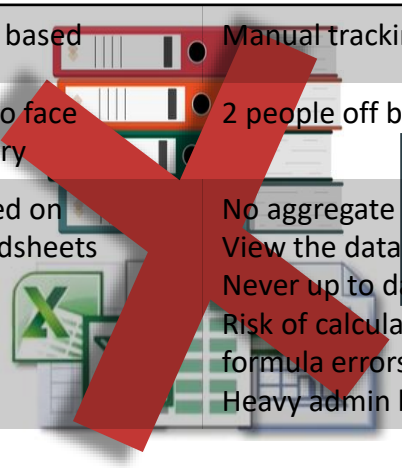
ProfilerLive

ProfilerLive

What changes

From …
Paper & spreadsheets

Characteristic	Implication
Paper based	Manual tracking
Face to face delivery	2 people off bench
Tracked on Spreadsheets	No aggregate picture View the data one-way Never up to date Risk of calculation & formula errors Heavy admin burden



To …
Real-time continuous digital process

Productivity

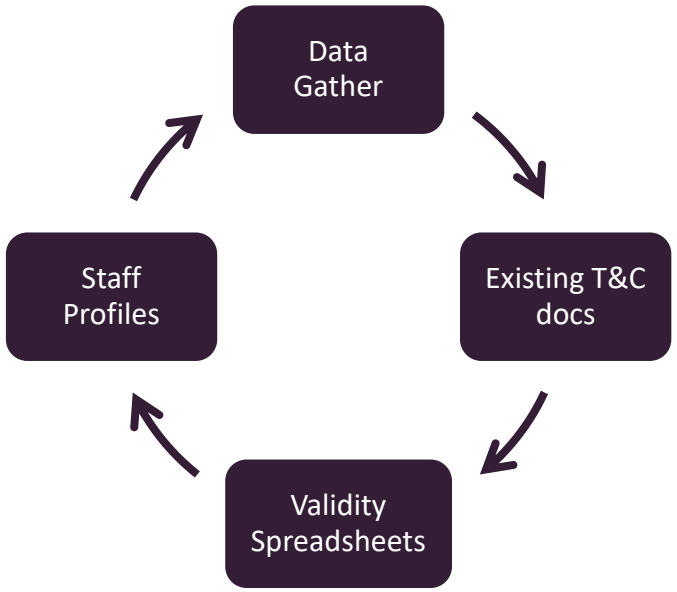
Governance

Real Time Visibility

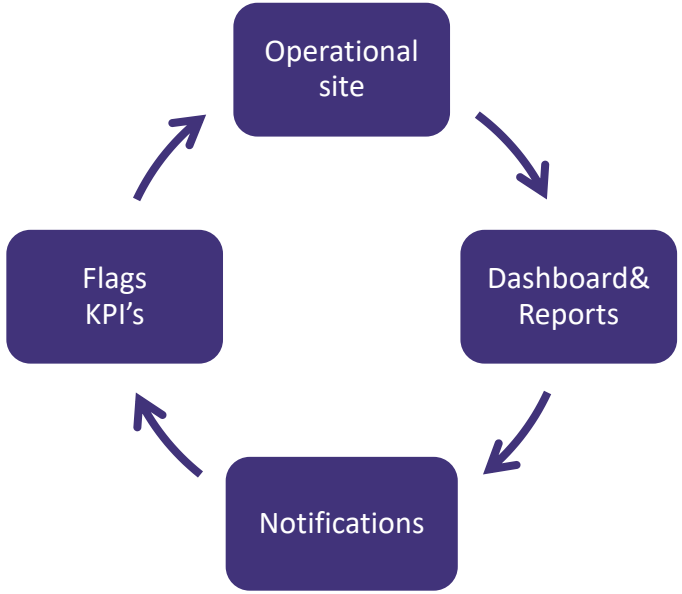
ProfilerLive

3 step launch

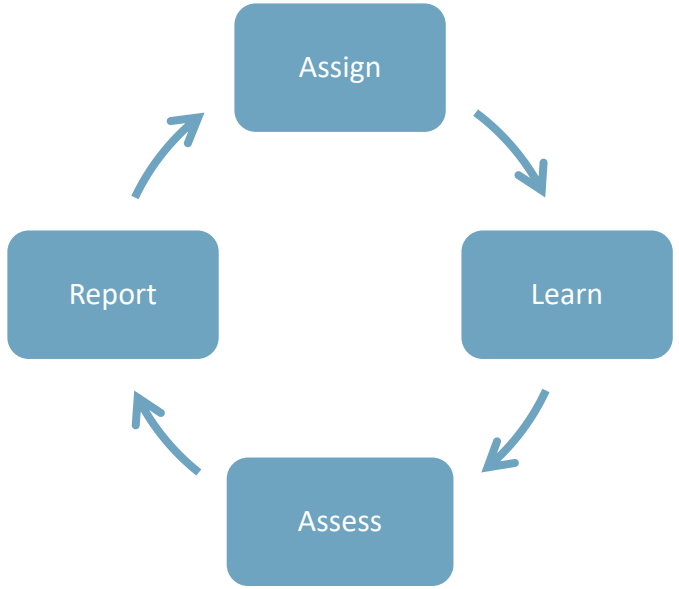
Step 1 Import



Step 2 Staff Launch



Step 3 Operate



ProfilerLive

Then … data optimisation

1. **Competency Status**
2. **Competencies by Bench – ‘Skill Sets’**
3. **Staff T&C Risk Based Priority**
4. **Time Required for Staff to complete T&C**

Integrated Insights
& Gap Analysis

Ranked list of actions:
Every Person - Every Bench

1. What competencies in what sequence, by who
2. How long they need to finish!

Real time insights enable data led decision making at every level of the organisation

ProfilerLive

Staff/management feedback

LOVE the lapsed training page … makes it **easy** to address specific staff

It's not just T&C … ProfilerLive is an enabler to so much more, it's truly ***transformational***

UKAS really like what we are doing with ProfilerLive

We worked with ProfilerLive to build all the T&C content to support the 5 user roles on our new Document Management system

Within 14 weeks of project start 80% of staff across the network are valid– just amazing!

Goodbye paper!

We have **never** seen anything like this before … It's **amazing**, and so simple to use

Staff really like it .. It's **faster** and **easier** than our old process

Great reports … so **EASY to use**!

We have so many areas **outside** of technical T&C where we want to use **ProfilerLive**

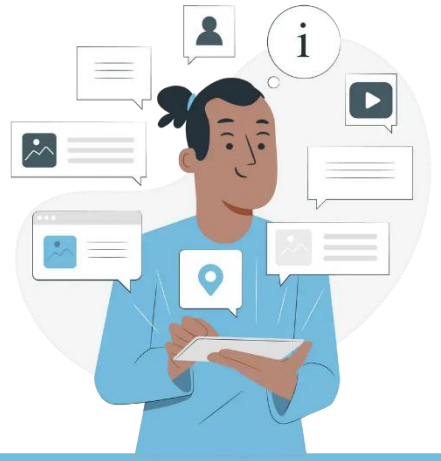
So excited about the work **ProfilerLive** are doing with us **transforming** Training & Education, it's a **key enabler**

***ProfilerLive** is just what we need … the more you use it the better it gets!*

ProfilerLive

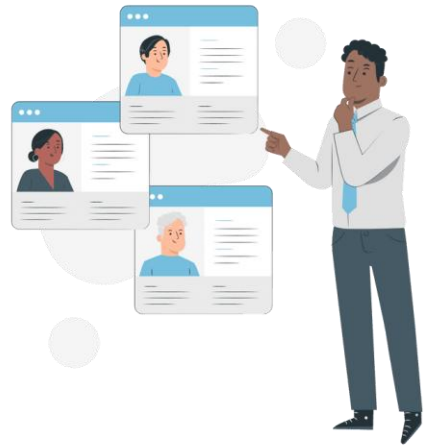
Core benefits delivery

Productivity



Visibility

Governance



A transformative evidence-based Training & Competency solution

ProfilerLive

Systematising people change:

Transitions

- **New** equipment
- **New** ways of working
- **New** software
- Harmonisation
- **New** location

Steady State

- **More for less**
- New regulations
- **Act Now**
- CPD / CI

Staff

- **Starters**
- Movers
- **Leavers**
- Locums/banks

Comprehensive toolkit & support, to navigate the constant change at every level of your organisation

Digitising Staff T&C is just the start … Unlocking Workforce Potential

What is Your enabler ?

Your network's investments will only deliver value if your people are ready … and have the support they need

ProfilerLive connects

>>> your people to your systems

>>> your plans to your delivery

ProfilerLive

Turning isolated improvements into a cohesive, integrated model.

In conclusion:

You’re already doing the hard part - **together** we will **make it easier**

Systems matter ... But people deliver

Systematising 'people change' unlocks the value of all your other investments

ProfilerLive helps ensure your workforce can keep up - with structure, visibility & assurance

ProfilerLive

Turning isolated improvements into a cohesive, integrated model

Let’s talk!

Want to explore how this could work in your network?

We’re here to listen, show, and support.

Visit the stand or book a session with us.

ProfilerLive

Turning isolated improvements into a cohesive, integrated model.

Digitising Staff T&C

The first step in unlocking workforce potential

Simon Brown
Director

6th February 2025

Slido

Please scan the QR Code on the screen. This will take you through to Slido, where you can interact with us.

SCAN ME

Case Study

aiforia®
AI for image analysis

Case Study

Dr Vipul Foria DipRCPath(Cyt) FRCPath
Consultant Histopathologist & Cytopathologist
University Hospital Southampton NHS Foundation Trust

Slido

Please scan the QR Code on the screen. This will take you through to Slido, where you can interact with us.

SCAN ME

Fireside Interview

Dr Branko Perunovic
Chief Medical Officer
Black Country Pathology Service

Slido

Please scan the QR Code on the screen. This will take you through to Slido, where you can interact with us.

SCAN ME

CONVENZIS

Case Study

DIAGNEXIA
Remote Expert Pathology

Case Study

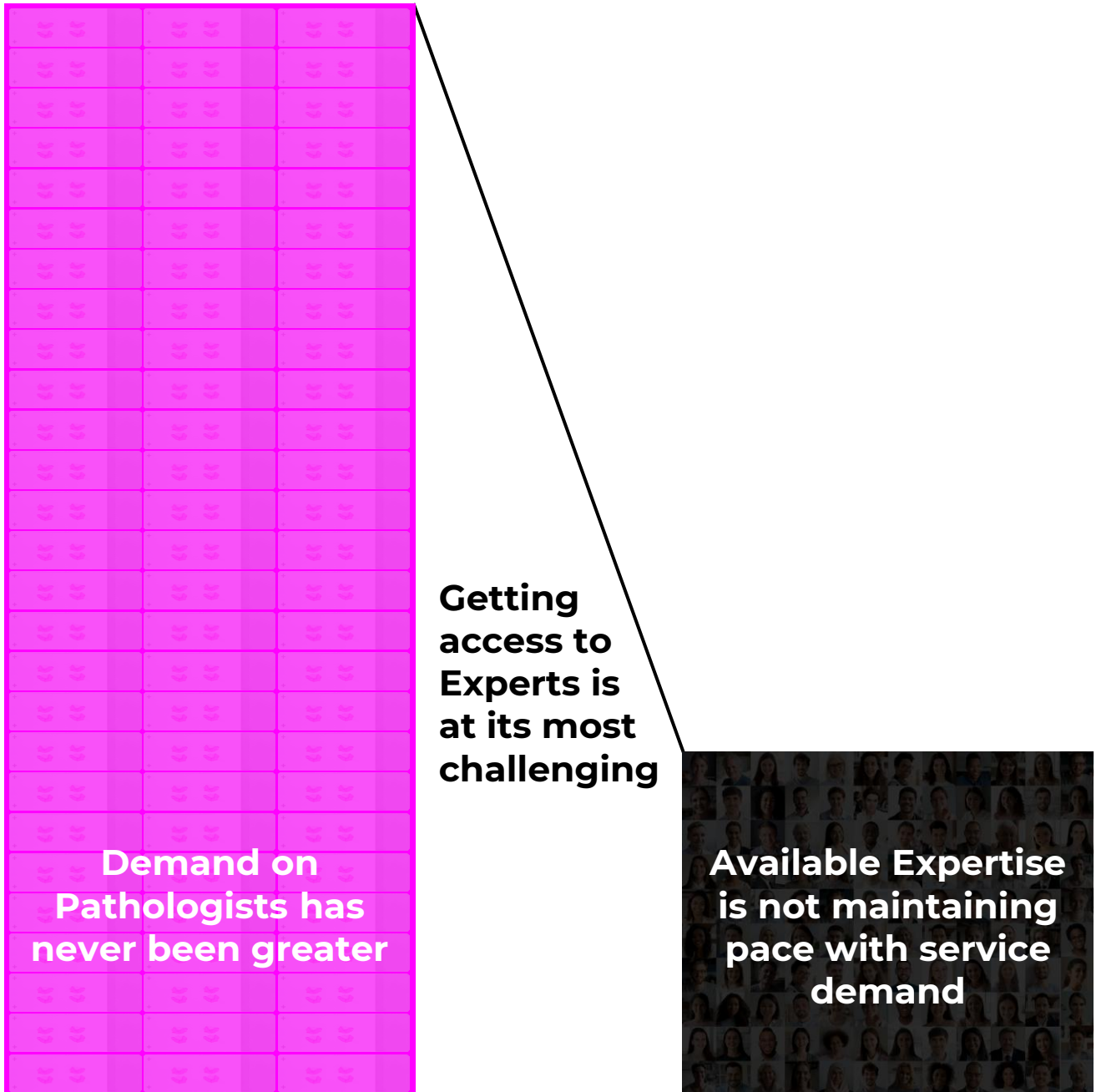
Mike Langford
Senior Director of Clinical Operations UK
Diagnexia

Faster, Better Diagnostics: Practical AI Applications in Pathology Services

Mike Langford.

Senior Director Clinical Operations (UK), Diagnexia

Pathology Services Are Facing A Major Global Supply & Demand Challenge Within The Next 10 Years



The Diagnostic Crunch
And What It Means for Patients

UK pathology services face significant challenge as **one-third of pathologists are over 55** and approaching retirement while only **3% of departments have enough staff** to meet clinical demand

7.2% Compound Annual Growth in Sample Volumes

Reporting gap of 26% nationally

Over **1.4m cases** annually under-addressed

2x Overtime + 3x Outsourcing in Last 3 years

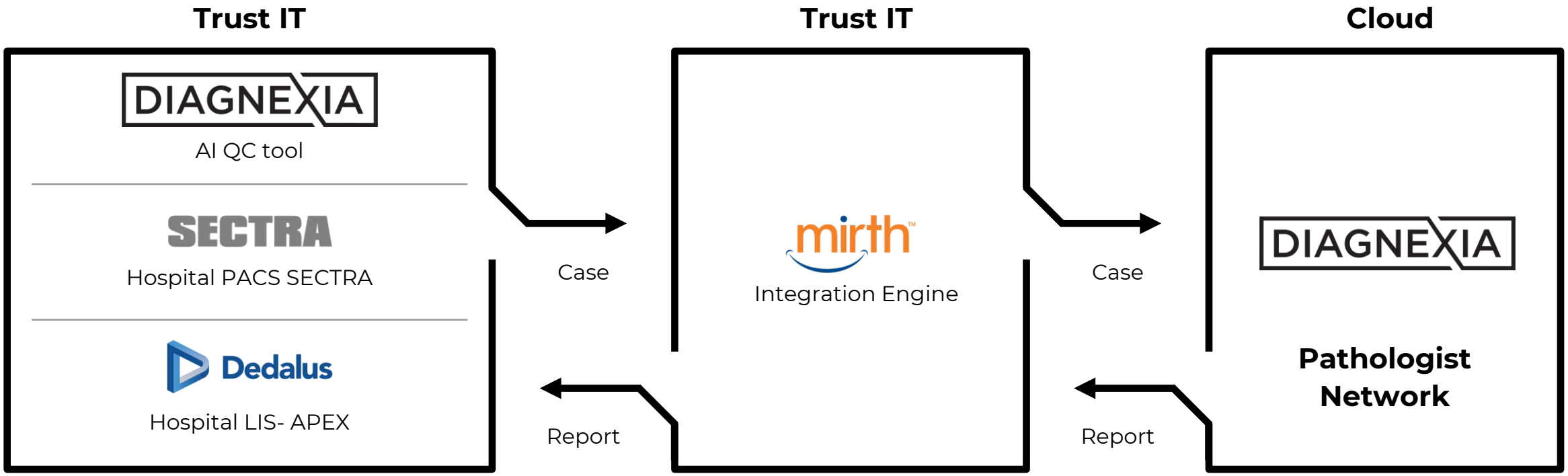

Pathology
Needs Digital
Transformation

This Will Be Driven By A Combination Of Digital Pathology And State Of The Art AI

DIAGNEXIA

Digitally connecting diagnostic laboratories to locally registered, subspeciality pathologists worldwide to TRULY increase local pathology capacity

Diagnexia is a Virtual Extension of a Clinical Team
Truly Embedded in the Clinical Workflow



NHS East Sussex Healthcare NHS Trust

Fully Digital End - To - End Workflow with Diagnexia

170,000

UK Clinical Case Reporting Run Rate

+50% from Jan 2025

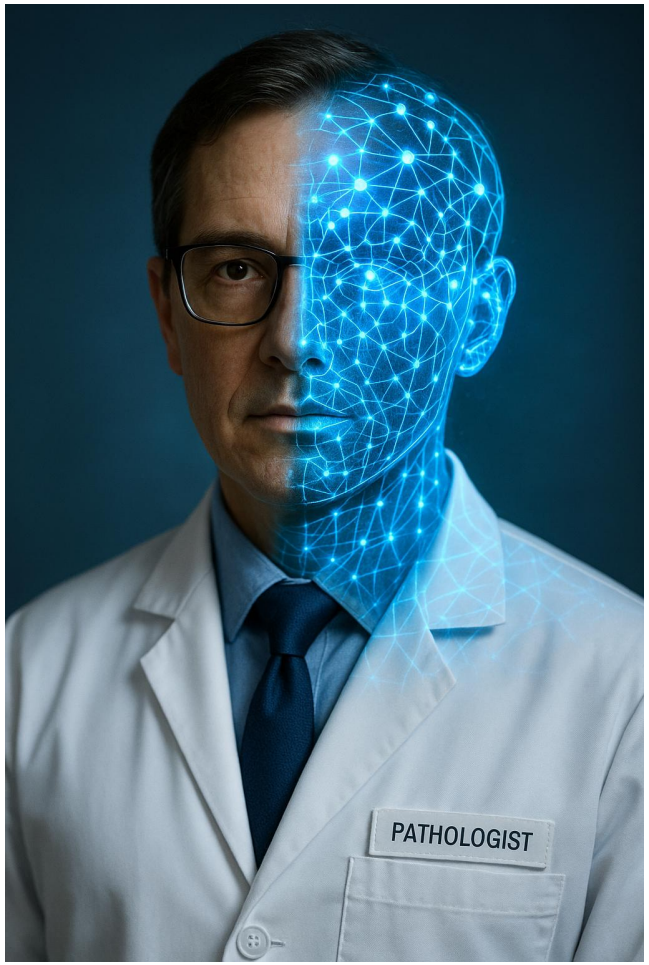
1.2 Day TAT

DIAGNEXIA

We Need to Radically Overhaul Global Pathology Reporting Capacity

2X

- **State-of-the-Art**
- **Speed**
- **Safety**
- **Quality**



DIAGNEXIA

Flying Higher
Faster &
Safer in Pathology

Lean

- Eliminate waiting times
- Streamline workflows
- Reduce handoffs
- Standardise processes
- Patient-centered value

+

Six Sigma

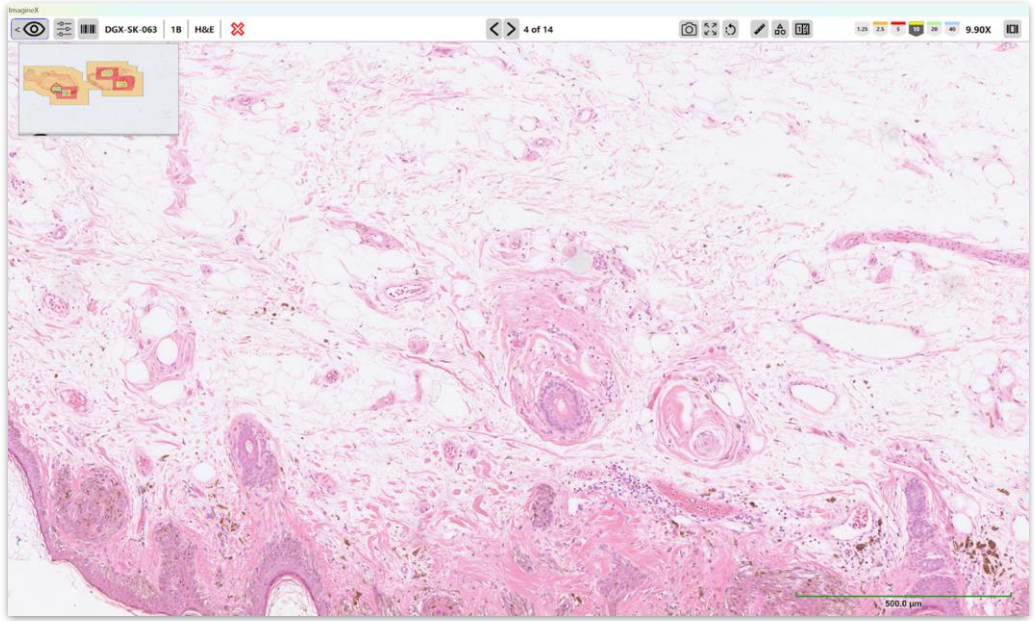
- Reduce diagnostic errors
- Control turnaround times
- Standardise reporting quality
- Optimise resource allocation
- Patient-centered outcomes

Impact of improved reporting processes

- Improved Quality
- Improved Delivery
- Satisfied Pathologists
- Satisfied Patients

DIAGNEXIA

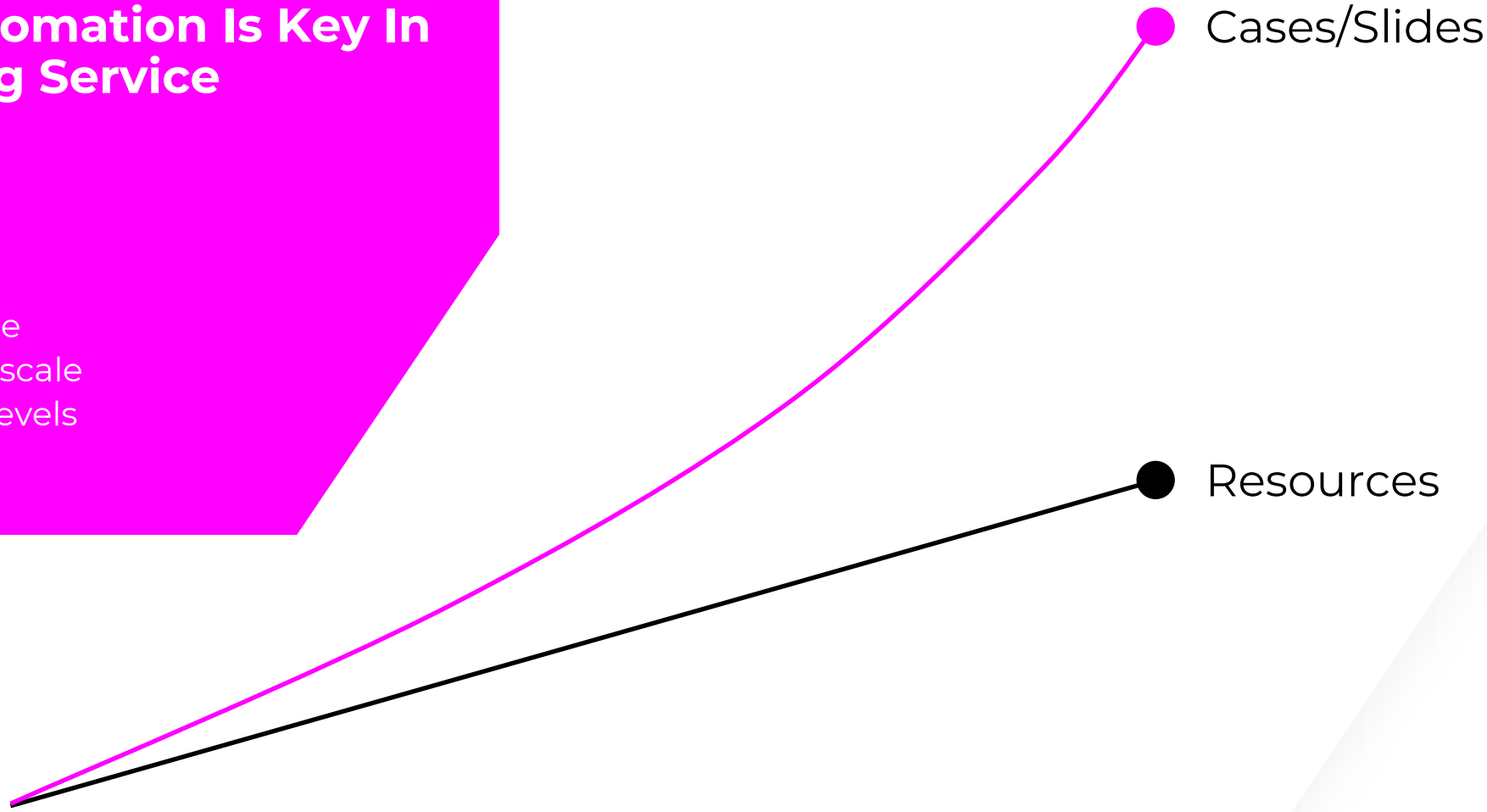
Ergonomics Support 2x Throughput However Critical that We Apply Appropriate Safety Measures



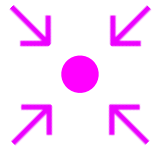
DIAGNEXIA

AI Supported Automation Is Key In Terms Of Ongoing Service Fulfilment

We continuously challenge ourselves to continuously scale cases against resourcing levels



AI Through a Vendor Lens



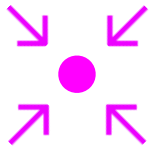
Cancer Diagnostics And Prognostics

AI Through the Diagnexia Lens

Service Oversight & Management

Pathologist & Client Interactions

Clinical Diagnostics



Cancer Diagnostics And Prognostics

Laboratory Automation

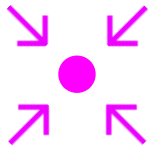
Case Distribution

AI Through the Diagnexia Lens

Service Oversight & Management

Pathologist & Client Interactions

Clinical Diagnostics



Cancer Diagnostics And Prognostics

Laboratory Automation

Case Distribution

We Are Making Good Progress In Automating Digital Pathology Processes

In 18 months we

+10%

Compound monthly Increase case throughput

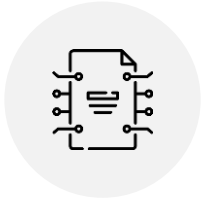
Reduced

- Case accession time
- Manual interventions

Increasing **automated first scan** success rate to 97.5% using AI in the scanner

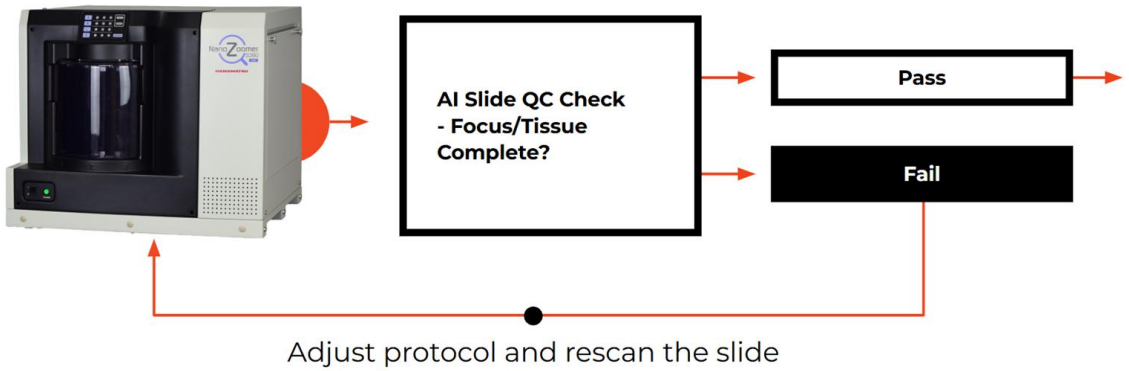
Automated label reading facilitating accelerated case assembly for assignment

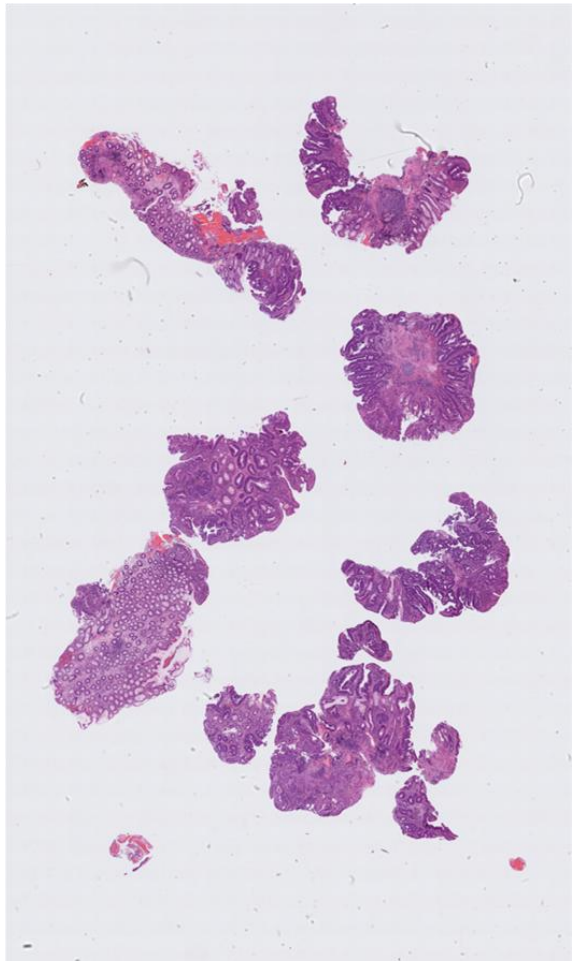
Elimination of manual **image quality checks** using AI focus and completeness checks

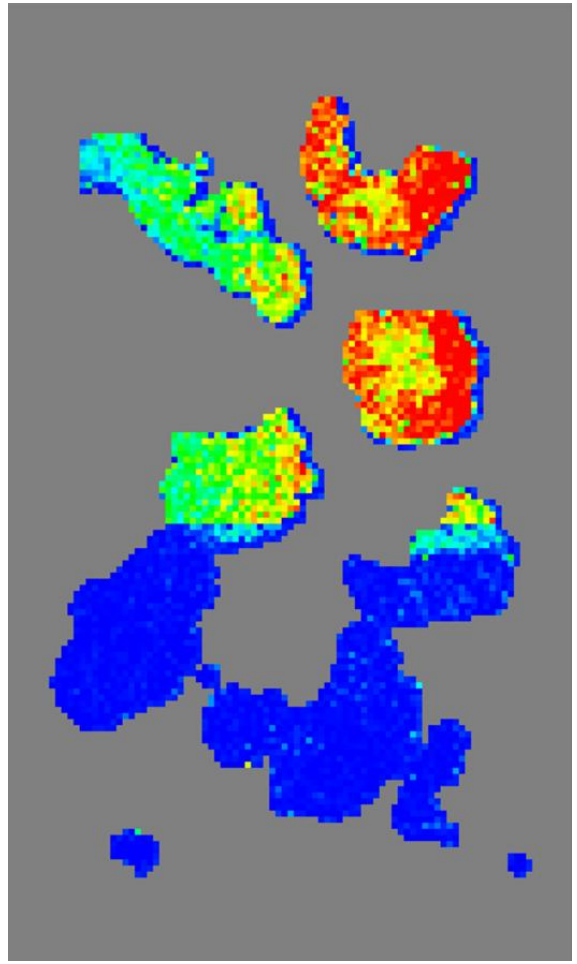


Fully **automated case assembly and assignment** using AI

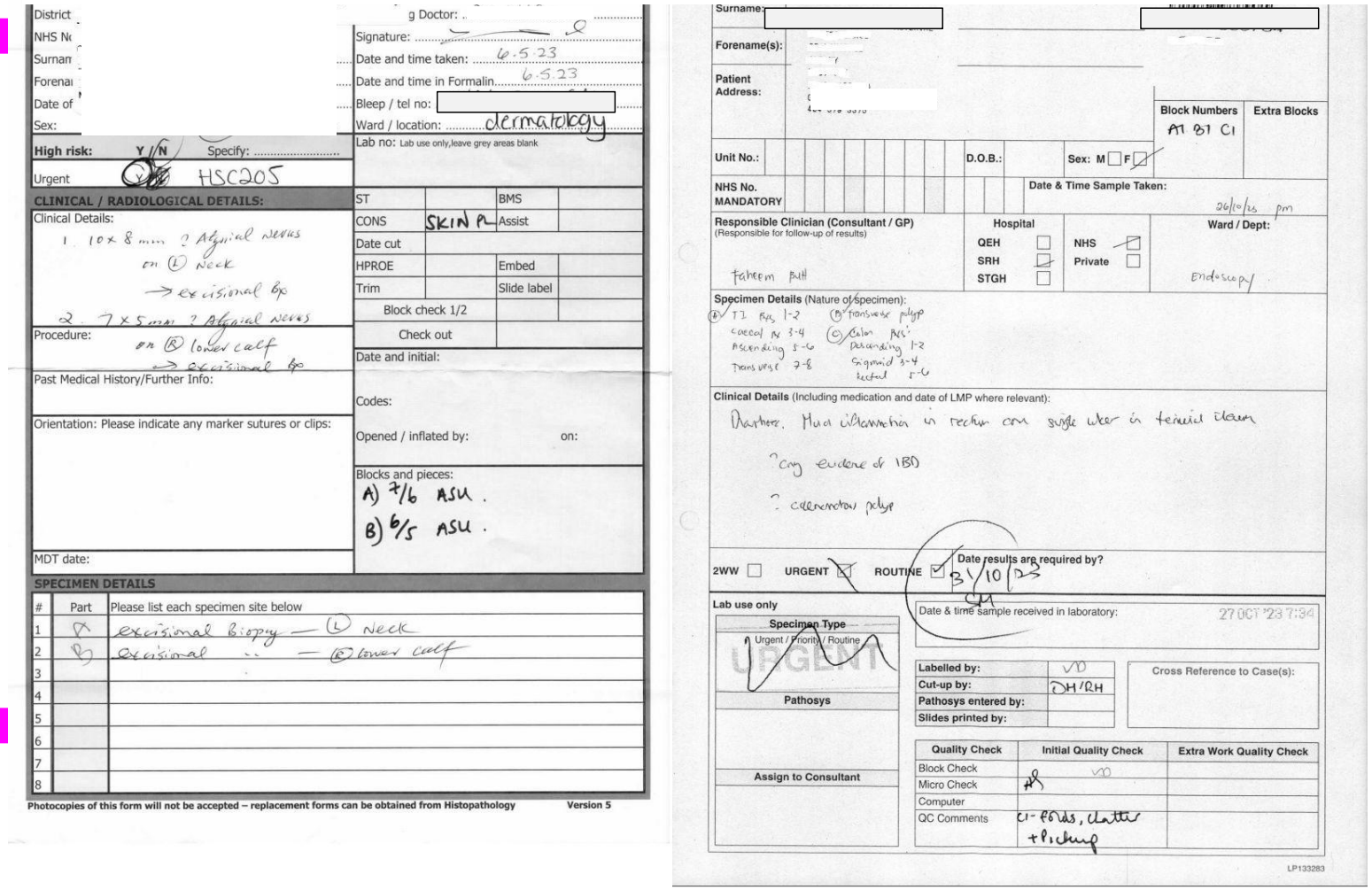
Leveraging AI in All Facets of Case Building







AI Risk Based Assignment of Cases Using PHI Compliant Multimodal LLMs



District
NHS No
Surname
Forenames
Date of
Sex:

g Doctor:
Signature:
Date and time taken: 6.5.23
Date and time in Formalin: 6.5.23
Bleep / tel no:
Ward / location: dermatology

High risk: Y / N Specify:
Urgent
HSC205

Lab no: Lab use only, leave grey areas blank

CLINICAL / RADIOLOGICAL DETAILS:

Clinical Details:
1. 10 × 8 mm ? Atypical Nevus on (L) Neck → excisional bx
2. 7 × 5 mm ? Atypical Nevus on (R) lower calf → excisional bx

Procedure:

Past Medical History/Further Info:

Orientation: Please indicate any marker sutures or clips:

MDT date:

ST		BMS	
CONS	SKIN PL	Assist	
Date cut			
HPROE		Embed	
Trim		Slide label	
Block check 1/2			
Check out			

Date and initial:

Codes:

Opened / inflated by: on:

Blocks and pieces:
A) 7/6 ASH.
B) 6/5 ASH.

SPECIMEN DETAILS

#	Part	Please list each specimen site below
1	A	excisional biopsy — (L) neck
2	B	excisional " — (R) lower calf
3		
4		
5		
6		
7		
8		

Photocopies of this form will not be accepted – replacement forms can be obtained from Histopathology Version 5

Surname:
Forename(s):
Patient Address:
Block Numbers: A1 B1 C1
Extra Blocks
Unit No.:
D.O.B.:
Sex: M ☐ F ☒
NHS No. MANDATORY
Date & Time Sample Taken: 26/10/23 pm

Responsible Clinician (Consultant / GP) (Responsible for follow-up of results): Faheem Butt

Hospital: QEH ☐ SRH ☒ STGH ☐
NHS ☒ Private ☐
Ward / Dept: Endoscopy

Specimen Details (Nature of Specimen):
(A) TI Bxs 1-2 Caecal Bx 3-4 Ascending 5-6 Transverse 7-8
(B) Transverse polyp
(C) Colon Bxs: Descending 1-2 Sigmoid 3-4 Rectal 5-6

Clinical Details (Including medication and date of LMP where relevant):
Diarrhoea. Mucal inflammation in rectum and single ulcer in terminal ileum
? any evidence of IBD
? colorectal polyp

2WW ☐ URGENT ☒ ROUTINE ☒ Date results are required by? 31/10/23

Lab use only

Specimen Type
Urgent / Priority / Routine: URGENT

Pathosys

Assign to Consultant

Date & time sample received in laboratory: 27 OCT 23 7:34

Labelled by:	VD
Cut-up by:	DH/RH
Pathosys entered by:	
Slides printed by:	

Cross Reference to Case(s):

Quality Check	Initial Quality Check	Extra Work Quality Check
Block Check	VD	
Micro Check	AS	
Computer		
QC Comments	C1- 8 bds, clatter + pickup	

LP133283

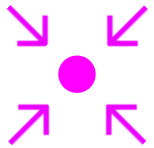
DIAGNEXIA

AI Through the Diagnexia Lens

Service Oversight & Management

Pathologist & Client Interactions

Clinical Diagnostics

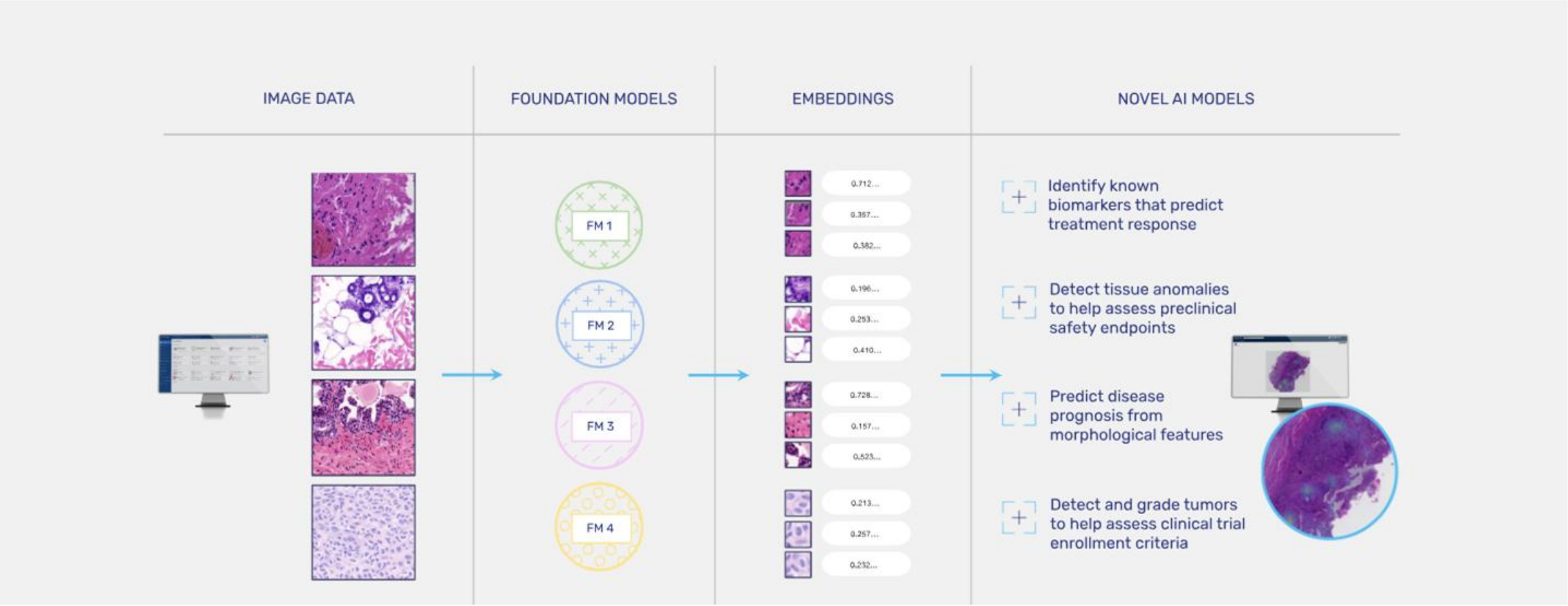


Cancer Diagnostics And Prognostics

Laboratory Automation

Case Distribution

Foundation Models Are Only The Beginning To Try And Digest the Vastness of Pathology



DIAGNEXIA

Deciphex DT1 FM
Benchmarking well with best in class peer equivalents

Data Size

100,426 slides

100,130,900 tiles

Data Source

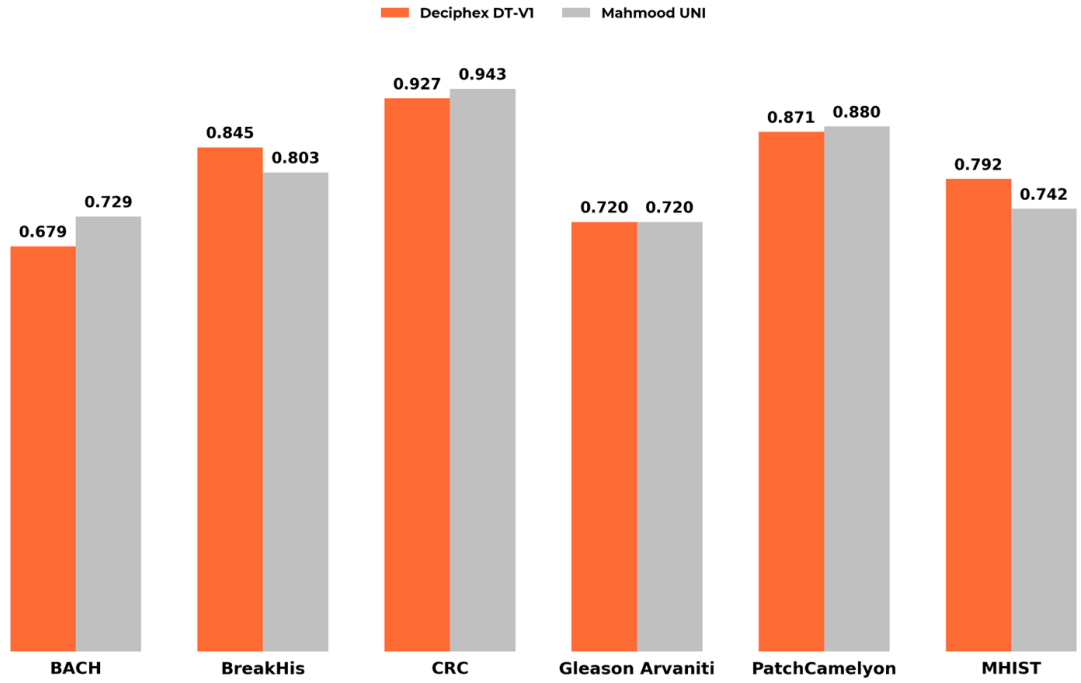
66% Diagnexia

33% The Cancer Genome Atlas Program (TCGA)

Technical Considerations

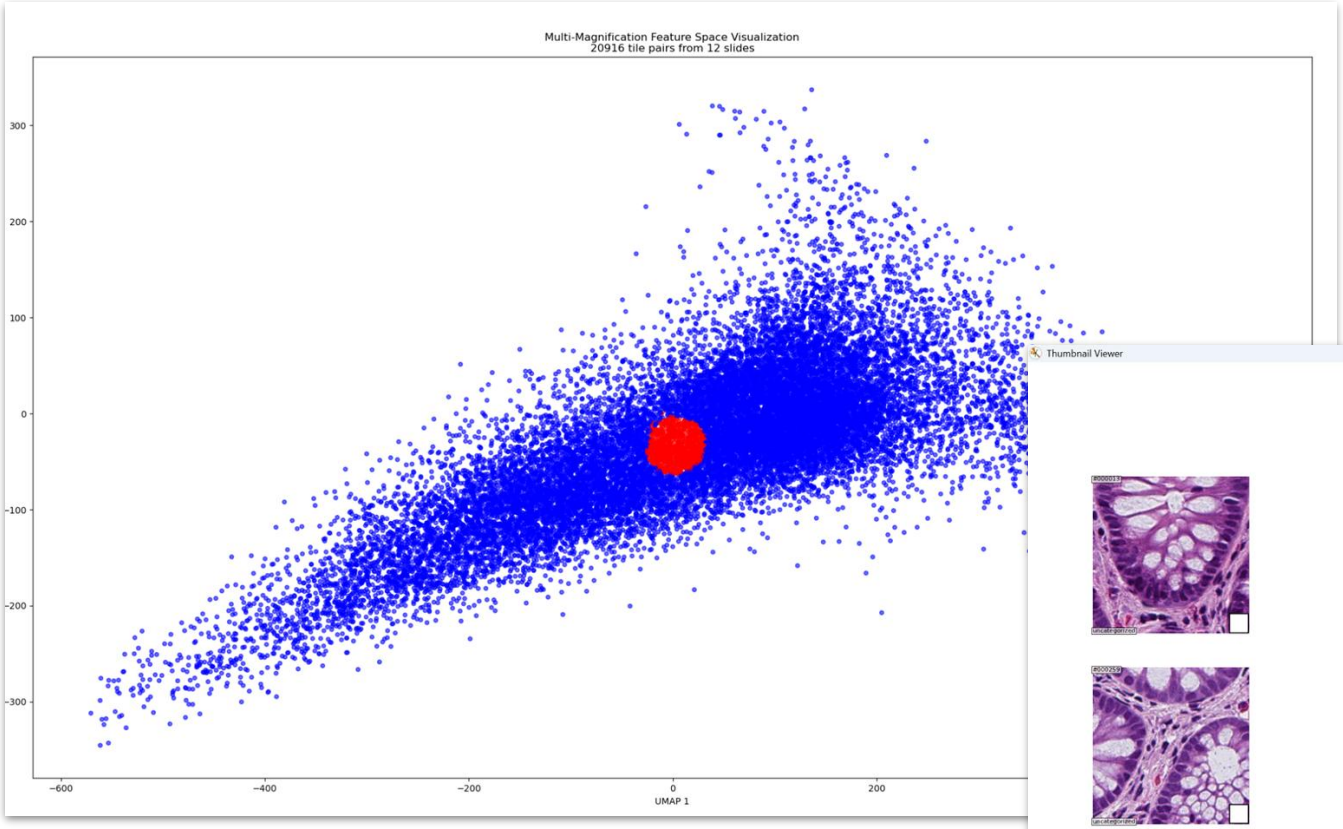
ViT-L/16 - Self Supervised Learning using DINOv2

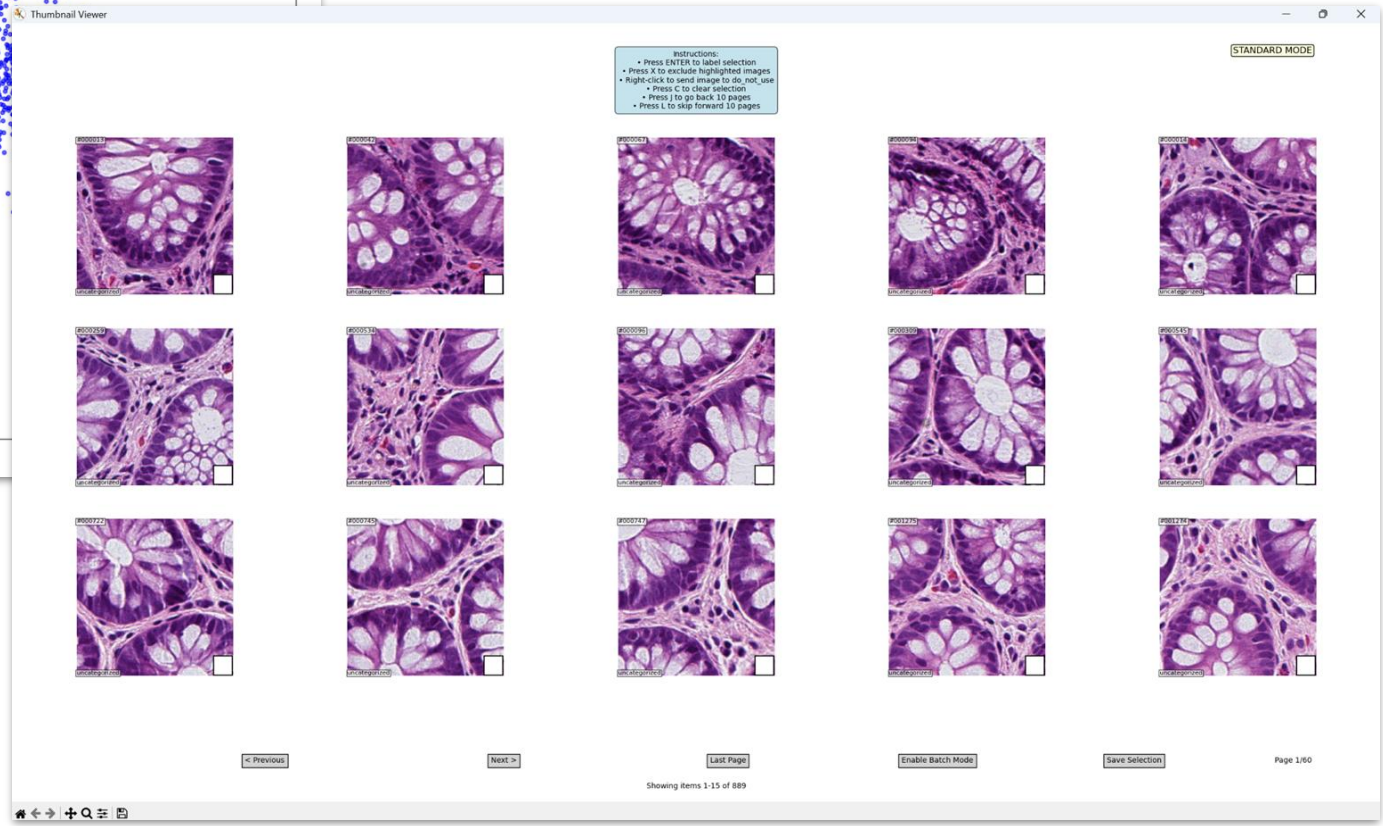
16 Nvidia H200



Dataset	Task	Tissue Type
BACH	Classification (4 classes)	Breast
BreakHis	Classification (4 classes)	Breast
CRC	Classification (9 classes)	Colorectal
Gleason Arvaniti	Classification (4 classes)	Prostate
PatchCamelyon	Classification (2 classes)	Breast
MHIST	Classification (2 classes)	Colorectal Polyp

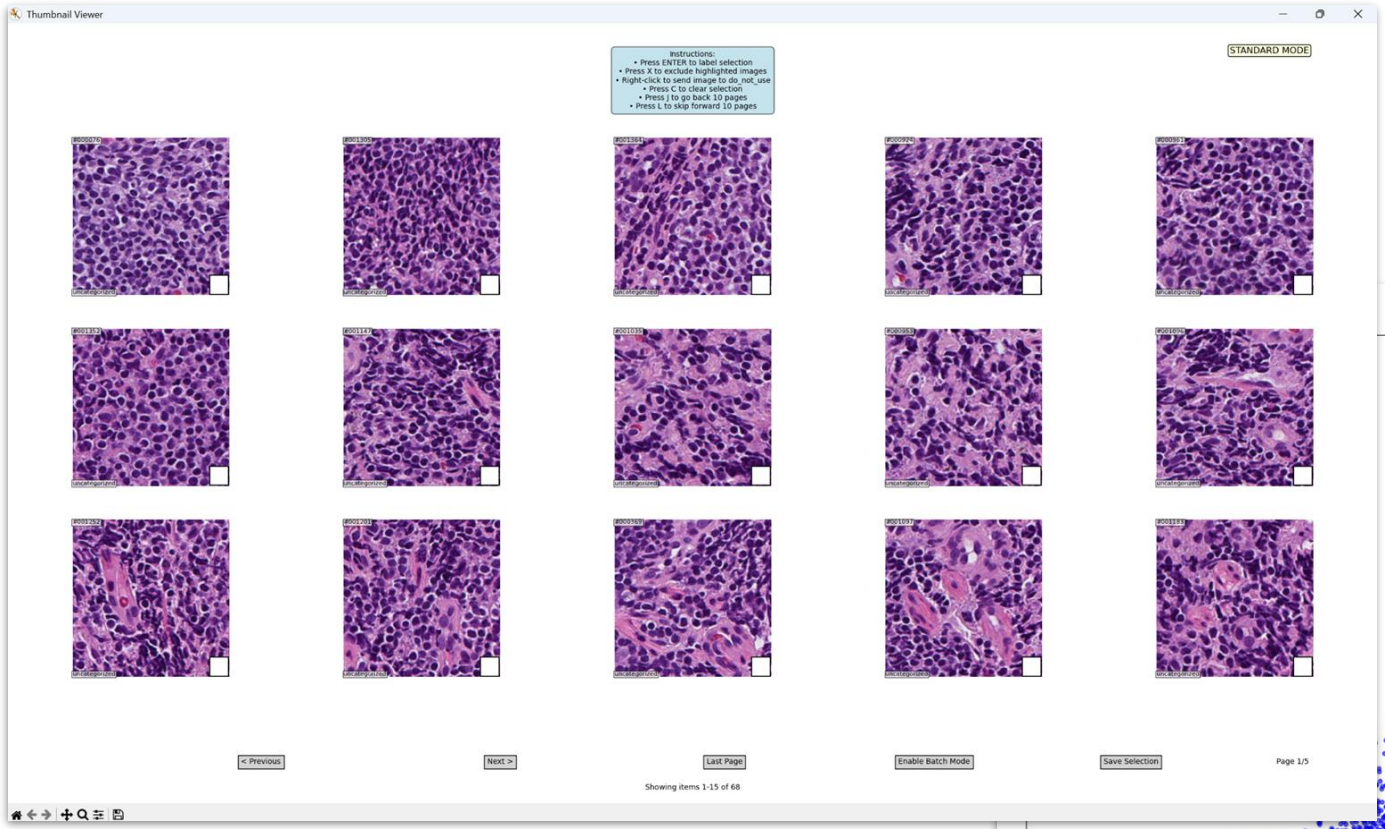
Turning Pathology into a Feature Map

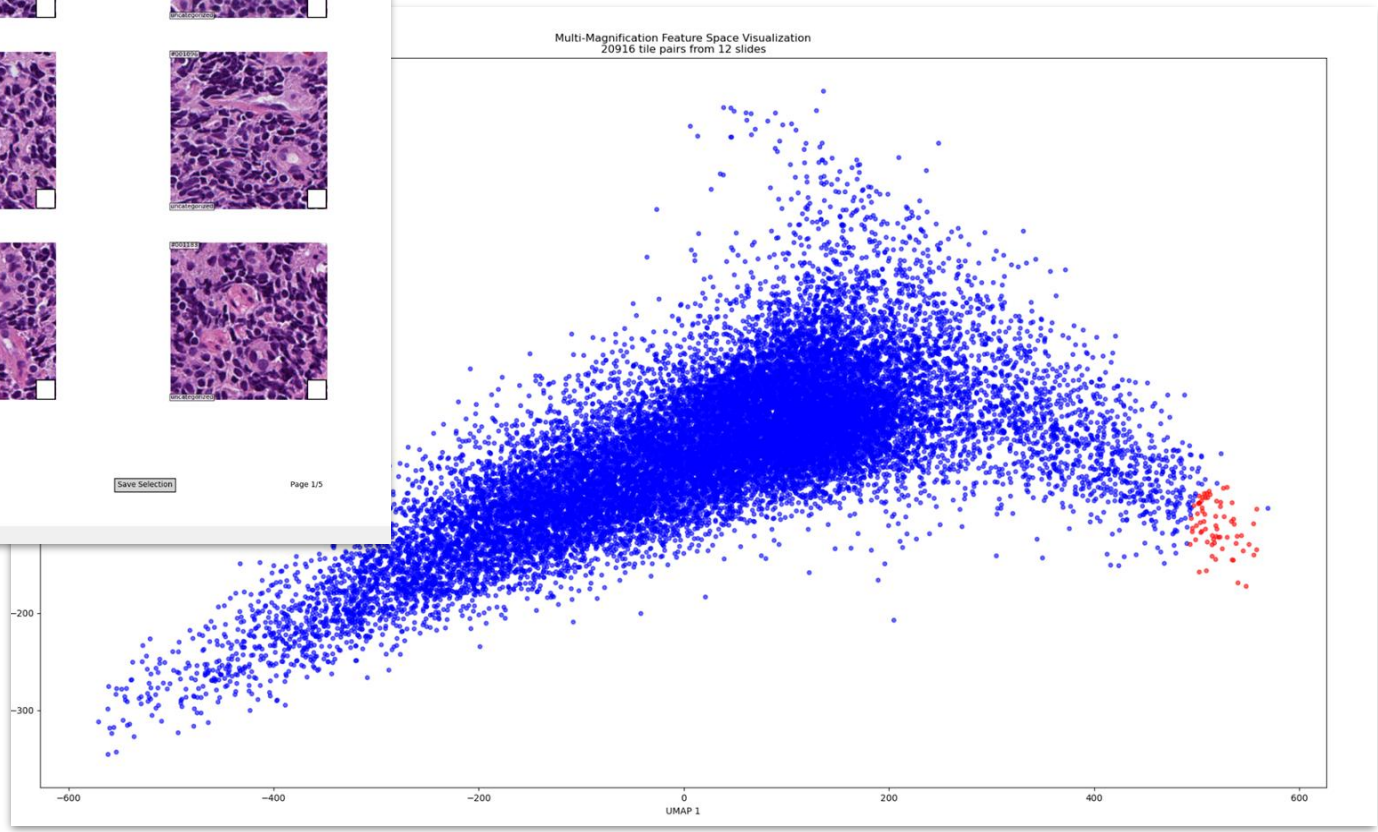




DIAGNEXIA

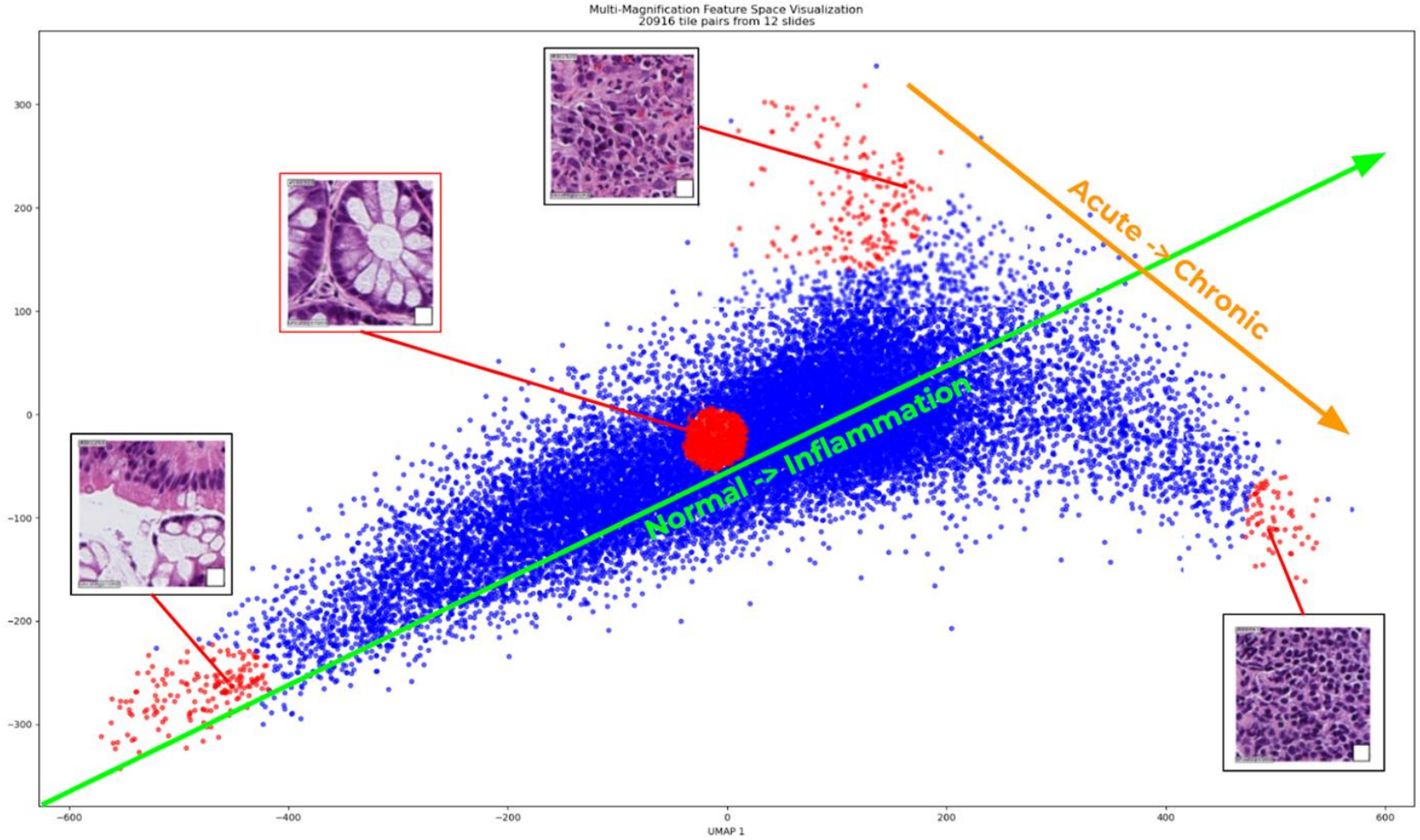
Turning Pathology into a Feature Map





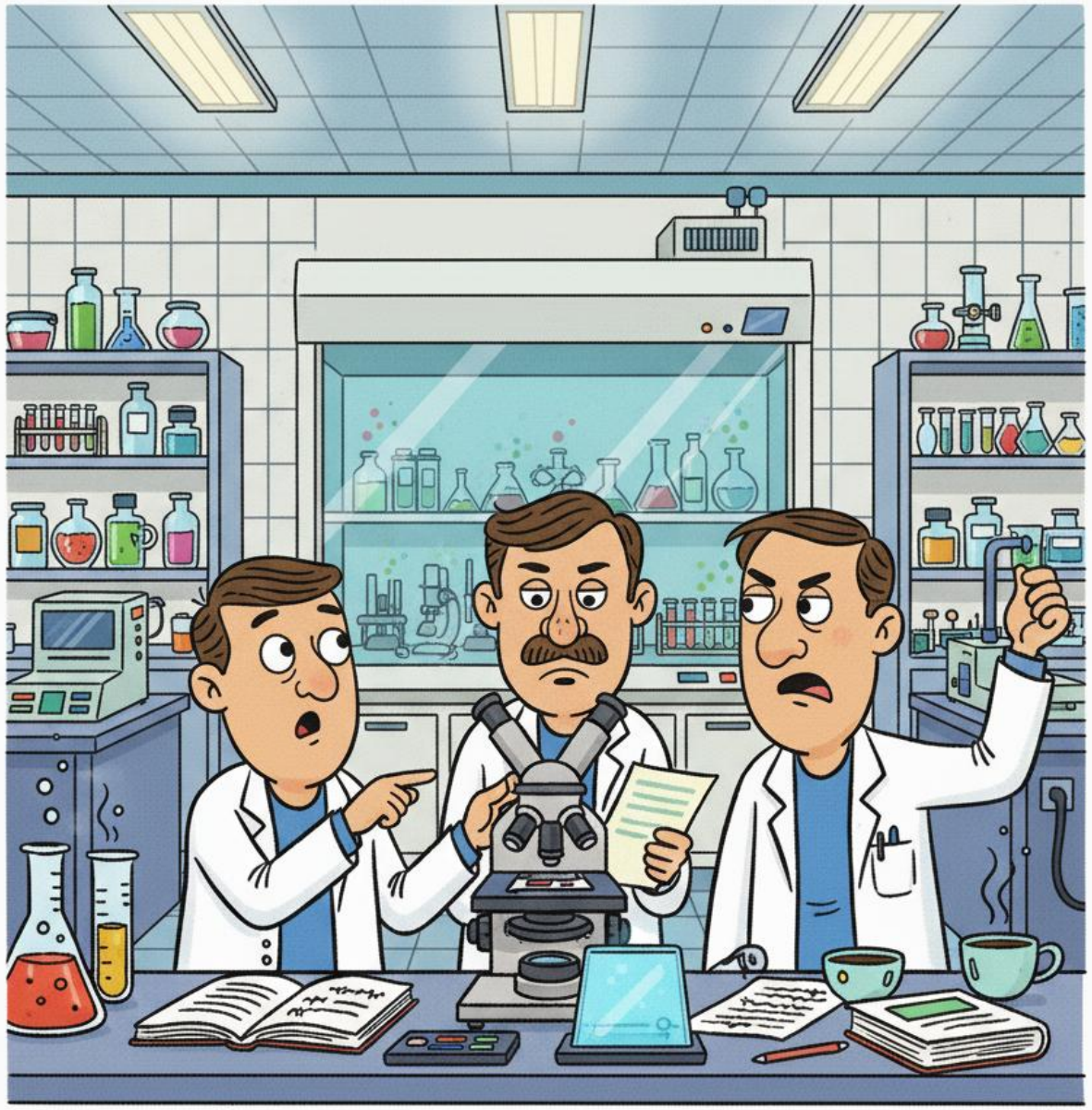
DIAGNEXIA

Turning Pathology into a Feature Map



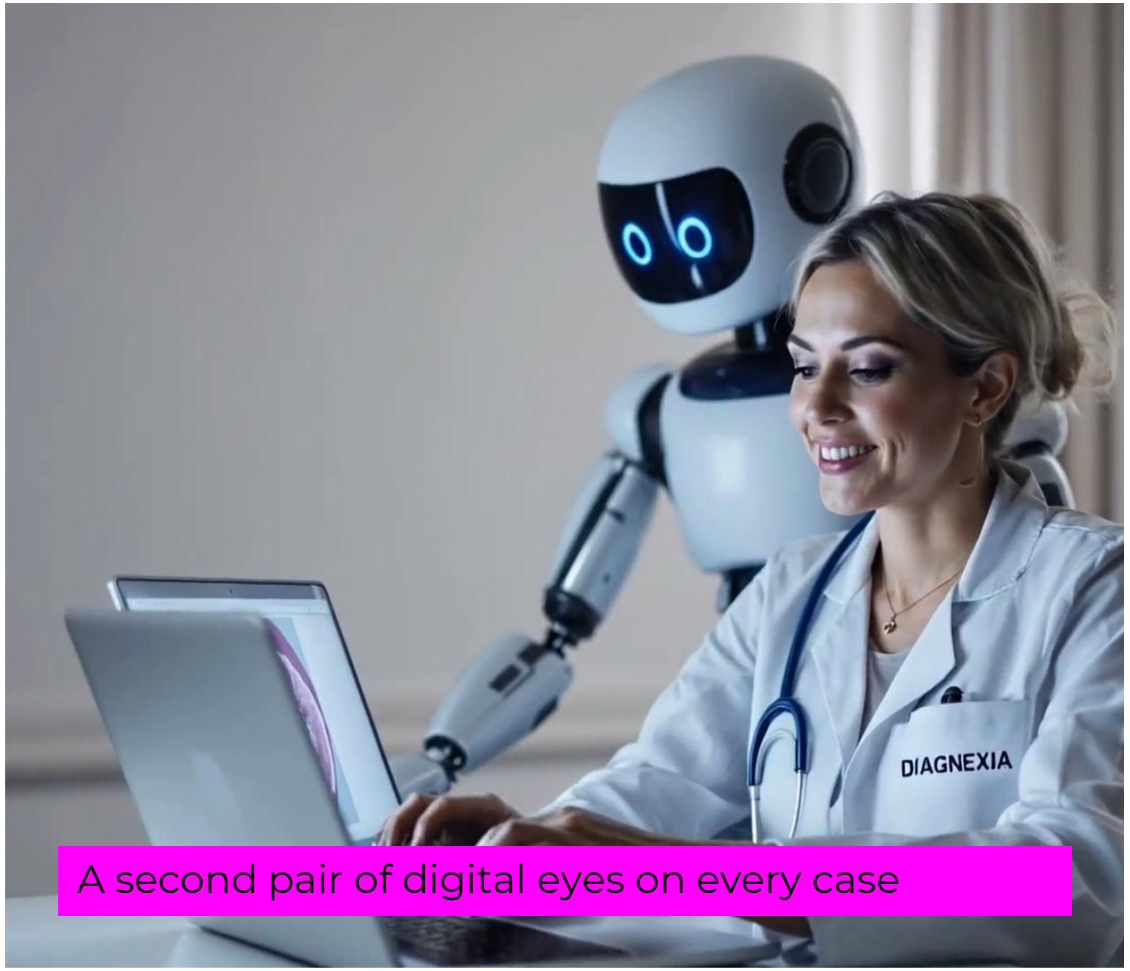
DIAGNEXIA

The problem is interobserver variability!



DIAGNEXIA

Diagnexia is Utilising its Data Resources to Develop a Fully Comprehensive AI driven IQA program



- GI
- Skin
- Gynae
- H&N
- GU
- BST
- Others

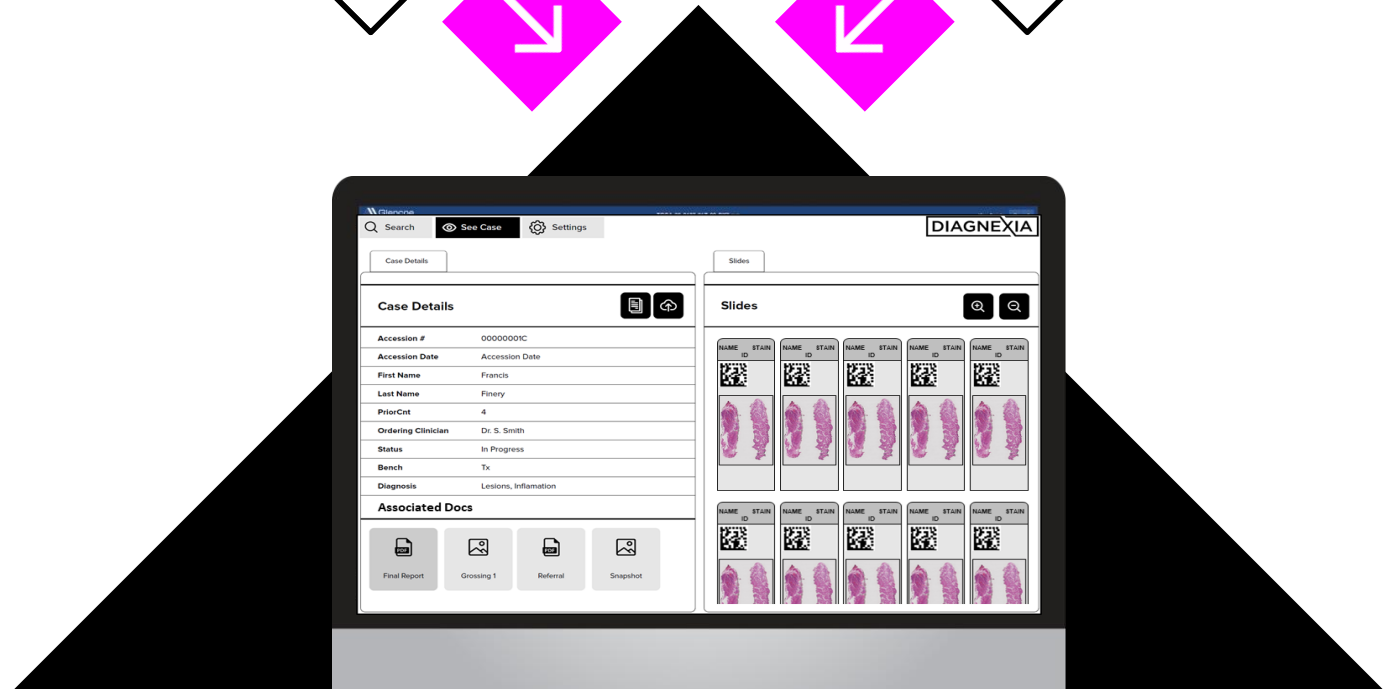
Service volumes will allow us to build gold standard performance AI algorithms to cover **80%** of our caseload

DIAGNEXIA

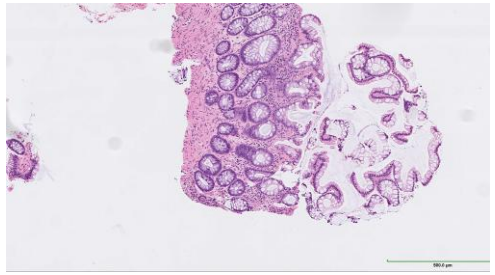
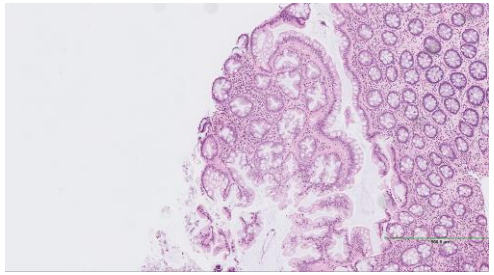
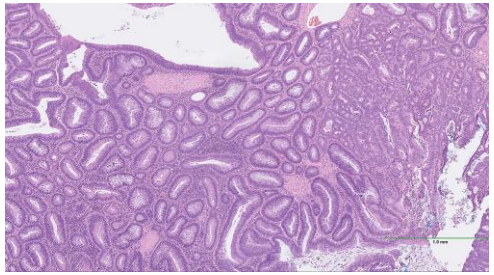
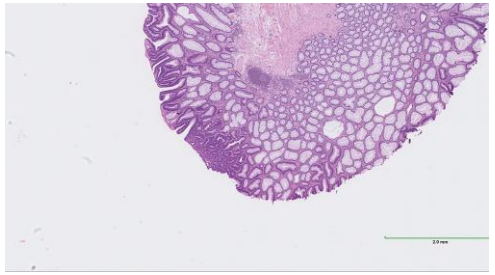
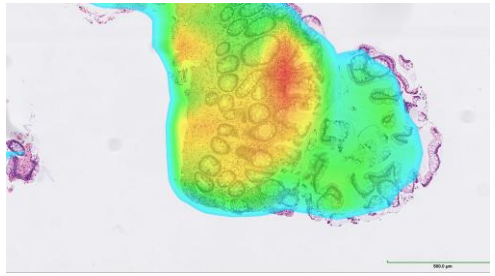
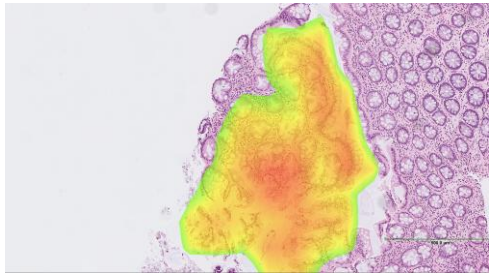
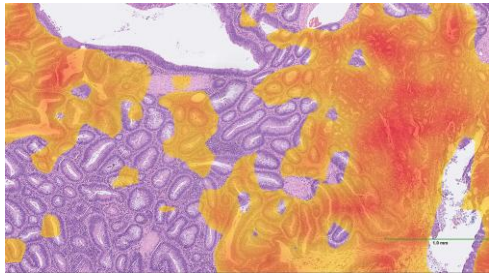
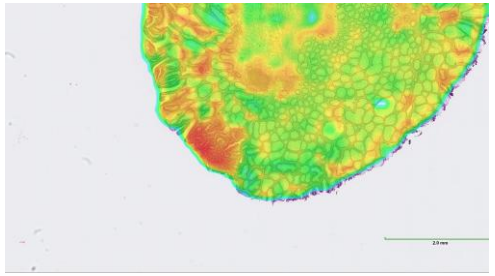
AI-Enriched Colorectal QC Review Implemented In Our Daily Service

AI Discordance (3% of cases)

Random Selection (2.5% of cases)



Example Colorectal Discordances Detected by AI-IQA

Pathologists	 ✗ Normal	 ✗ Normal	 ✗ LGD	 ✗ LGD
AI	 ✓ Hyperplastic	 ✓ Hyperplastic	 ✓ HGD	 ✓ HGD

DIAGNEXIA

Hyperplastic Polyps (HP)

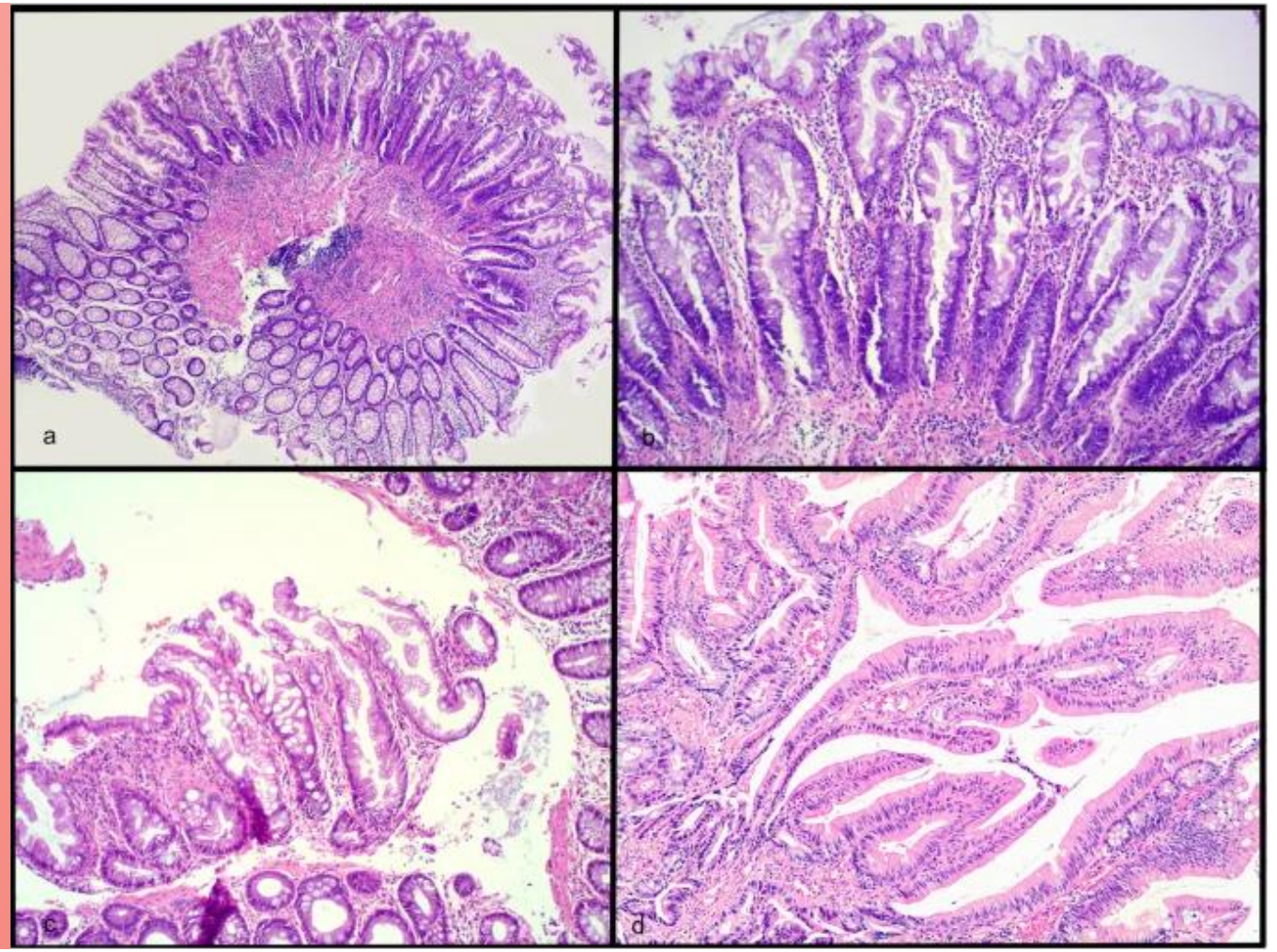
LOW MALIGNANT POTENTIAL

- **Prevalence:** Most common serrated polyp (~75% of cases)
- **Location:** Typically distal (left) colon, rectosigmoid region
- **Cancer Risk:** No increase in colorectal cancer risk (aOR ~0.8)
- **Surveillance:** Generally not required after removal
- **Prognosis:** Excellent - considered benign findings

Sessile Serrated Lesions (SSL)

HIGH MALIGNANT POTENTIAL

- **Prevalence:** About 20% of serrated polyps
- **Location:** More often proximal (right) colon
- **Cancer Risk:** Significantly elevated (aOR 2.9-12.8x higher)
- **Surveillance:** Frequent surveillance required after removal
- **Cancer Contribution:** Up to 30% of sporadic colorectal cancers

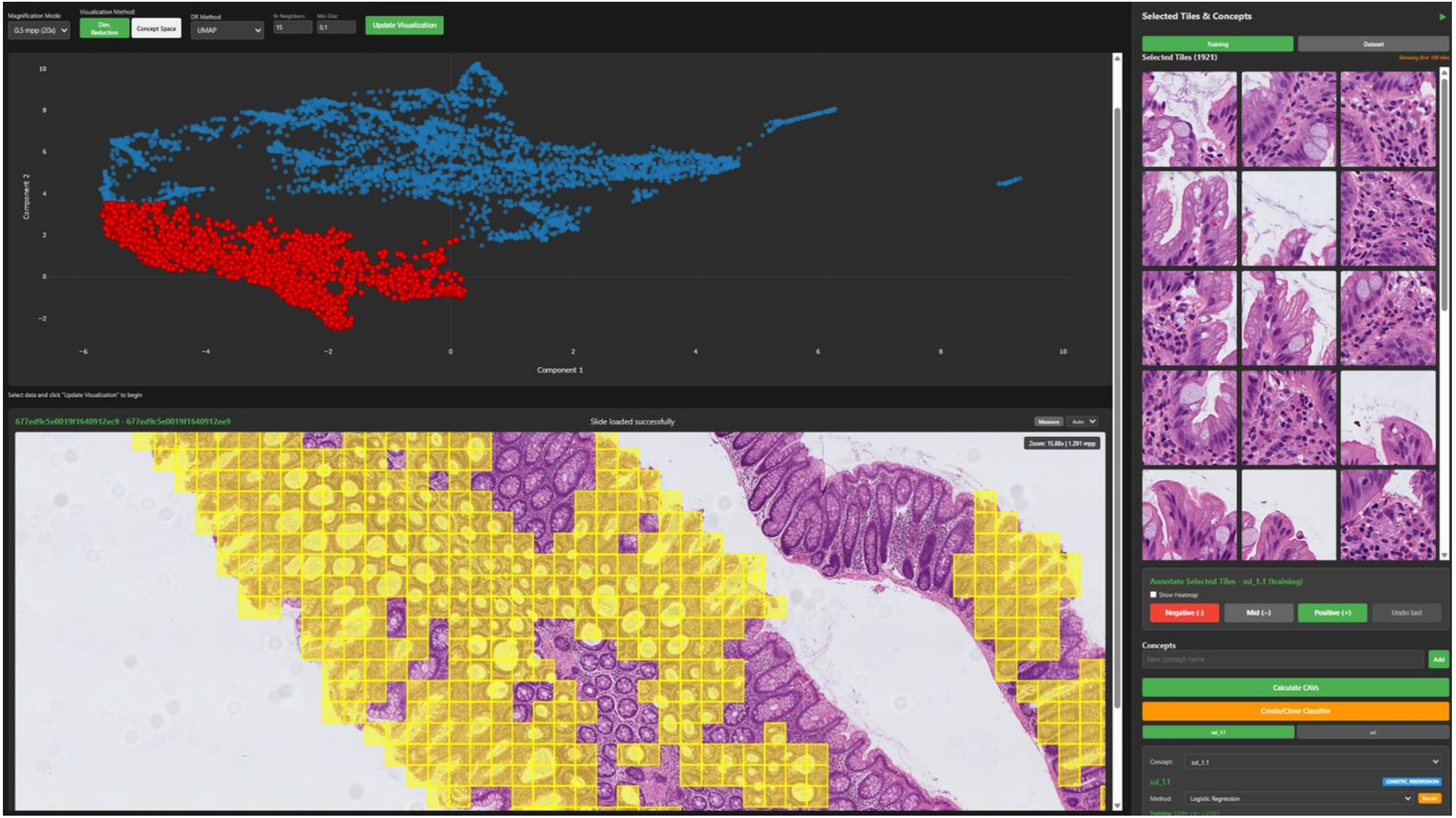


DIAGNEXIA

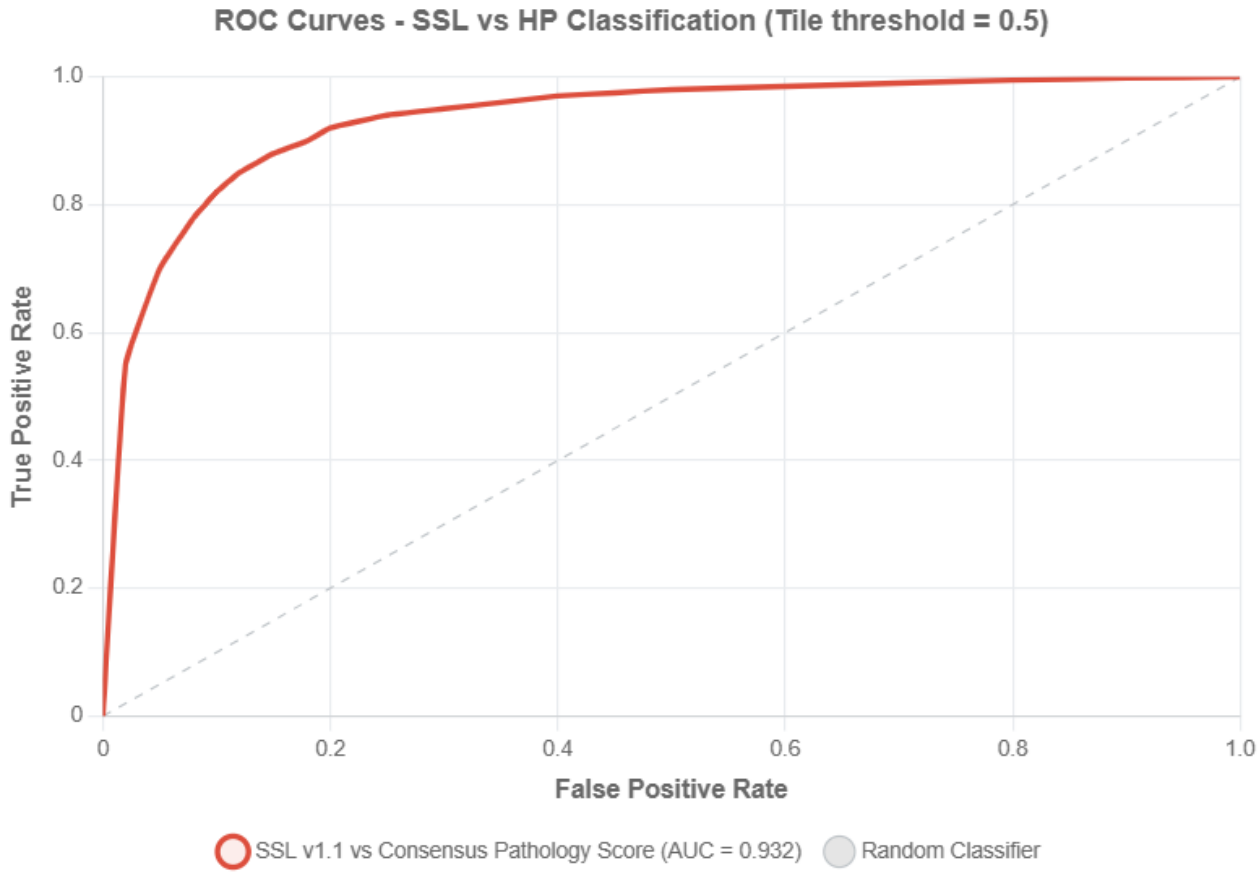
Virchows Arch. 2007 Jun;450(6):613-8. doi: 10.1007/s00428-007-0413-8. Epub 2007 Apr 21.

Serrated polyps of the colorectum: is sessile serrated adenoma distinguishable from hyperplastic polyp in a daily practice?

Dominique Sandmeier [1], Walter Seelentag, Hanifa Bouzourene

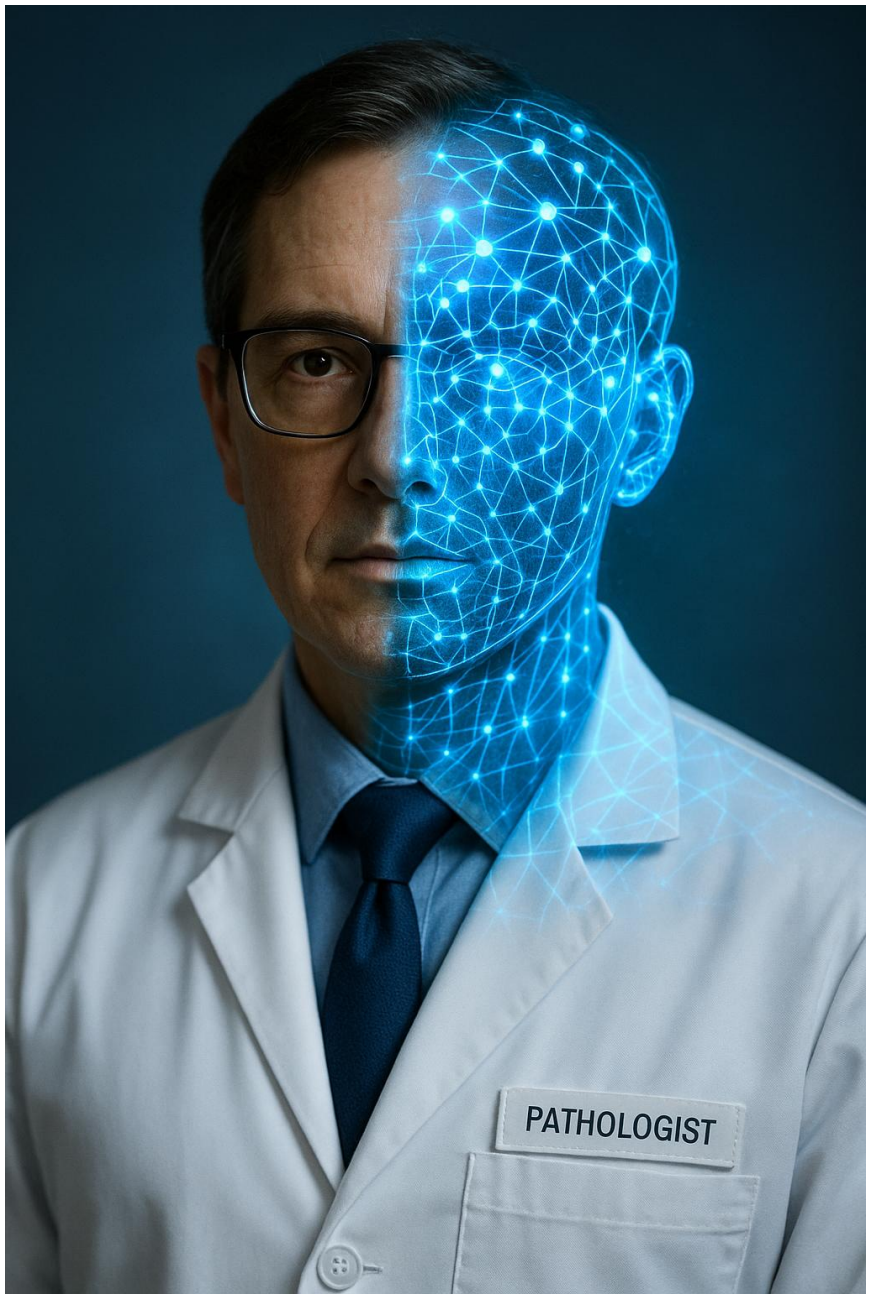

Magnification Mode:
0.5 mpp (20x)
Visualization Method:
Dim. Reduction
Concept Space
DR Method:
UMAP
N-Neighbors:
15
Min Dist:
0.1
Update Visualization
Component 2
Component 1
Select data and click "Update Visualization" to begin
677ed9c5e0019f1640912ec9 - 677ed9c5e0019f1640912ee9
Slide loaded successfully
Measure
Auto
Zoom: 15.88x | 1.291 mpp
Selected Tiles & Concepts
Training
Dataset
Selected Tiles (1921)
Showing first 100 tiles
Annotate Selected Tiles - ssl_1.1 (training)
Show Heatmap
Negative (-)
Mid (~)
Positive (+)
Undo last
Concepts
New concept name
Add
Calculate CAVs
Create/Clone Classifier
ssl_1.1
ssl
Concept:
ssl_1.1
LOGISTIC REGRESSION
Method:
Logistic Regression
Recalc

Deciphex SSL v1.1 achieved excellent diagnostic performance with an AUC of 0.93 when validated against consensus pathology scoring on 120 HP and SSP slides, substantially exceeding the documented inter-pathologist agreement rates of κ = 0.35-0.48 for SSL vs HP classification.



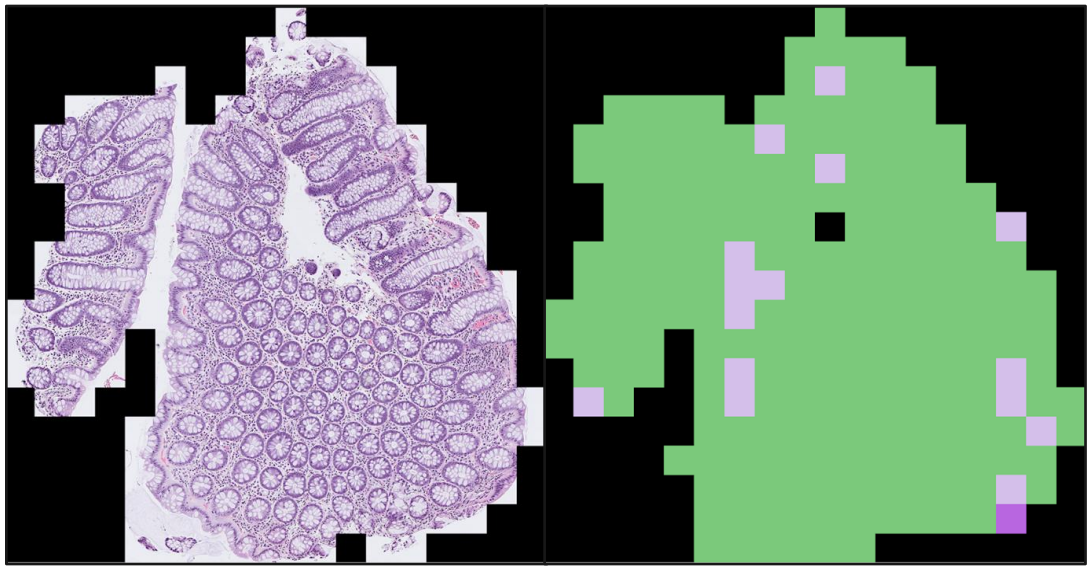
DIAGNEXIA

So How Far Away Is This Guy?



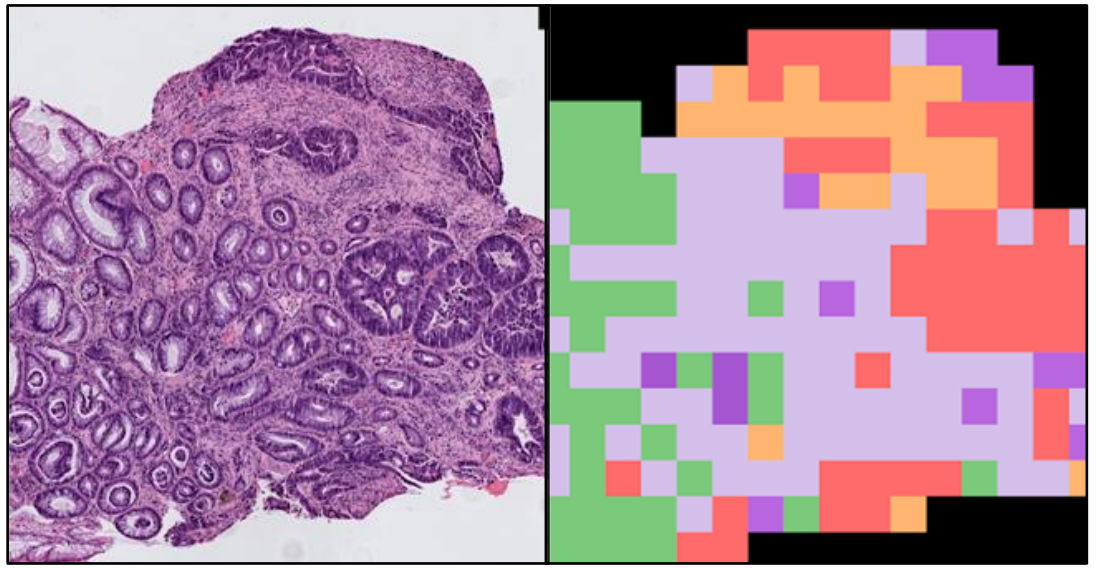
DIAGNEXIA

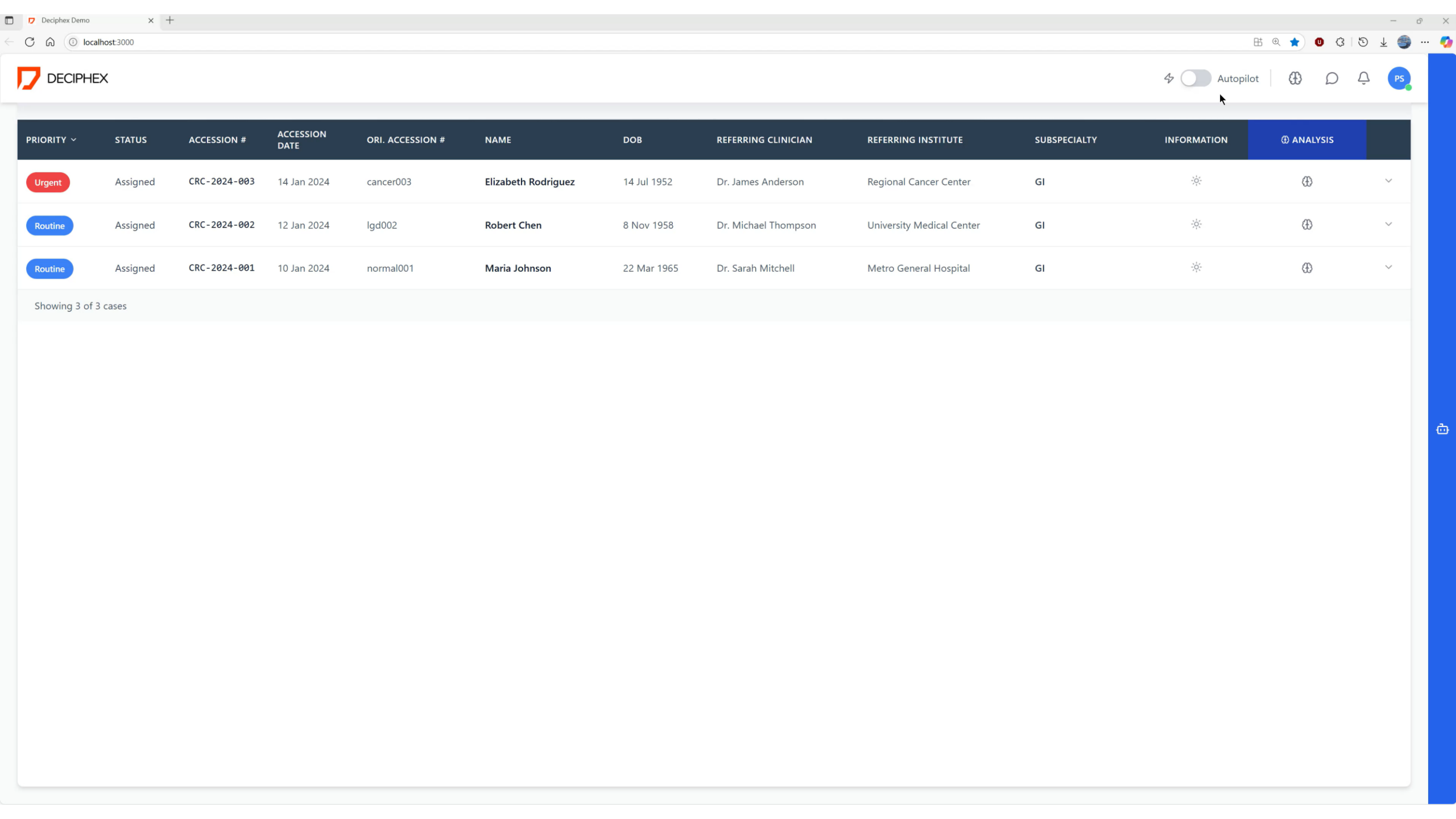
Spatial Distribution of Predicted Features Drive AI Descriptions of Morphology



“sections show the presence of normal intact colonic mucosa with underlying normal lamina propria. No evidence of acute inflammation.”

“sections show the presence of a moderately differentiated infiltrating adenocarcinoma with stromal desmoplasia”



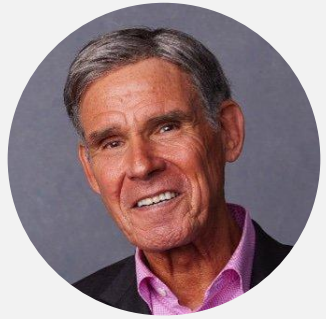

Deciphex Demo
localhost:3000
DECIPHEX
Autopilot
PS
PRIORITY
STATUS
ACCESSION #
ACCESSION DATE
ORI. ACCESSION #
NAME
DOB
REFERRING CLINICIAN
REFERRING INSTITUTE
SUBSPECIALTY
INFORMATION
ANALYSIS
Urgent
Assigned
CRC-2024-003
14 Jan 2024
cancer003
Elizabeth Rodriguez
14 Jul 1952
Dr. James Anderson
Regional Cancer Center
GI
Routine
Assigned
CRC-2024-002
12 Jan 2024
lgd002
Robert Chen
8 Nov 1958
Dr. Michael Thompson
University Medical Center
GI
Routine
Assigned
CRC-2024-001
10 Jan 2024
normal001
Maria Johnson
22 Mar 1965
Dr. Sarah Mitchell
Metro General Hospital
GI
Showing 3 of 3 cases

Digital eyes make human, expert eyes look weak.

Each of these images is a treasure chest, and we're only now beginning to recognise what's in there

Eric Topol

Scripps Research



DIAGNEXIA

Pathologists Have To Remain At The Centre Of AI Enhanced Diagnostics

- Avoid Unintended consequences
- Careful process monitoring
- Introduce unintended bias
- Regulatory consideration
- Robust testing and validation
- Balanced data sets, stepwise introduction


Questions?

Slido

Please scan the QR Code on the screen. This will take you through to Slido, where you can interact with us.

SCAN ME

Lunch & Networking

Chair Afternoon Address

Mr Chris Sleight MSc BSc FIBMS
Ex Diagnostics Leader within the NHS

Panel Q&A

Francesca Trundle
Managing Director
Kent and Medway Pathology Network

Angela Jean-Francois CSci FIBMS HCPC
Director of Operations
North West London Pathology

Slido

Please scan the QR Code on the screen. This will take you through to Slido, where you can interact with us.

SCAN ME

Keynote Presentation

Jane Starcyzski,
Scientific Lead, NHS England
Genomics Unit Cancer

Genomics in the NHS: delivering for the next 10 years and beyond

4th November 2025

Context

The genomics journey: where have we come from and to?

Today, in 2025, genomic medicine is being implemented in increasing numbers of healthcare systems worldwide, and is expanding rapidly in areas including in population health, and common and acquired disease.

1953

DNA double helix structure is identified

1977

First DNA sequencing undertaken: bacteriophage

1990 - 2003

Human Genome Project: first whole genome sequenced

2008

First paper published using massively parallel sequencing

2014

Cost of whole genome sequencing reduces to $1,000

2018

NHS Genomic Medicine Service launched building on 100,000 Genomes Project

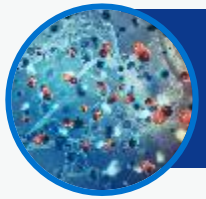
NHS
NHS Genomic Medicine Service

2025

Multiple genomics projects and initiatives underway across the world

7,000 + rare and inherited diseases identified

Use of genomics in prenatal care (NIPD)



Application of genomics in cancer care

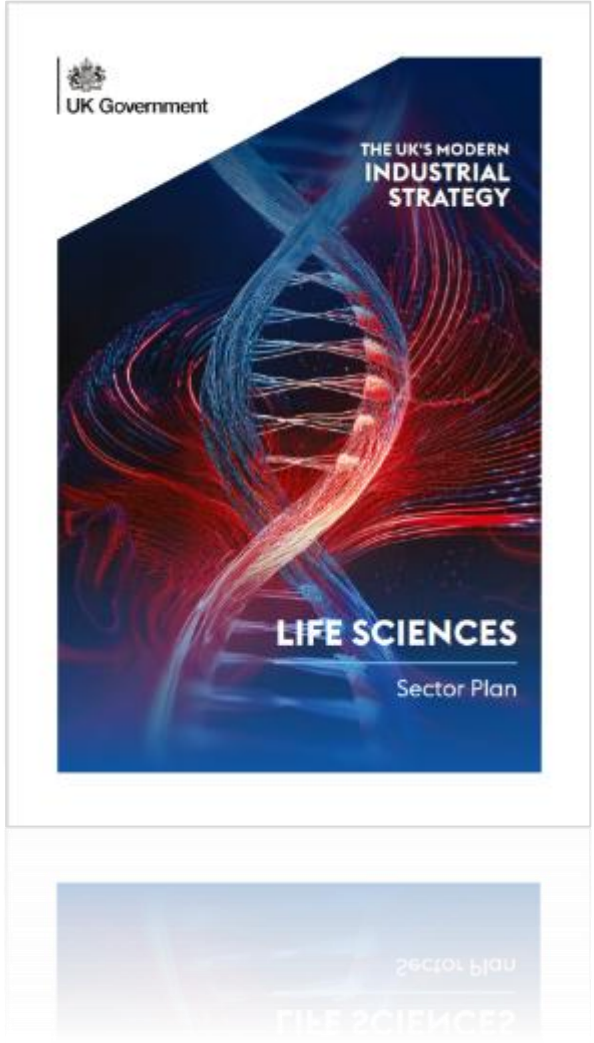
Use of genomics expanding rapidly in population health

Pharmacogenomics developing from responsive to pre-emptive use

It is the collision of huge advances in genomics and analytics that will allow our whole model of health care to be transformed.

This Plan will put the NHS at the forefront of the global genomics revolution

The NHS 10 Year Health Plan



The 10 Year Health Plan includes a focus on genomics

Our ambition: By 2035, we anticipate half of all healthcare interactions will be informed by genomic insights and other predictive analytics

1. Expand the NHS Genomic Medicine Service to develop a **Genomics Population Health Service**, which will implement pharmacogenomics and population based polygenic risk scores
2. **Every cancer patient will receive a comprehensive genomic analysis** and molecular profiling, where appropriate
3. The NHS Genomic Medicine Service will **reduce the diagnostic odyssey** experienced by some patients with rare diseases
4. **Pharmacogenomics will be integrated into routine clinical practice** and be expanded to include population level testing.
5. The NHS will **develop a Unified Genomic Record** (linked to the Single Patient Record) integrating genomic data with relevant clinical and diagnostic data
6. The NHS will **support the delivery of a number of large-scale research studies** including for example the Generation Study and the Adult Population Study
7. **Train the broader healthcare workforce** with the knowledge and ability to make genomic medicine common place and increase equitable uptake
8. **Begin implementing Integrated Risk Scores** that bring together polygenic risk scores and other non-biological risk factors initially in an evaluative study and overtime be expanded as part of population level testing
9. Work with industry, academia, and other partners to **generate evidence and models of adoption for genomic innovations** in areas, such as cancer, rare and infectious disease, and PGx
10. **Expand and enhance the UK's consented health research datasets** and develop the cutting-edge infrastructure to maximise patient benefit of genomic medicine

The NHS Genomic Medicine Service

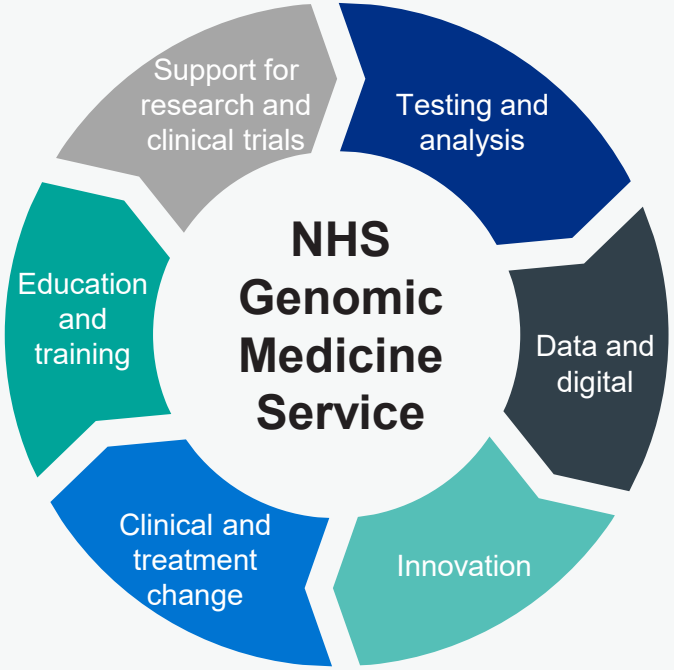
The NHS Genomic Medicine Service serves 55 million people in England

The NHS GMS infrastructure is evolving to reflect the commitments in the NHS 10 Year Health Plan, and NHS England is currently undertaking a procurement of services to deliver the NHS GMS moving forward including a genomics population health service.

Current components of the NHS Genomic Medicine Service

NHS GMS expertise

Partnerships with other provider organisations and NHS system

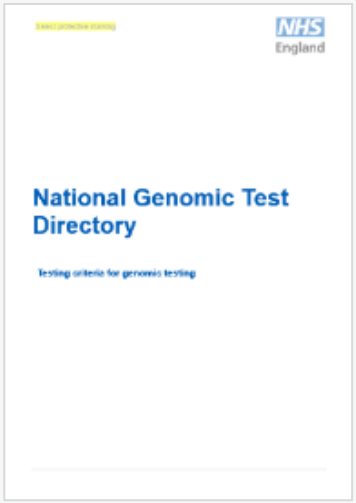


Networks for sharing and developing operational policy

Delivering across 7 geographies

Delivering a comprehensive testing offer

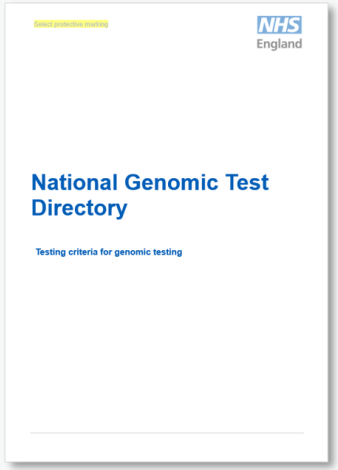
Sets out the nationally funded genomic testing offer



Includes testing for over 7000 rare diseases with a genetic cause and over 200 cancer clinical indications across the care pathway including in CYP, and a number of targets aligned to clinical trials.

Delivering equitable genomic testing for improved outcomes and enabling precision medicines

The NHS GMS delivered over **810,000** genomic tests, including over **40,000** pharmacogenomic tests for patients across the life course in England in 2024 – an **8% increase on 2023.** The testing offer is aligned with NHS clinical priorities and with NICE and commercial medicine approval pathways.

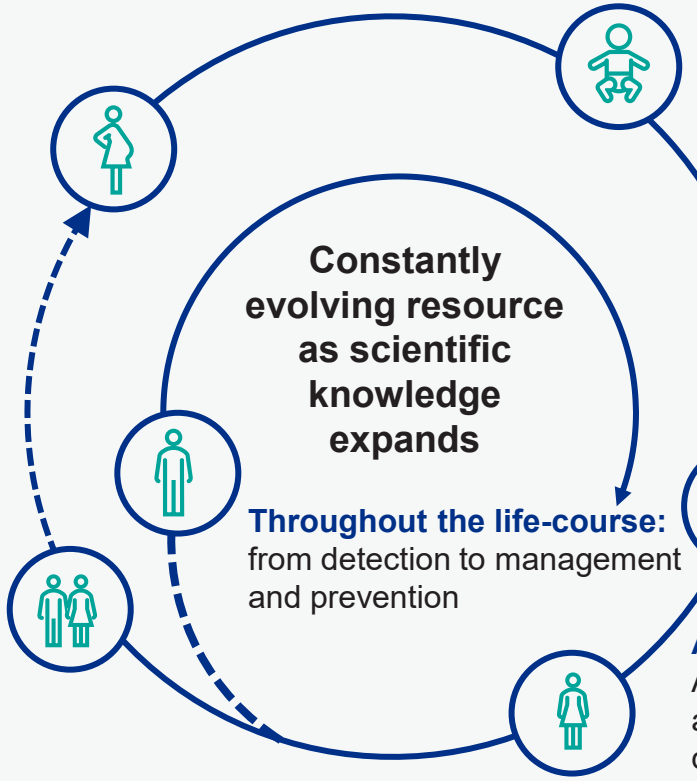


The National Genomic Test Directory sets out the nationally funded genomic testing offer from single gene through to WGS including RNA targets for cancer and other biomarkers.

This includes tests for over **7000 rare diseases** and over **200 cancer clinical indications**, pharmacogenomic testing and testing that supports a number of precision medicines.

Prenatal:
National fetal WES sequencing providing results with a rapid turnaround time together with other testing for pre natal intervention

Preconception:
Carrier screening to avoid recessive disorders



Newborn:
Expanded screening for conditions that need to be treated immediately and national rapid WGS for acutely unwell babies and children

Childhood:
Early diagnosis and intervention for childhood onset conditions

Young adulthood:
Testing for inherited cancers, rare and common diseases

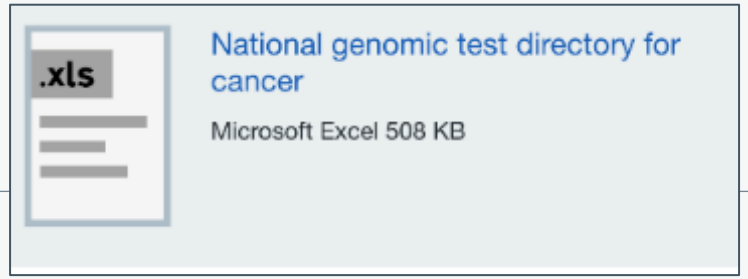
Adulthood:
A comprehensive cancer, rare and inherited disease and a defined pharmacogenomic testing offer

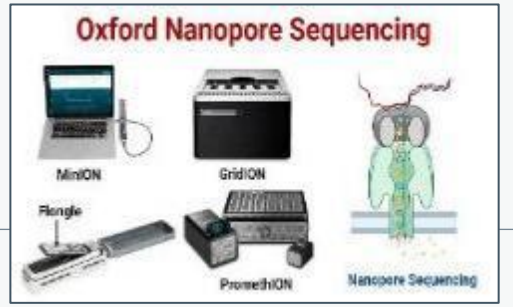
The cancer genomic testing offer has evolved over time

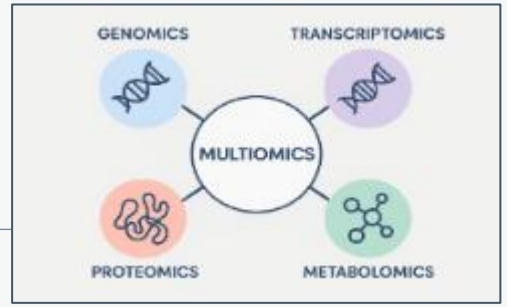
The full genomic testing offer is outlined in the National Genomic Test Directory, including eligibility and test method.

Pre-2018 → **Future**

Single gene / targeted testing	Panel testing	Whole exome sequencing and whole genome sequencing	Long read sequencing	Integration of multi omics
Historically, testing began with single-gene assays, often focused on well-characterised, high-risk genes and is still used for pharmacogenomics testing eg DPYD and cancer predisposition testing eg Lynch and BRCA.	Enabled the analysis of multiple clinically relevant genes simultaneously, increasing efficiency and diagnostic yield. Introduced circulating tumour DNA testing for breast cancer and non small cell lung cancer.	Providing more comprehensive insight into both known and novel variants across the genome. Rapid WGS for haematological malignancies Future > move to WES in cancer pathways	Offers the potential for real-time, intraoperative genome interpretation, and the ability to detect complex structural variants, phasing, and epigenetic changes.	Looking ahead, the integration of multi-omics offers a much deeper understanding of disease biology, moving us closer to truly personalised care in surgery and beyond.







Developing the genomics data and digital vision

Interoperability and standardisation will enable data to flow between systems, with a **Unified Genomic Record** available for every patient and family member to enable access to genomic data across the NHS with appropriate permissions in place for clinical care, population health and research.

Digitising the Test Directory

Structuring & digitising the portfolio of commissioned genomic tests – in testing phase

Unified Genomic Record

Unified point of administration & access for patient and familial genomic data

Digitising Order Management

National digitisation & standardisation of local/ regional manual processes through a core broker with core systems (e.g. PDS)

Common standards

A common definition of how tests are requested, processed and communicated across organisations and systems

A Solid Legal Basis – a national approach to information governance

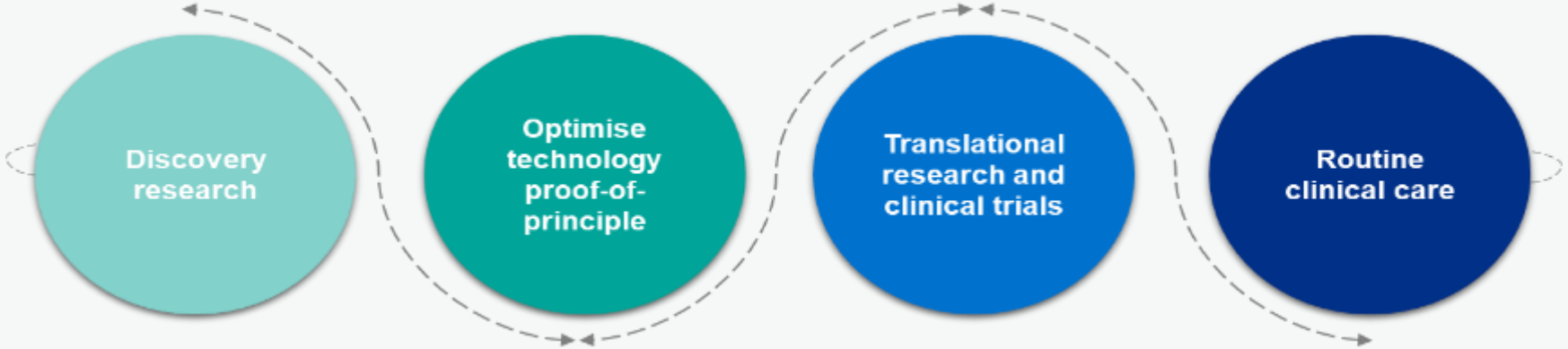
Evolving the service through cutting edge science, research and innovation linked to levers for adoption

An exemplar approach, recently recognised by the Innovation Ecosystem Programme, for adopting innovation into the NHS

There is a solid foundation to build on, but we must expand and translate what we do well.

The NHS excels in early-stage innovation, real-world testing, and flagship programmes like cancer and genomics.

The NHS GMS is supporting transformation across the innovation pipeline



Diagnostic discovery

A feedback loop from research to clinical practice drives discovery research and rapid adoption of new innovations, including through Networks of Excellence, for example in respiratory metagenomics. Also supports researchers worldwide to access WGS in NGRL for gene and function discovery and inform drug development.

ctDNA in non-small cell lung cancer

A phased pilot of the use of ctDNA testing developed over a number of years, showed turnaround times reduced by half and led to testing for non small cell lung cancer to be added to the Test Directory in 2025.

The Generation Study

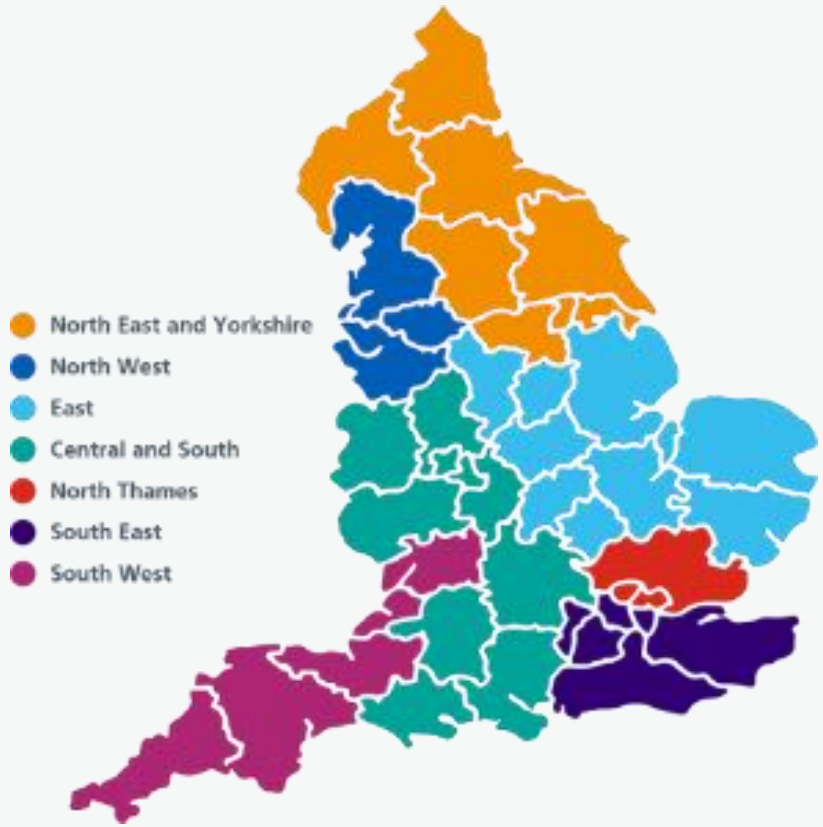
A large study being delivered in partnership with the NHS to sequence the genomes of 100,000 newborn babies to understand whether we can improve our ability to diagnose and treat rare genetic conditions. Currently recruiting at 38 sites and increasing. Over 18,000 patients now recruited.

Updates to the National Genomic Test Directory

Over **480 updates** have been made to the Test Directory since its inception and over **2500 changes** to clinical indications following use of panel app. In 2024/25 this included **68 updates for rare and inherited diseases** and **64 for cancer**.

Developing the NHS Genomic Medicine Service infrastructure and delivery model

Delivering the ambitions in the NHS 10 Year Health Plan will require a new model of delivery. NHS England is currently in the processing of procuring an NHS Genomic Medicine Service to deliver this ambition.



Nationally provided

- **Genomics Unit** within NHS England to oversee commissioning and performance management
- **Genomics Education Programme** – delivering education and training
- **Genomics England** – providing analytical services, the National Genomic Research Library and diagnostic discovery

Delivered across the NHS in England

- **7 NHS GMS geographies** delivering a testing service, including distributed WGS delivery and enabling access to new technologies
- **Integrated genomics population health service**, delivering polygenic risk scores, pharmacogenomic testing, presymptomatic testing and testing for common conditions.
- **Clinical functions** to support genomic delivery of testing, workforce engagement, MDT coordination
- **Mainstreaming and embedding functions** linked to education and training resources
- **Research and innovation functions**

Developing the NHS Genomic Medicine Service infrastructure and delivery model for the future

New NHS GMS delivery model

- Laboratory function
- Cancer clinical function
- Rare disease clinical function
- Population health clinical function
- Data and digital
- Transformation and service improvement
- People – workforce, education and training
- Science, research and innovation

Future delivery model is enabled by:

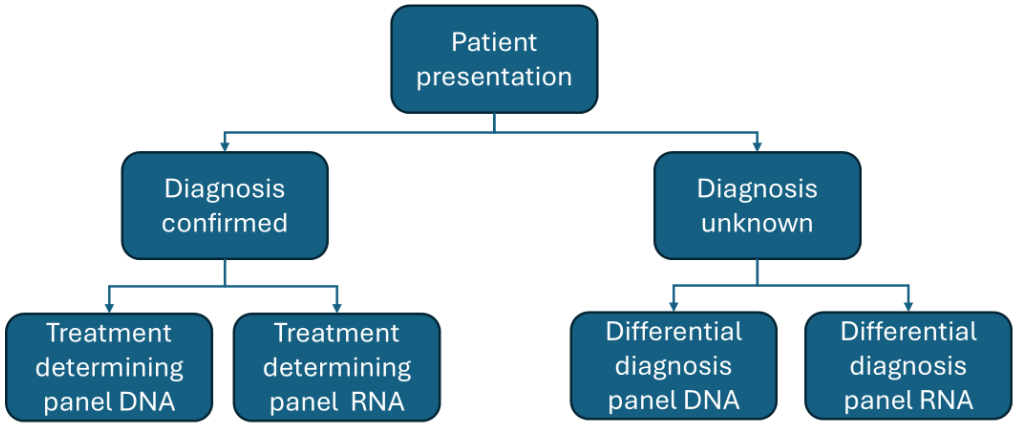
- **Introduce automation and industrialisation**
- **Introduce new service models, including for distributed WGS**
- **Build evidence for investment and system-wide impact**
- **Invest in data and digital**
- **Introduce new contractual model & test pricing**
- **Develop the workforce**

Evolving the Test Directory to meet diagnostic need

Example: Melanocytic neoplasms

Why are we implementing differential diagnostic panels?

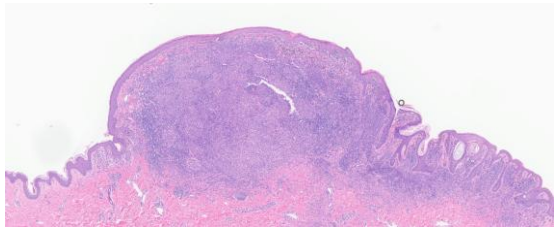
- Diagnosis
- Surgical management
- Treatment/ Precision medicines
- Prognosis

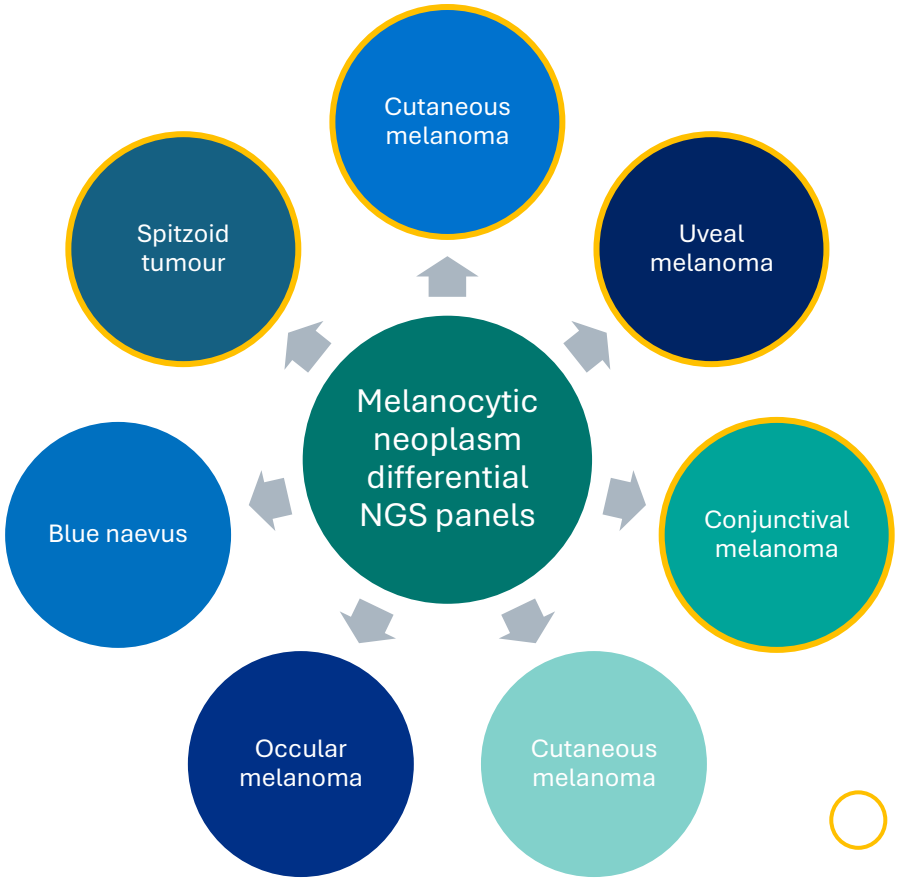


The diagnosis is known and the only genomic testing required is to determine eligibility for a precision medicine

The diagnosis is not known and genomic testing required is to:

1. Identify genomic targets to support diagnosis
2. to determine eligibility for a precision medicine where the diagnosis is confirmed and the patient meets clinical eligibility for the treatment





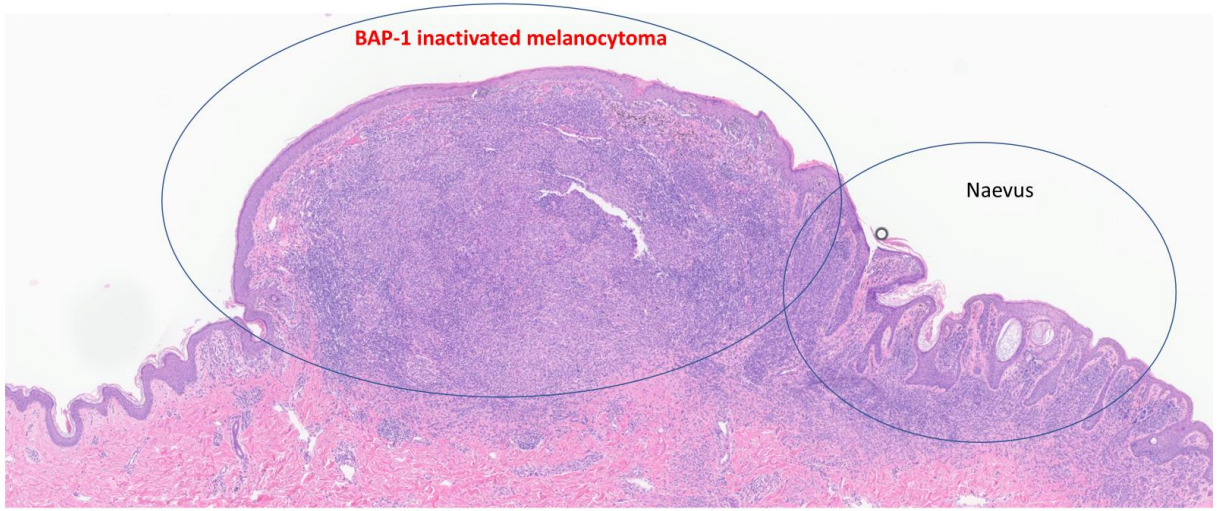
Expanded NGS panels to meet diagnostic needs

Multi-target NGS panel - small variant and CNV (where applicable)	**BRAF, KIT, NRAS**, MYB, RREB1, CCND1, MYC, CDKN2A (SNV & CNV), NF1, TERT promoter, CBL, RB1, TP53, PTEN, HRAS (SNV and CNV), KRAS, GNAQ, GNA11, CYSLTR2, PRKAR1a, PLCB4, BAP1, SF3B1, EIF1AX, CTNNB1, APC, MAP2K1, IDH1 PLCB4, SPRED1, ATRX, ACSS3, TET2, RAC1, MET, MAP3K8, MTOR, AKT1, TSC1 ,TSC2
Multi-target NGS panel - structural variant diagnostic and treatment	ALK::, ROS**1**::, RET::, , ACTIN::MITF, MITF::CREM NTRK1::, NTRK2::, NTRK3:: MAP2K1::, MAP3K8::, RAF1::, MED15::ATF1, RASGRF1:: , RASGRF2::, PRKCA::, PRKCB::

Why genomic is important in a differential diagnosis

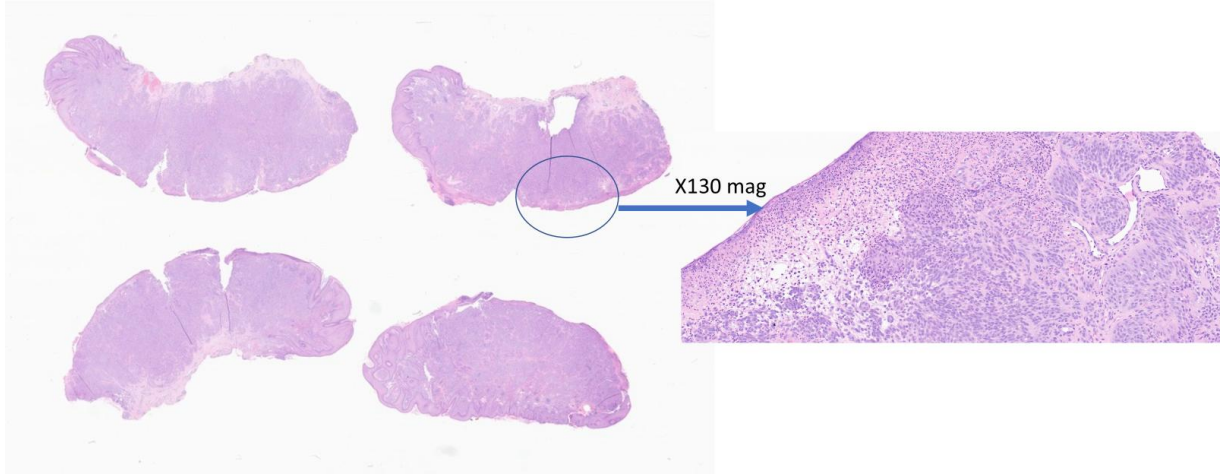
Real world examples

Skin of neck 17y/m- Transforming naevus to BAP-1 inactivated melanocytoma, example of sheep in wolf's clothing (in the past these lesions were largely called melanoma or MELTUMP). Now we are better able to classify these lesions as melanocytoma and also patient will be checked for germline BAP-1 variant (thanks to genomics we can diagnose these and prognosticate these lesions)



H&E X 25 Magnification

Skin of earlobe 21y/m- CRTC1::TRIM11 fusion tumour.
In the past these were called melanoma, but now we know that the majority despite being thick are indolent lesions and mostly cured by a wider excision. This is again an example of molecular genetics helping with distinguishing tumours that look like melanoma but are not.

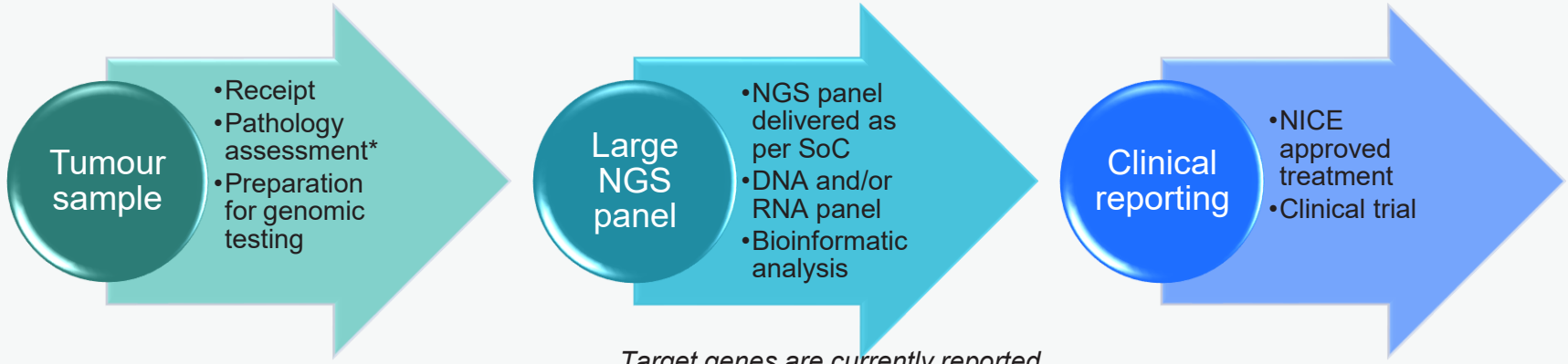


H&E X 3 Magnification

Images courtesy of DR BIPIN MATHEW M.D, FRCPath, DipRCPath Dermatopathology, MSc Genomic Medicine
Consultant Dermatopathologist and Soft tissue Pathologist, Leeds Teaching Hospitals NHS Trust

Genomic analysis to identify patients for clinical trials from standard of care testing

Pathway



* Where required

Target genes are currently reported according to tumour type, in line with the NGTD.
Aim to extend the number of genes reported to inform clinical trials

Phase 1:

- Report 5 additional gene targets from gene panels which are **currently being tested for all tumour types**
- Targets added to Test Directory in September 24

Gene targets:

- **DNA panel: BRAF V600, MET exon 14, MET amp, ERBB2 exon 20 insertions, ERBB2 amp**
- **RNA panel: MET exon 14, ALK, ROS1, BRAF, MET**

Phase 2:

- Expand genes to be tested and reported, to include 21 further genes
- Includes **germline genes** which will identify patients and their families at further cancer risk
- Implementation subject to agreeing resource requirements

Additional gene targets:

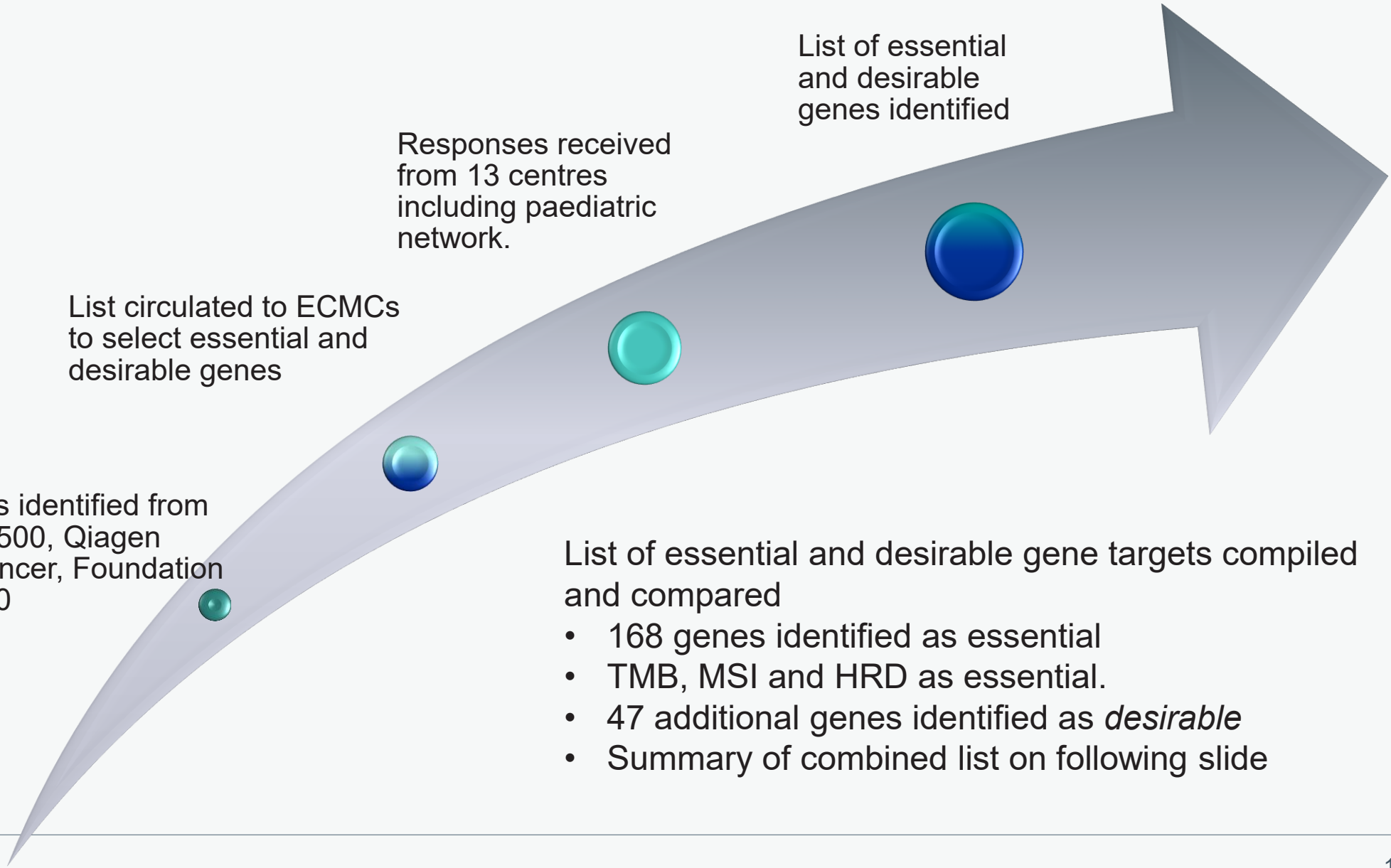
- DNA panel: EGFR, IDH1, IDH2, KRAS, NRAS, PIK3CA, BRCA1, BRCA2, CDK12, MLH1, MSH2, MSH6, NF1, NF2, PALB2, RAD51, TP53, RET, FGFR1, FGFR2, FGFR3
- RNA panel: FGFR1, FGFR2, FGFR3, RET

Phase 3:

Further expansion to an additional 100 + genes (currently being identified by ECMC network)
Include all genes used as key inclusion criteria for phase 2 & 3 trials
Implementation tbc

This is subject to resourcing, but the testing would be aligned to the current testing strategy for the tumour type and reported as a clinical trial target

Delphi process for ECMC identification of genes of interest.



List of essential and desirable gene targets compiled and compared

- 168 genes identified as essential
- TMB, MSI and HRD as essential.
- 47 additional genes identified as *desirable*
- Summary of combined list on following slide

ECMC responses – Combined list (Draft)

ABL1	*BARD1*	*CDH1*	*DNMT3A*	*FANCL*	*GREM1*	*MET*	*NTRK3*	*RAD51*	*SMARCB1*	*U2AF1*
ACVR1	*BCL2*	*CDK12*	*EGFR*	*FBXW7*	*HIST3H3*	*MLH1*	*NUTM1*	*RAD51B*	*SMC1A*	*VEGFA*
AKT1	*BCL2L1*	*CDK4*	*EP300*	*FGF1*	*HLA-A*	*MSH2*	*PALB2*	*RAD51C*	*SMC3*	*VHL*
AKT2	*BCL2L11*	*CDK6*	*EPCAM*	*FGF2*	*HRAS*	*MSH3*	*PARP1*	*RAD51D*	*SMO*	*WISP3*
AKT3	*BCL2L2*	*CDK8*	*ERBB2*	*FGF3*	*IDH1*	*MSH6*	*PAX5*	*RAD54L*	*SPOP*	*YAP1*
ALK	*BCL6*	*CDKN1B*	*ERBB3*	*FGF4*	*IDH2*	*MTOR*	*PDCD1LG2*	*RB1*	*SRC*	*ZBTB7A*
ANKRD26	*BCOR*	*CDKN2A*	*ERBB4*	*FGFR1*	*IKZF1*	*MUTYH*	*PDGFRA*	*RET*	*SRSF2*	*ZRSR2*
APC	*BCR*	*CDKN2B*	*ERCC1*	*FGFR2*	*IL7R*	*MYB*	*PDGFRB*	*RICTOR*	*STAG2*	*EPOR*
AR	*BRAF*	*CEBPA*	*ERCC2*	*FGFR3*	*JAK1*	*MYC*	*PIK3CA*	*RNF43*	*STAT3*	*MN1*
ARID1A	*BRCA1*	*CHEK1*	*ERG*	*FGFR4*	*JAK2*	*MYCN*	*PIK3R1*	*ROS1*	*STAT5B*	*PRKCA*
ARID1B	*BRCA2*	*CHEK2*	*ESR1*	*FLT1*	*JAK3*	*NBN*	*PIK3R2*	*RUNX1*	*STK11*	*ZEP2*
ASXL1	*BRIP1*	*CIC*	*ETS1*	*FLT3*	*KDM6A*	*NF1*	*PIK3R3*	*SDHB*	*SUFU*	
ASXL2	*CALR*	*CREBBP*	*EZH2*	*FLT4*	*KEAP1*	*NF2*	*PMS1*	*SDHC*	*TERC*	
ATM	*CARD11*	*CRLF2*	*FANCA*	*FOXO1*	*KIT*	*NOTCH1*	*PMS2*	*SDHD*	*TERT*	
ATR	*CBL*	*CSF3R*	*FANCC*	*FUBP1*	*KLF4*	*NOTCH2*	*POLD1*	*SETBP1*	*TET2*	
ATRX	*CCND1*	*CTNNB1*	*FANCD2*	*GATA1*	*KMT2C*	*NPM1*	*POLE*	*SETD2*	*TFRC*	
AURKA	*CCND2*	*CUX1*	*FANCE*	*GATA2*	*KRAS*	*NRAS*	*PPARG*	*SF3B1*	*TMPRSS2*	
AURKB	*CCND3*	*DDX41*	*FANCF*	*GATA3*	*MDM2*	*NRG1*	*PTEN*	*SH2B3*	*TP53*	
AXIN2	*CCNE1*	*DHX15*	*FANCG*	*GATA6*	*MDM4*	*NTRK1*	*PTPN11*	*SMAD4*	*TSC1*	
BAP1	*CD79A*	*DICER1*	*FANCI*	*GNAS*	*MEN1*	*NTRK2*	*RAD21*	*SMARCA4*	*TSC2*	

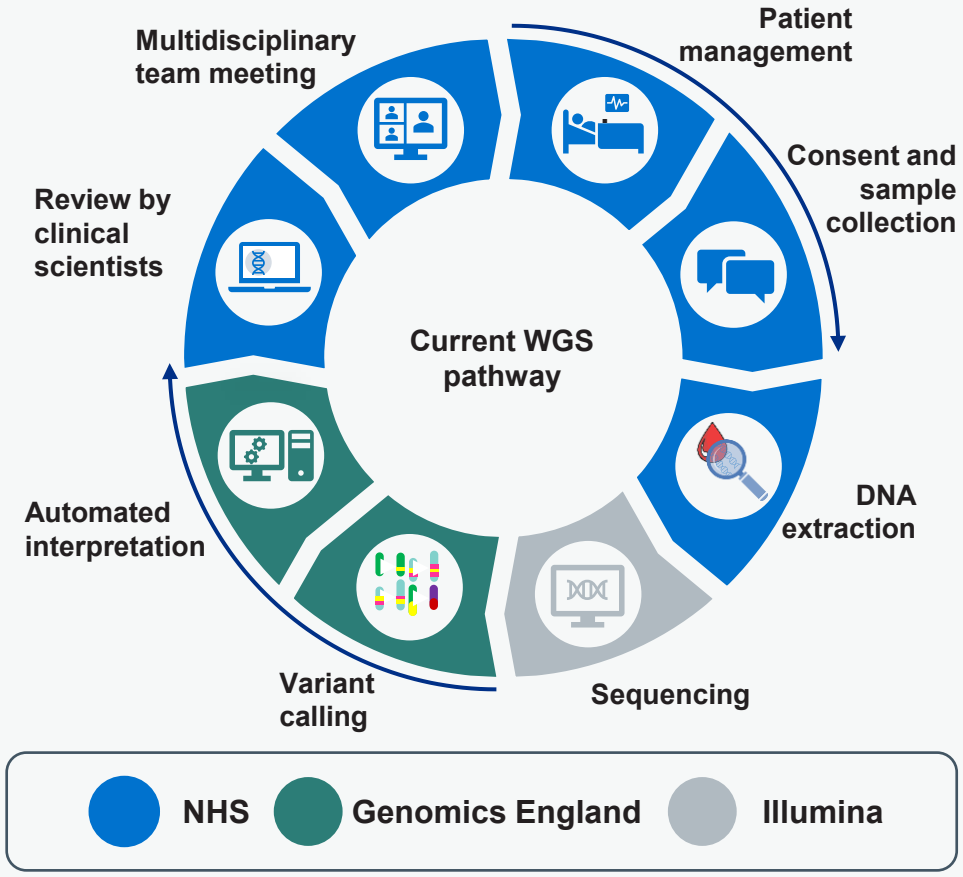
- Phase 1: 5 genes
- Phase 2: 21 additional genes
- Phase 3: ECMC essential genes 137
- Phase 3: ECMC desirable genes 47

Delivering the whole genome sequencing service

In 2020 the NHS became the first national healthcare system globally to introduce whole genome sequencing systematically into routine care. The service now includes 36 rare disease clinical indications (covering over 3000 genes) and 214 cancer clinical indications.

Current delivery model with Genomics England and Illumina

The NHS is establishing pathways to change this model and deliver WGS via the NHS GLHs and a mechanism to bring non WGS data into NGRL.

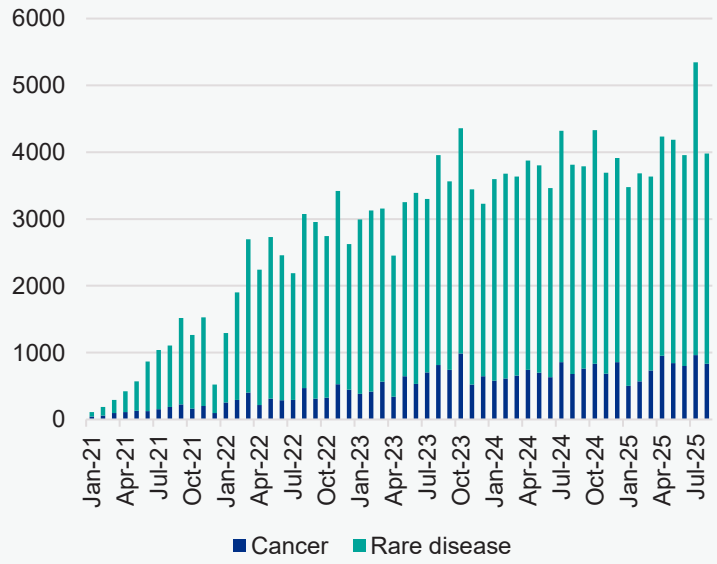


An innovative consent model

The aim of the Patient Choice model is to enable patients to make an informed decision about having clinical genomic testing in the NHS GMS, as well as make a clear and distinct decision about being part of the National Genomic Research Library (NGRL).

Over 90% of patients consent for their data to be added to the NGRL.

Up to August 2025, 156,000 whole genome equivalents have been sequenced

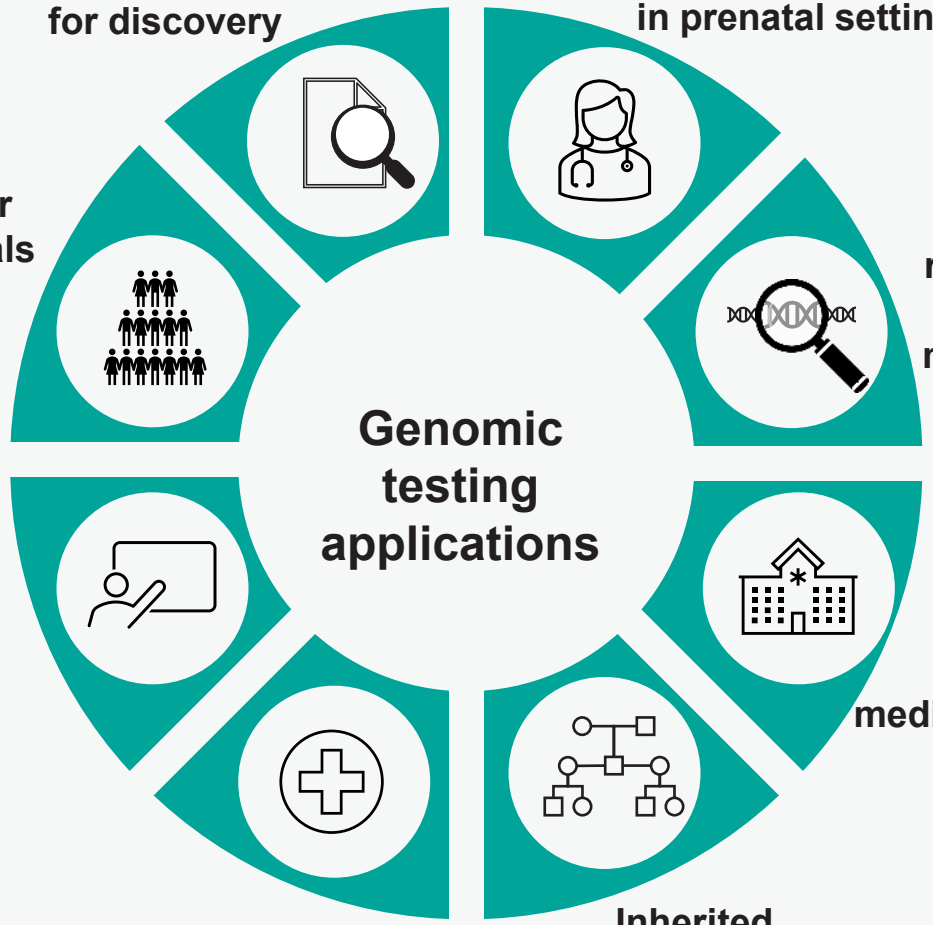


Top 10 clinical indications with highest diagnostic yield

Clinical indication	Diagnostic yield
Cystic renal disease	57.4%
Retinal disorders	49.3%
Congenital malformation and dysmorphism syndromes	32.1%
Paediatric disorders	29.7%
Intellectual disability	25.2%
Early onset or syndromic epilepsy	21.6%
Hereditary neuropathy or pain disorder	18.0%
Hereditary ataxia with onset in childhood	17.10%
Adult-onset neurodegenerative disorder	15.0%
Primary immunodeficiency or monogenic inflammatory bowel disease	8.40%

Integrating genomics into pathways to improve care

Genomics is increasingly embedded in pathways



Research and data for discovery

Genomic testing for diagnosis including in prenatal settings

Support for clinical trials access

Detecting recurrence and monitoring

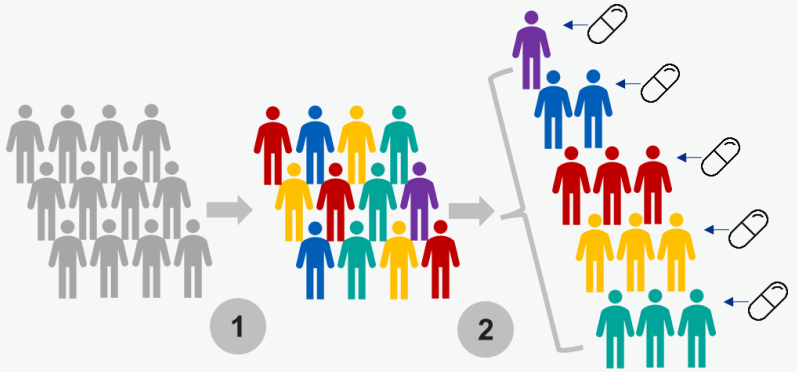
Genomic Advisory / Educational Boards (GTAB/ GTEB)

Testing pathways linked to precision medicines and ATMPs

Intraoperative decision making

Inherited predisposition testing including PRS

Enabling the increasing number of precision medicines that are being licensed in cancer

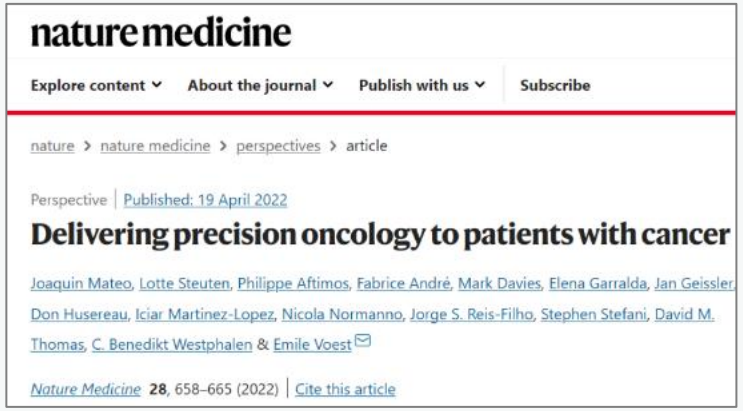


Molecular profiling

Prognostic markers

Markers predictive of drug sensitivity/resistance

Markers predictive of adverse events



nature medicine

Explore content ▾ About the journal ▾ Publish with us ▾ Subscribe

nature › nature medicine › perspectives › article

Perspective | Published: 19 April 2022

Delivering precision oncology to patients with cancer

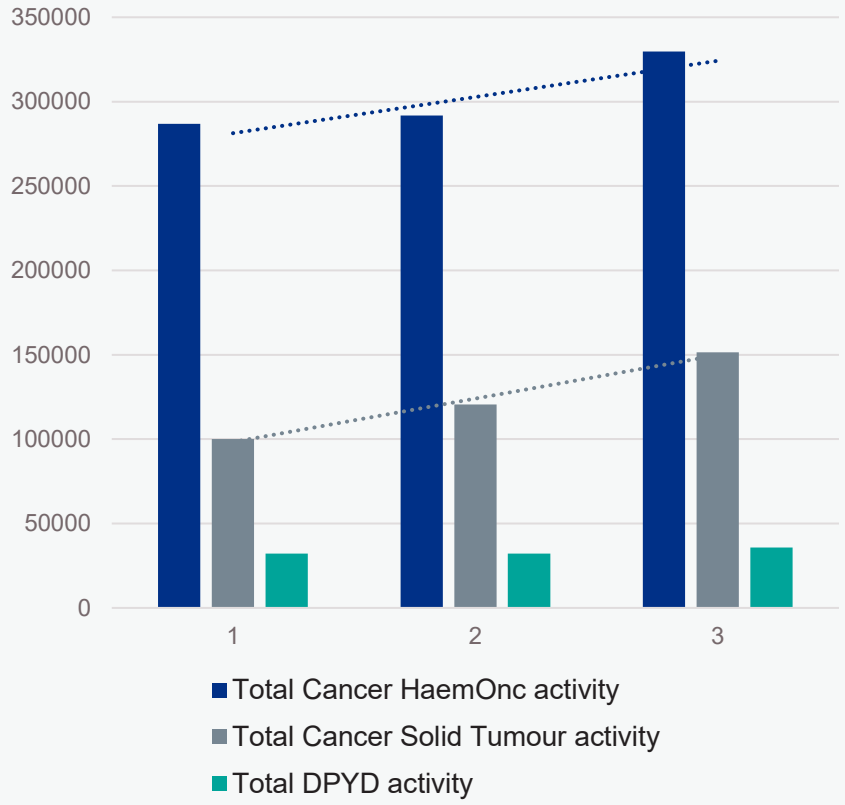
Joaquin Mateo, Lotte Steuten, Philippe Aftimos, Fabrice André, Mark Davies, Elena Garralda, Jan Geissler, Don Husereau, Iciar Martinez-Lopez, Nicola Normanno, Jorge S. Reis-Filho, Stephen Stefani, David M. Thomas, C. Benedikt Westphalen & Emile Voest

Nature Medicine **28**, 658–665 (2022) | Cite this article

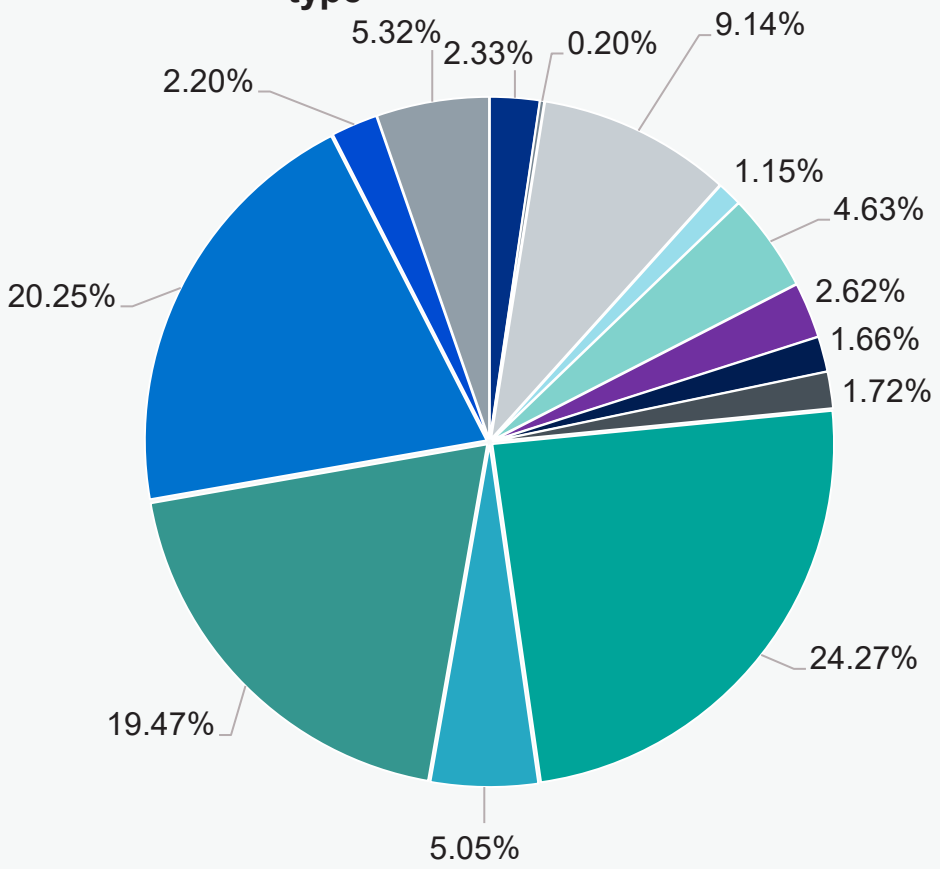
The volume of cancer genomic testing has increased over time

Including to enable an increasing number of precision medicines. Since 2023/24 the National Genomic Test Directory has been rapidly updated 11 times in response to NICE Technology Appraisals where a genomic test is required. Increasing demand has created some challenges in meeting reducing the size of testing backlogs and meeting turnaround times.

Total cancer genomic testing activity, 2022/23 to 2024/25



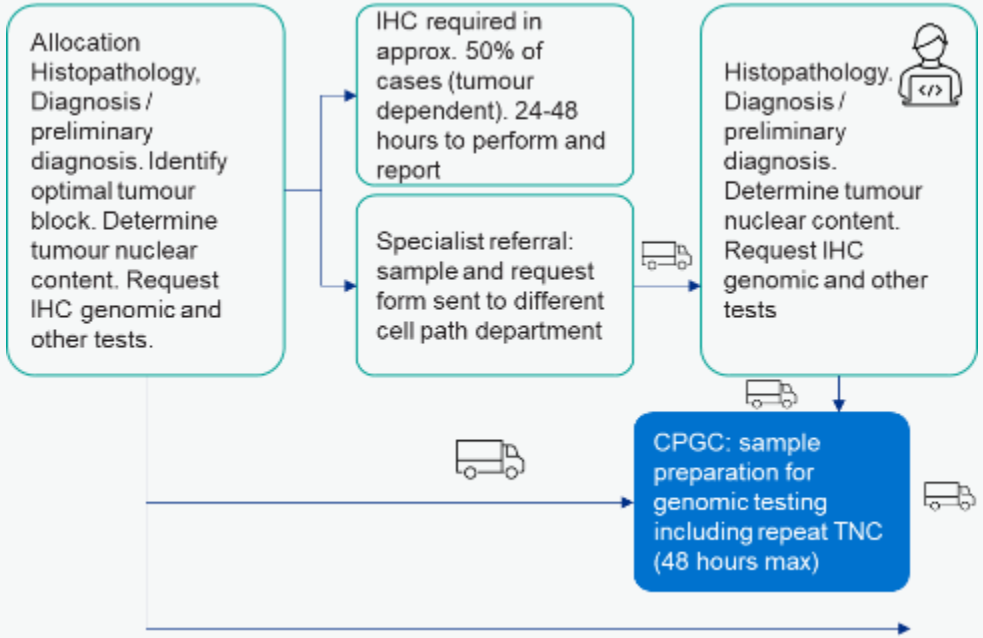
Proportion of cancer genomic testing in 2024/25 by cancer type



Genomics is working with cellular pathology to improve pathways

Genomics and pathology are increasingly working together to address issues within the cancer pathways.

Cellular Pathology Genomic Centres (GPGCs)
NHS England has funded 16 CPGCs (due to be expanded), which have been established since 2023/24.



CPGCs aim to streamline
cancer pathways through cellular pathology assessment into genomic testing as rapidly as possible and improve efficiencies.

NHS England Cancer Genomics Improvement Programme

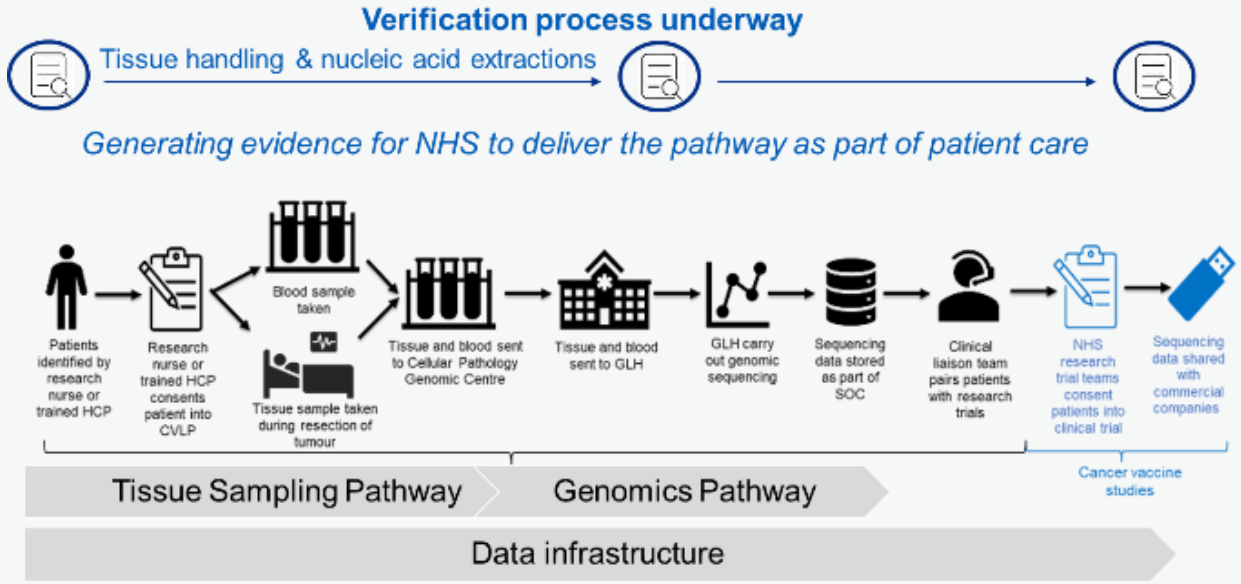
Four key aims:

- National Steering Group to provide oversight and understanding of the barriers to and requirements for the local implementation of turnaround times and other future initiatives
- Seven regional quality improvement teams to own required turnaround times. Programme of regional improvement initiatives. Local engagement and education
- Pilots to optimise pathways to reduce turnaround times
- Genomics pathology alignment oversight group with NHSE Pathology Transformation team

Supporting the NHS Cancer Vaccines Launch Pad

The NHS Cancer Vaccines Launch Pad (CVLP) is designed to act as a bridge to enable NHS cancer patients to get the earliest possible access to personalised cancer vaccine trials and other immunotherapies, by providing a defined and expanded standard of care pathway for tumour molecular analysis and sequencing incorporating elements of the NHS Genomic Medicine Service.

To date ~400 patients have been referred from the CVLP to a BioNTech colorectal clinical trial, with work underway to add more trials and cancer types to the CVLP portfolio.



BBC NEWS

Thousands of cancer patients to trial personalised vaccines

Work is also underway to establish a Rare Therapeutics Launch Pad to develop pathways for children with rare conditions to develop individualised treatments.

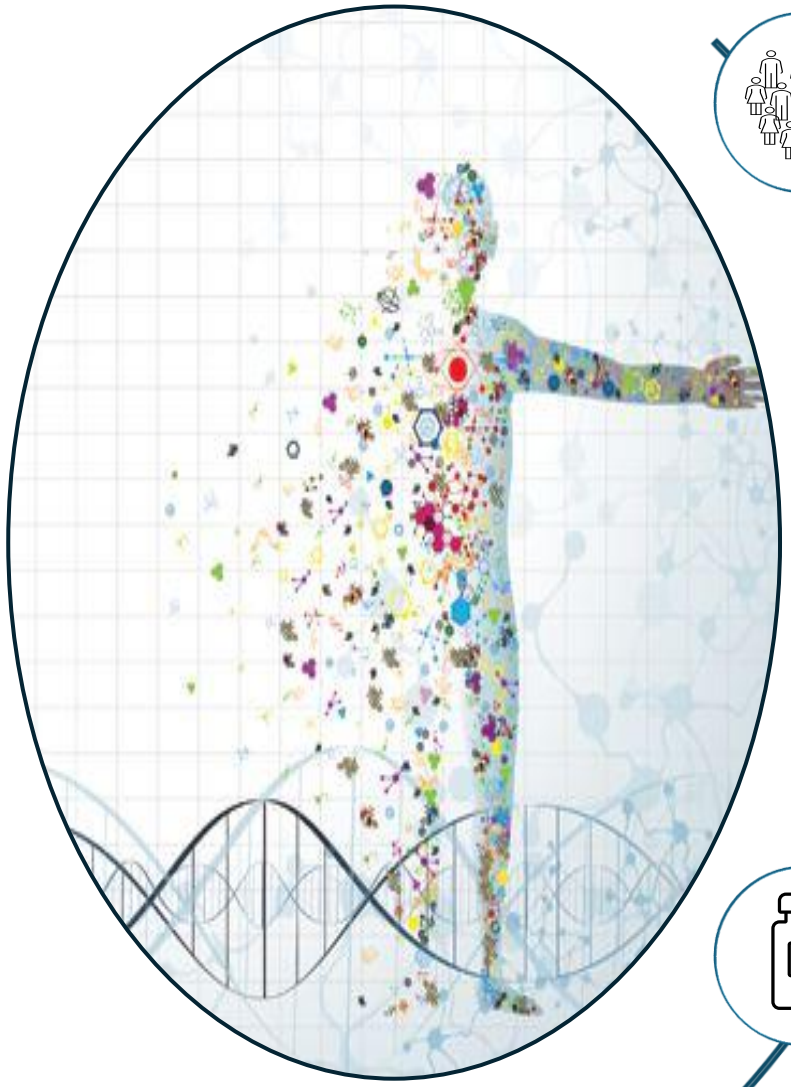
Discovery | **Translation** | **Adoption** | **Diffusion**

Genomic Testing – meeting clinical need

1. Precision Medicines
2. ctDNA
3. Brain/ CNS cancer
4. Cancer Predisposition

Precision Medicines and Genomic Testing

Precision medicine: Genomic testing considerations



Total number of patients with cancer type

- Are all patients eligible for genomic test?

Total number of patients requiring genomic test to determine eligibility for drug

- How many patients?
- Eligibility criteria: - diagnosis, stage, prior treatments

Genomic Test Requirements

- Is the test already available on the National Genomic Test Directory?
- Can the gene target be added to an existing test?
- Is a new test/ clinical indication required?
- Test evaluation process

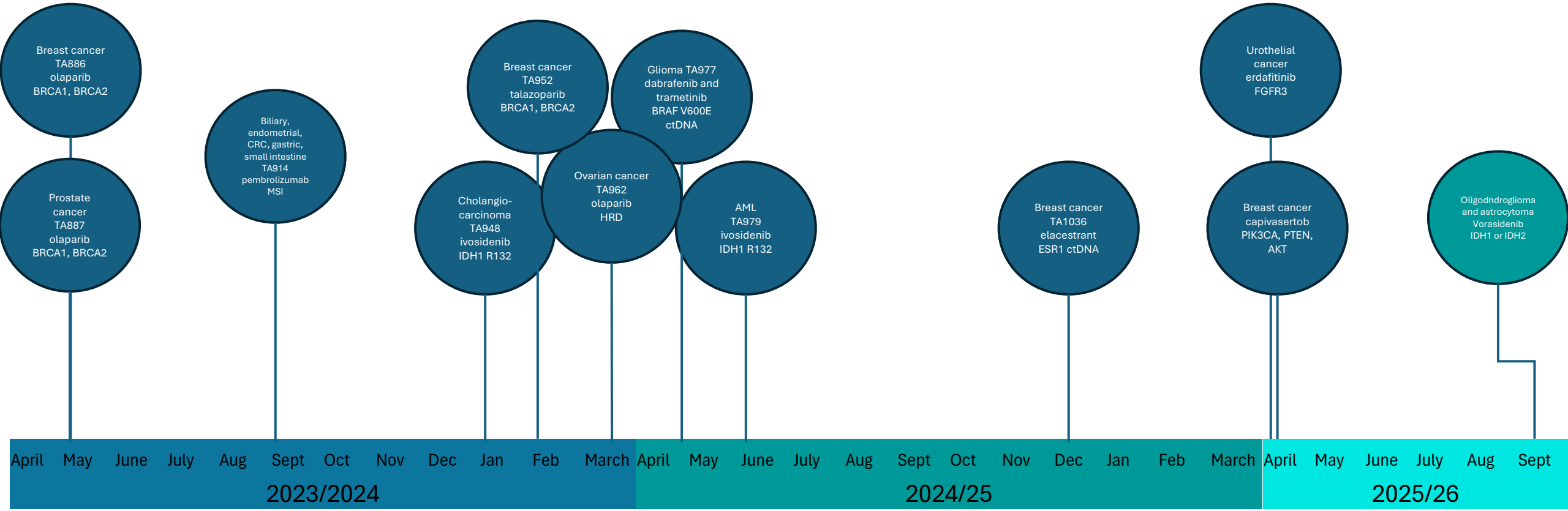
Total number of patients receiving a genomic test

- Patient level contract management data
- does this align with the eligible population, if not can we identify an unmet need?

Total number of patients receiving the drug

- does this align with the predicted activity
- Does this align with PLCM data?

Precision medicine: NICE Technical Appraisals where a new genomic test/ target is required

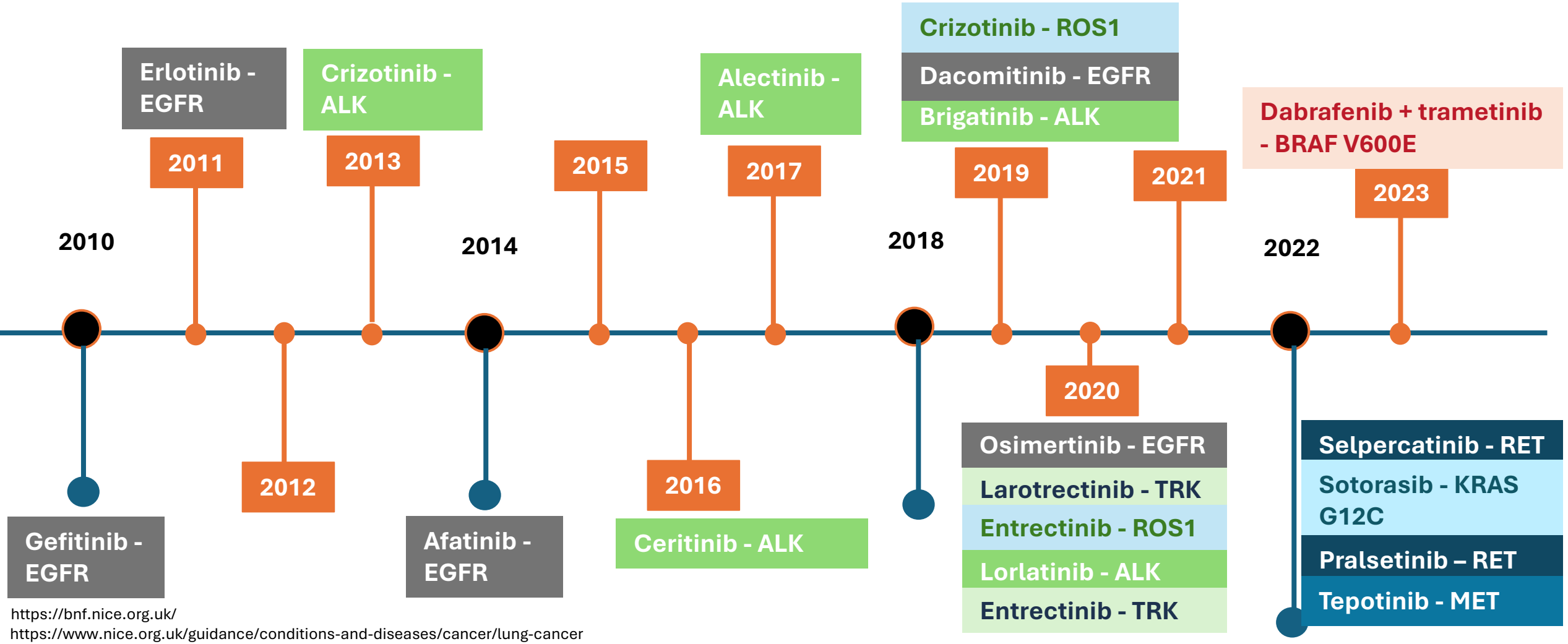


- NICE positive outcome and added to NGTD
- NICE outcome awaited

Not all NICE TAs require a new genomic test as some medicines have the same target. The NICE TAs included here have required changes to the Test Directory. This may be a new indication, adding a gene target to an existing test, introducing a new test or revising the eligibity

NSCLC: the ‘poster child’ for precision medicine

Precision medicines in NSCLC

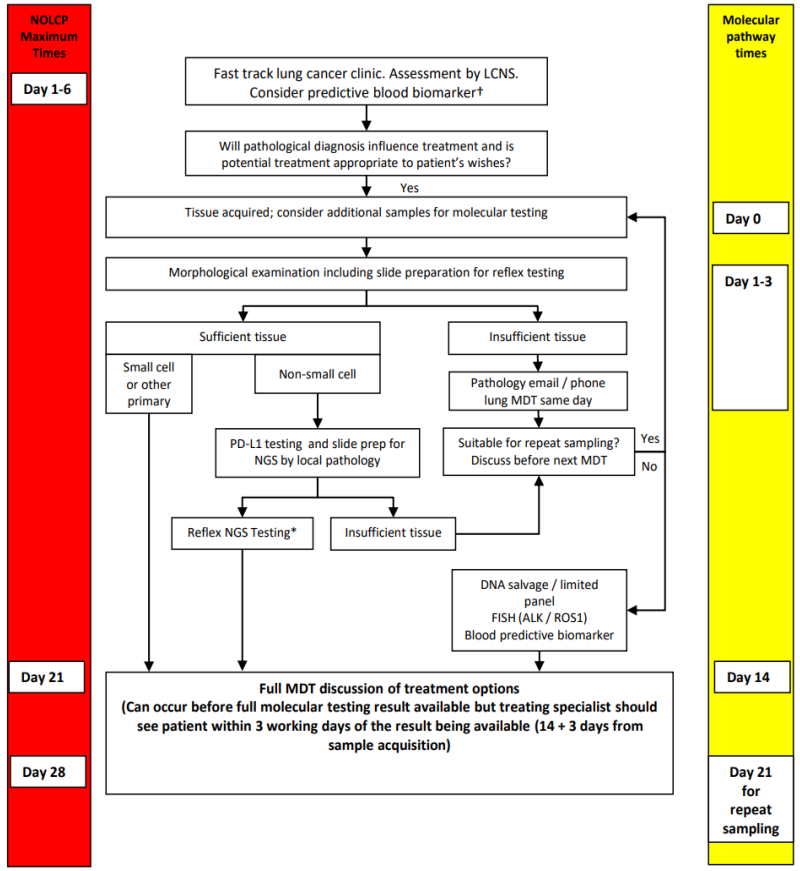


https://bnf.nice.org.uk/
https://www.nice.org.uk/guidance/conditions-and-diseases/cancer/lung-cancer

Slide courtesy of Professor Alastair Greystoke

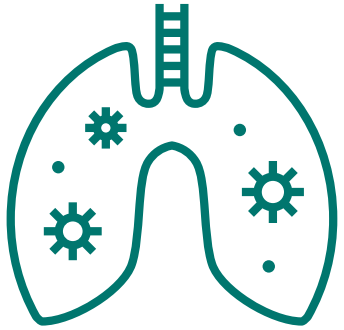
NSCLC- NGS panel testing

National Optimal Lung Cancer Pathway: National Optimum Genomic and Molecular Pathway



Target: 14 calendar days

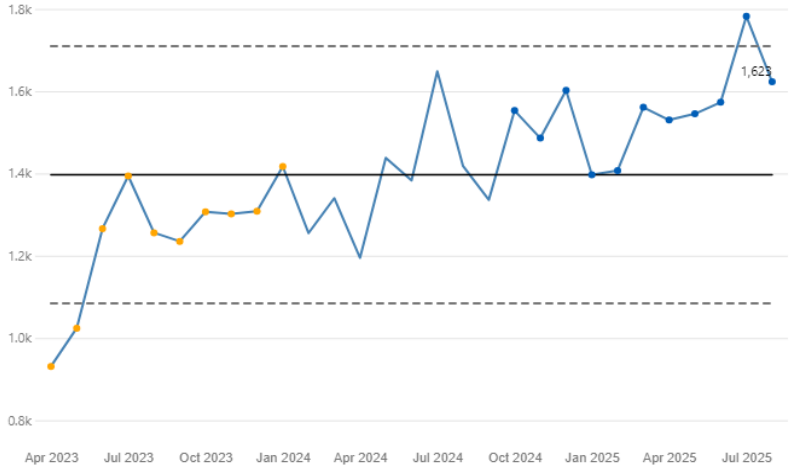
New diagnosis lung cancer 2022: 41713 patients (NHS Digital)



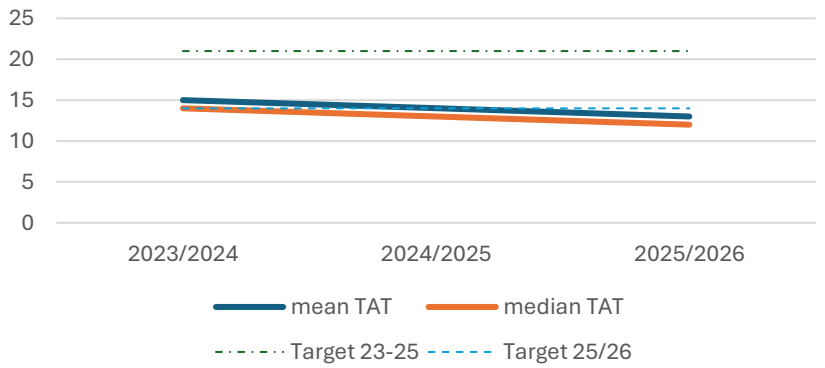
NSCLC: Test Directory NGS

M4.1	Multi-target NGS panel - small variant (EGFR, ALK, BRAF, KRAS, MET)	EGFR, ALK, BRAF, KRAS p.(G12C), MET exon 14 skipping	SNV: BRAF, ERBB2, MET exon 14 skipping CNV: ERBB2, MET	Small variant detection
M4.2	Multi-target NGS panel - structural variant (ROS1, RET, EML4-ALK, NTRK1, NTRK1, NTRK3, MET)	ROS1, RET, EML4-ALK, NTRK1, NTRK2, NTRK3, MET 14 exon skipping	SV: ALK, BRAF, ROS1, MET (including exon 14 skipping)	Structural variant detection
M4.3	Multi-target NGS panel - copy number variant (MET)	MET	CNV: ERBB2, MET	Copy number variant detection to exon level resolution

Patient level activity



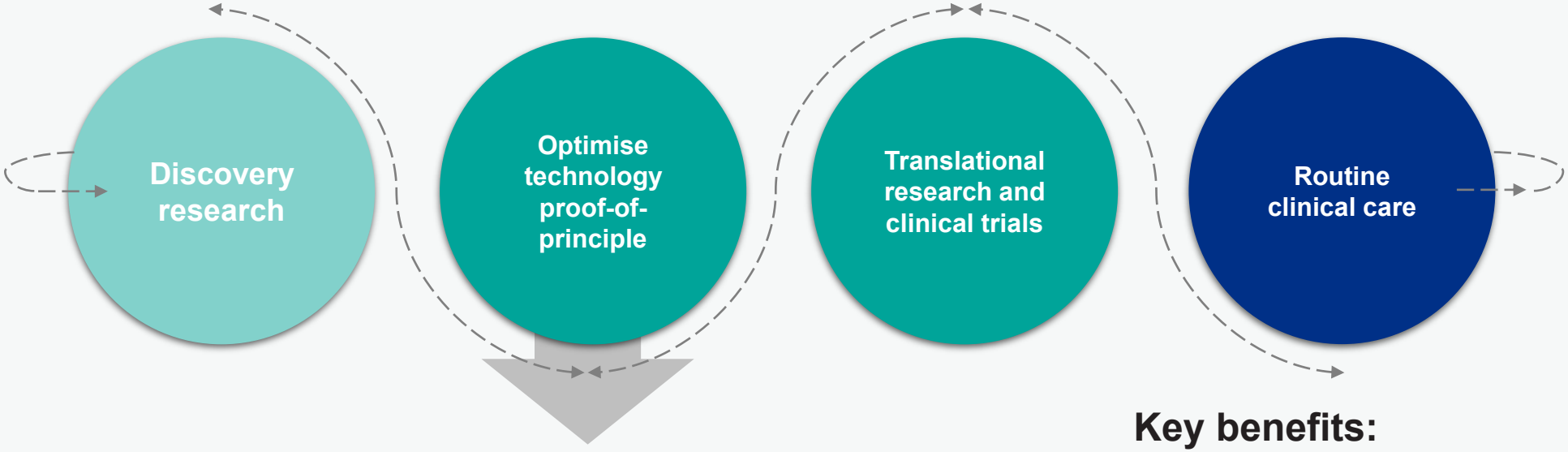
NSCLC NGS panel testing turnaround times



Source: NHS England, NHS Genomic Testing Service Patient Level Contract Monitoring Data, November 2025

ctDNA – a new tool for high throughput genomic testing

Exploring the use of circulating tumour DNA (ctDNA) as a proof of principle

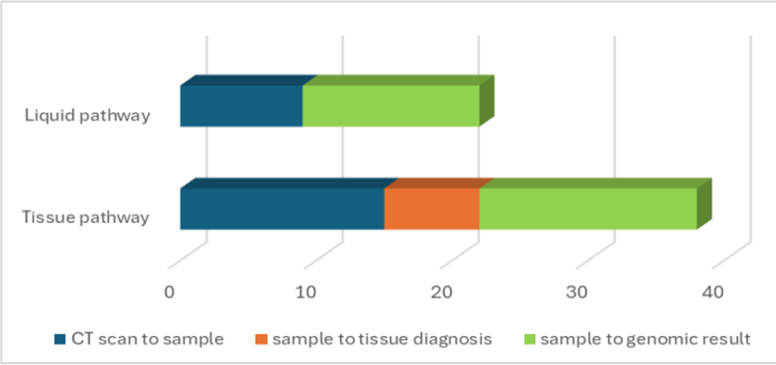


ctDNA in Non-Small Cell Lung Cancer (NSCLC) pathway has been expanded in a phased approach, with an innovative tech transfer agreement in place to support testing nationally:

- **April 2022 – July 2023** pilot phase 1 – 700 samples
- **Aug 2023 – March 2024** pilot extension – 1800 patient samples
- **April 2024** – **March 2025** NSCLC further expansion - 10,000 samples
- **April 2025 tbc** – ctDNA for NSCLC added to the cancer test directory. Capacity to expand to 15,000 samples per annum with defined eligibility criteria

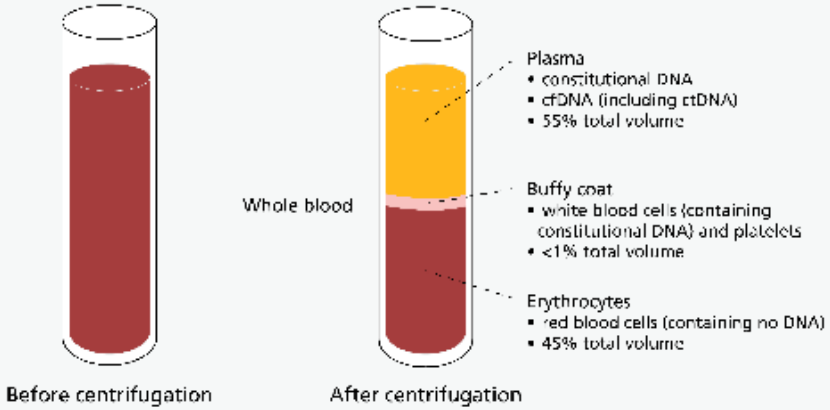
Key benefits:

Time to starting treatment reduced by half in Non-Small Cell Lung (NSCLC) with opportunity to reduce the need for histopathology



Genomics supporting diagnosis through the use of circulating tumour DNA (ctDNA)

Circulating tumour DNA (ctDNA) tests allow for the detection of genetic changes in tumour cells (somatic testing) via blood test. The test detects DNA from cancer cells that can be found circulating in the blood.



Benefits include:
Sampling is less invasive than traditional surgical biopsies, avoiding the need for high-risk procedures.

Repeat liquid biopsies are more acceptable to patients than tissue biopsies, permitting longitudinal analysis of the genomic profile of cancer over time.

Equally effective as tissue testing but can be delivered faster and significantly reduce time to treatment.

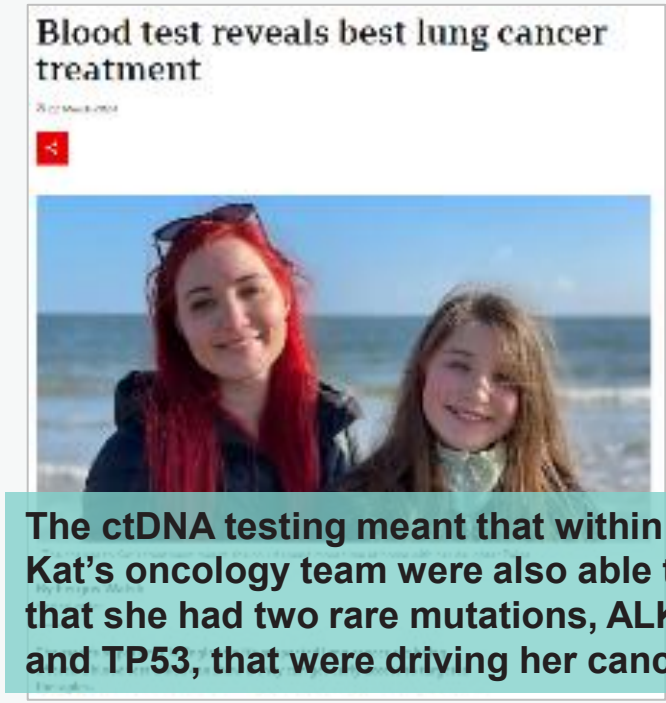
Supports:

- Early cancer detection and screening
- Detection of minimal residual disease and monitoring for relapse
- Molecular profiling and targeted treatment selection
- Monitoring response and reoccurrence
- Detection of treatment resistance and clonal evolution
- Prognostication

ctDNA for NSCLC and breast cancer now nationally commissioned

Capacity of services to be expanded to deliver up to15,000 samples per annum

Now exploring expansion to other clinical indications including cancer of unknown primary, hepatobiliary cancer, prostate cancer and others through a Network of Excellence

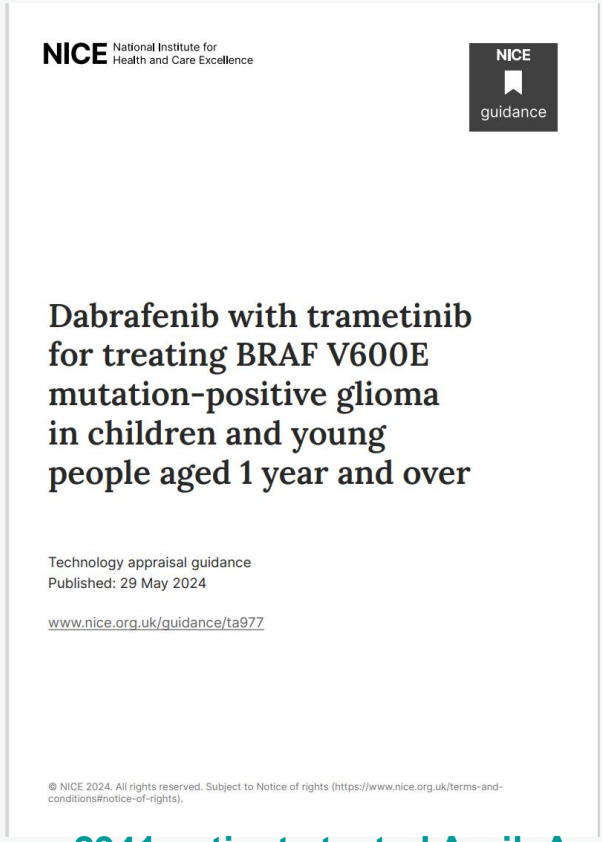


The ctDNA testing meant that within a week, Kat's oncology team were also able to confirm that she had two rare mutations, ALK fusion and TP53, that were driving her cancer.

Brain/ CNS cancer

1. Meeting genomic testing requirements
2. Long Read sequencing
   - An alternative approach to current genomic testing
   - Intraoperative testing

Genomic Testing in Brain Cancer


NICE National Institute for Health and Care Excellence

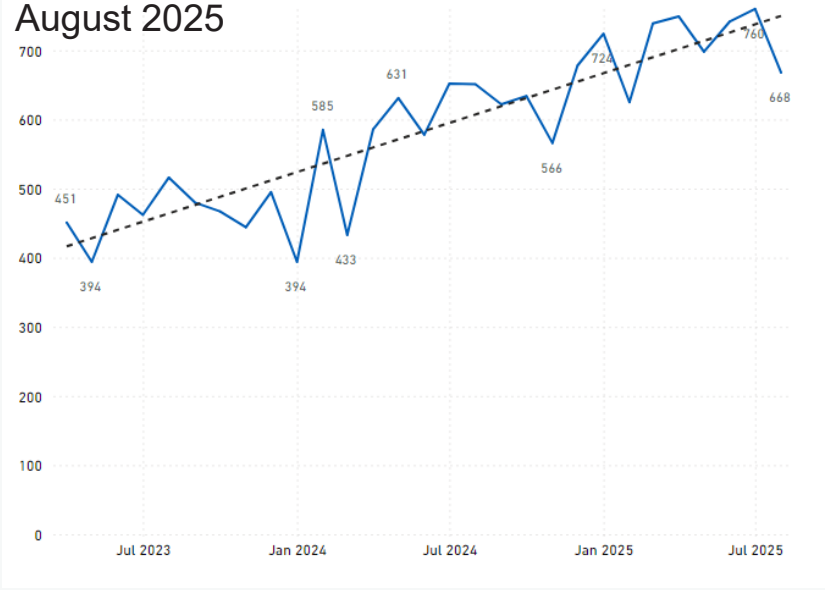
NICE guidance

Dabrafenib with trametinib for treating BRAF V600E mutation-positive glioma in children and young people aged 1 year and over

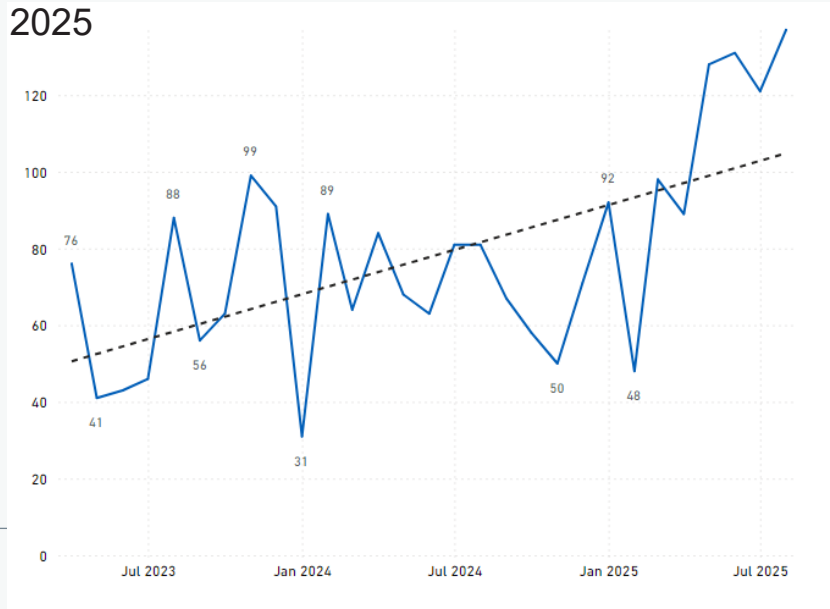
Technology appraisal guidance
Published: 29 May 2024

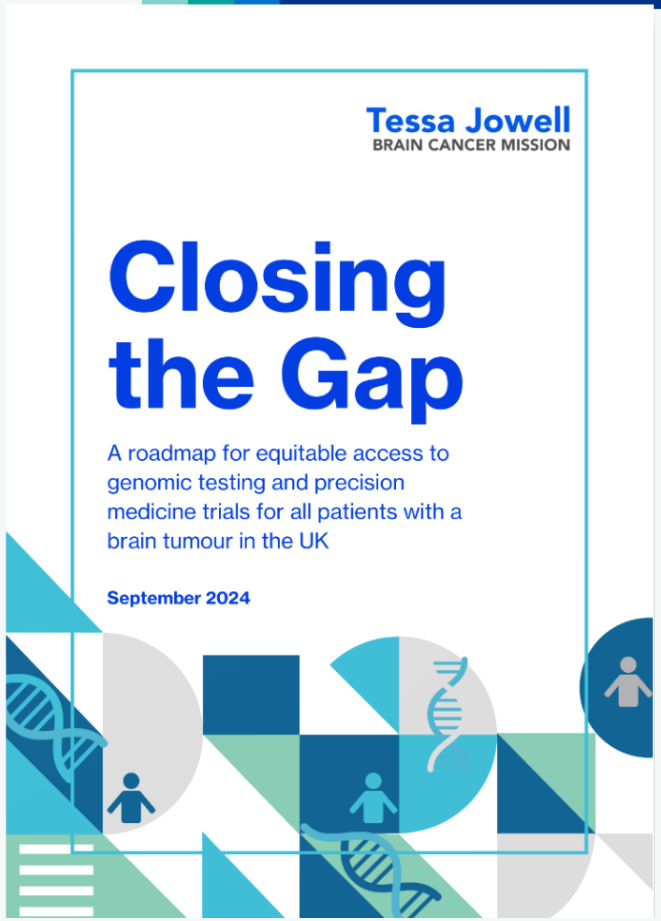
www.nice.org.uk/guidance/ta977

Genomic testing activity- patient level April 2023-August 2025



WGS activity - patient level April 2023-August 2025





2941 patients tested April- August 2025

Next steps:

- **Introduce differential diagnostic panels to meet clinical need**
- **Improve access to WGS**
- **Look at alternate approaches to testing- Long Read sequencing**


Science & Technology Charity News

£3m for world-first trial to revolutionise brain cancer treatment

by Sophie Wedekind | News
23 October 2024

4 comments
5 mins read

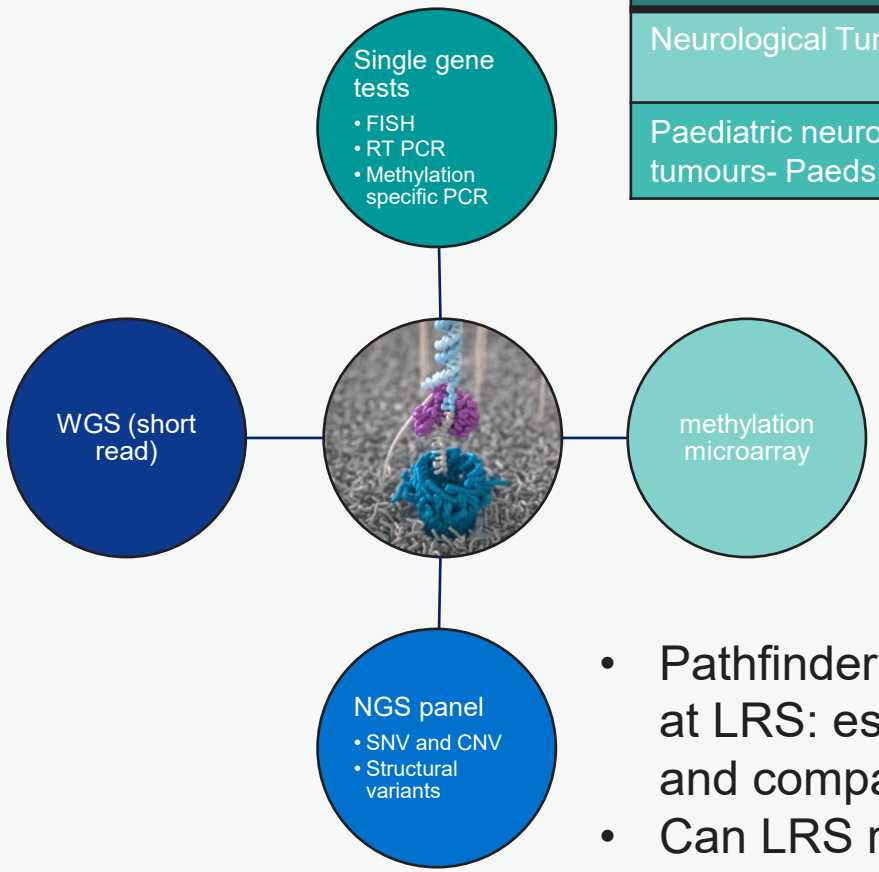
Source: NHS England, NHS Genomic Testing Service Patient Level Contract Monitoring Data, November 2025

Long Read Sequencing (LRS)

An alternative approach to genomic testing?

Glioblastoma - Adult	M27.1	Multi-target NGS panel - small variant (IDH1, IDH2, ATRX, H3-3A, H3C2, BRAF, TERT promoter)	IDH1, IDH2, ATRX, H3-3A, H3C2, BRAF, TERT promoter
	M27.2	Multi-target NGS panel - copy number variant (EGFR, PDGFRA, MYC, PTEN, 1p, 19q)	EGFR, PDGFRA, MYC, PTEN, 1p19q codel
	M27.3	EGFRvIII RT-PCR	EGFRvIII
	M27.5	EGFR copy number FISH	EGFR
	M27.6	MGMT promoter hypermethylation	MGMT
	M27.7	1p19q codel FISH/RT-PCR	1p19q codel
	M27.9	PDGFRA copy number FISH/RT-PCR	PDGFRA
	M27.10	MYC copy number FISH	MYC
	M27.11	PTEN (10q23) copy number FISH/RT-PCR	PTEN
	M27.12	IDH1 hotspot	IDH1
	M27.13	IDH2 hotspot	IDH2
	M27.14	DNA Methylation	Methylation status of multiple CpG sites
	M27.15	Multi-target NGS panel - structural variant (EGFRvIII, NTRK1, NTRK2, NTRK3)	EGRvIII NTRK1, NTRK2, NTRK3
	M27.16	WGS Germline and Tumour	All including burden / signature

CNS tumours on NGTD	Number of clinical indications
Neurological Tumours tab	31
Paediatric neurological tumours- Paeds tab	24

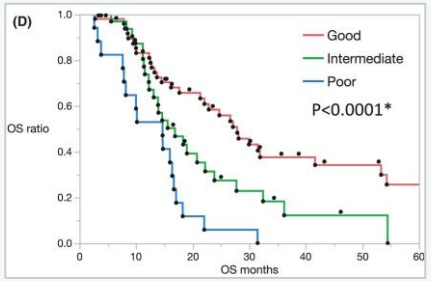


- Pathfinder programme with GEL looking at LRS: establish what can be delivered and compare to standard of care
- Can LRS replace multiple different testing modalities?
- Establish where this approach could be applicable.

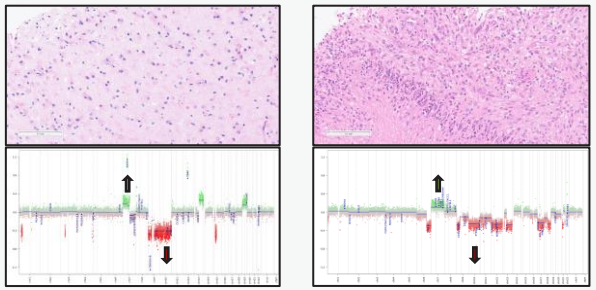
Genomics supporting diagnosis in brain tumours

- Brain tumours are the **leading cause of cancer death** in people under 40 years
- **Accurate and timely classification** of these tumours is central to treatment and research
- And yet considerable uncertainty can exist in brain tumour diagnosis for **three reasons**:

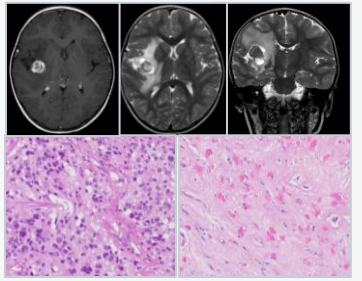
1. **Tumours that look the same can behave differently**



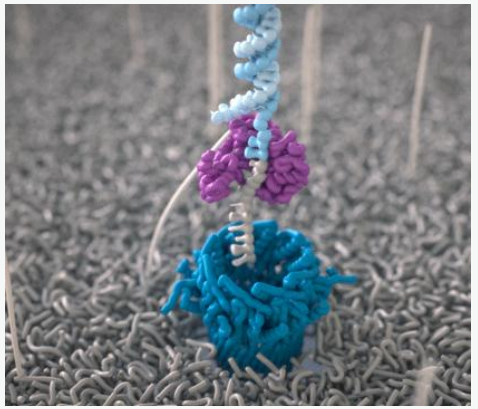
2. **Tumours that look very different are the same**



3. **Many tumour entities do not have distinctive morphological features**



- Genomic medicine can use rapid “adaptive” sampling of brain tumours intraoperatively through long read sequencing
- The genomic sequencer uses adaptive sampling, where the user tells the machine which regions of the genome they want to sequence
- Allows rapid profiling of a tumour, with methylation classification within two hours and final molecular data the next day.
- ***Allows intra-operative decision making***

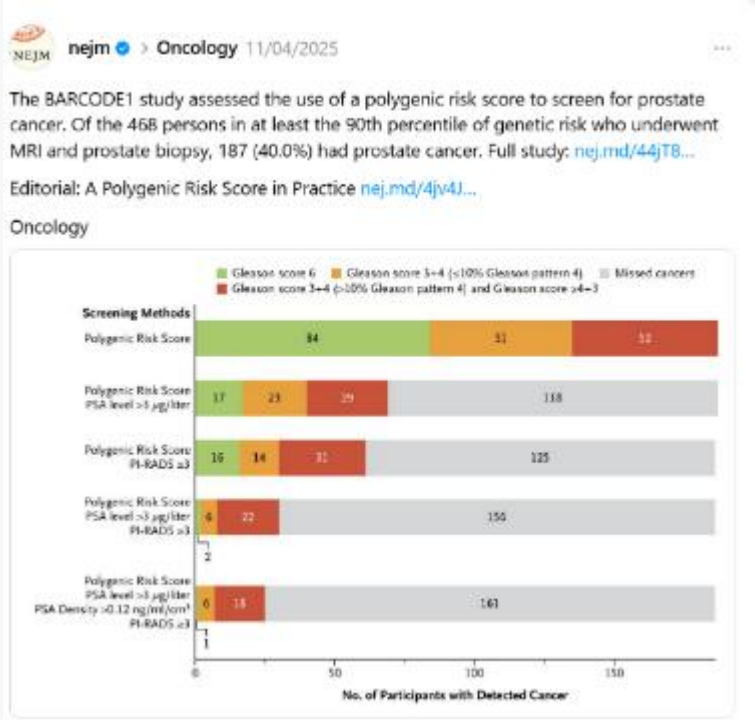


Slide courtesy of Professor Andrew Beggs, University of Birmingham

Cancer predisposition

Genomics supporting identification of predisposition to cancer

- Both rare and common germline variation predispose to multiple types of cancers treated surgically
- Breast / Prostate cancer – BRCA1/2, PALB2, CHEK1/2 (1:400)
- Colorectal/kidney/bladder – Lynch Syndrome (1:300)
- Both have germline screening programmes
  - Lynch mainstreaming / BRCA direct
  - 1 in 10 patients in 100,000 Genomes project with cancer had an actionable germline predisposition mutation
- Allows identification of high risks and early management, where surgery is often preventative / curative
- Also 10% of risk for everyone is from common genetic variation
  - Allows personalised risk scores
  - E.g. BODICEA in Breast, BARCODE in prostate



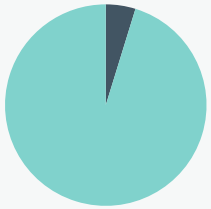
Genomics facilitating management for patients with cancer predisposition

Genomics enables personalised management as if you know the germline variant, then you can offer personalised surgery e.g. in patients with a known BRCA variants or Lynch syndrome.

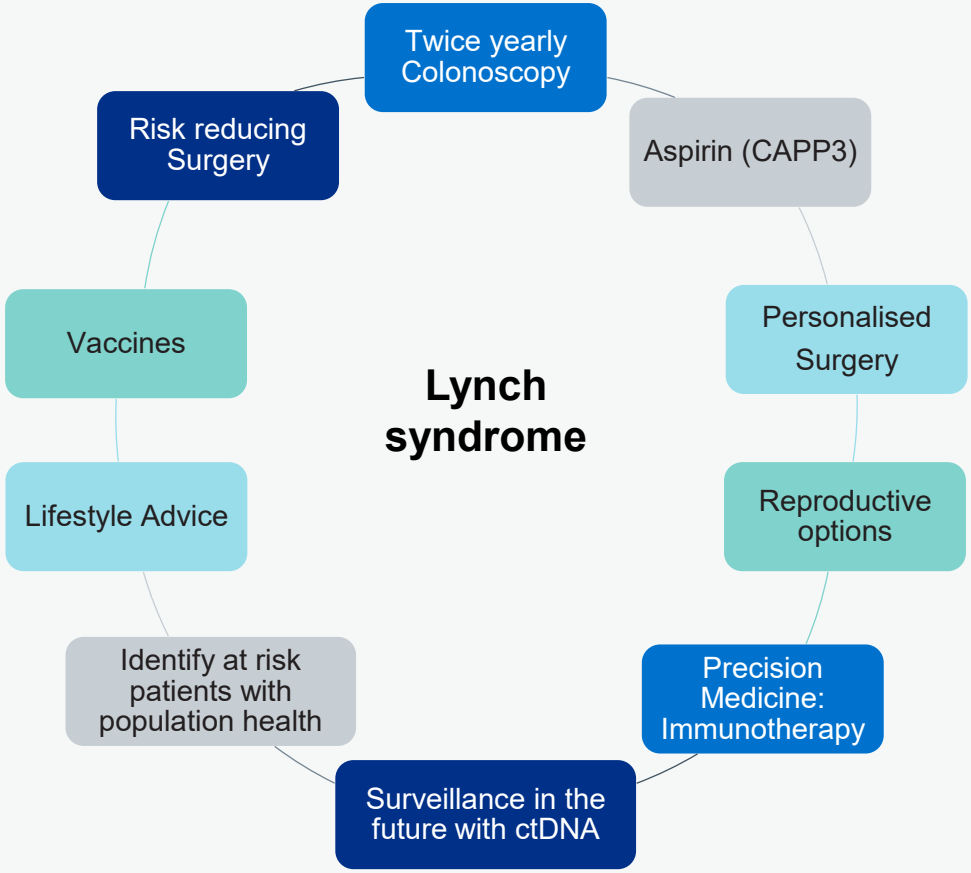
In patients identified as Lynch syndrome a risk reduction colectomy could be offered instead of a standard approach.

NHS England has funded the Lynch syndrome programme to deliver more effective genomic screening and diagnoses by supporting secondary care teams to establish robust testing pathways that are compliant with NICE guidelines.

Lynch syndrome affects approximately **1 in 400** adults and predisposes to multiple cancers including colorectal, endometrial, ovarian, and a range of other cancers.



Although a common condition, only **5% of individuals** with Lynch syndrome **had been diagnosed** in the UK.



Outcomes included:

Developed **276 champions** across England and over **600 national training** models completed.

Supported local audit programmes to **inform testing rates, identify and address barriers**. Compliance increased from 50% to 94% for colorectal and 30% to 96% for endometrial cancer.

Supporting the creation of a **national Lynch syndrome registry** and supporting signposting to the national Bowel Screening Programme

In summary, genomics is transforming care but there is more to do

The NHS has built a world leading genomics infrastructure and the NHS 10 Year Health Plan sets out the key role genomics will play in transforming care.

Genomics will increasingly become commonplace and used across the life course and across the care continuum and in multiple clinical specialities

The NHS is delivering an increasing amount of genomic testing for an expanding number of clinical indications.

Genomics is becoming increasingly embedded in care pathways, and genomics and pathology are increasingly aligned to streamline cancer pathways

Genomics is working across the innovation pathway from NHS Genomic Networks of Excellence, to aligning the Test Directory with clinical trials and supporting large scale research to drive innovation and research.

Slido

Please scan the QR Code on the screen. This will take you through to Slido, where you can interact with us.

SCAN ME

Panel Discussion

Francesca Trundle
Managing Director
Kent and Medway Pathology Network

Dr Branko Perunovic
Chief Medical Officer
Black Country Pathology Service

Slido

Please scan the QR Code on the screen. This will take you through to Slido, where you can interact with us.

SCAN ME

Chair Closing Remarks

Mr Chris Sleight MSc BSc FIBMS
Ex Diagnostics Leader within the NHS

Drinks & Nibbles