Welcome to the Pathology Scotland Conference

16th September 2026
DoubleTree by Hilton Glasgow Central, Cambridge Street, Glasgow, Lanarkshire, G2 3HN

Path360

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CIRDAN Improving Wellbeing Through Innovation

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InterSystems® Creative data technology

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SECTRA Knowledge and passion

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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.
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Stay Connected Beyond Today

Join the **HES Clinical Diagnostics & Medical Sciences WhatsApp Community** to stay connected with the people, ideas and conversations shaping this space. Receive relevant updates, access focused peer discussion groups, share practical insight and be first to hear about future events, resources and opportunities.

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Chair Morning Address

Dr Bernie Croal
President
The Royal College of Pathologists

Keynote Presentation

Catherine Ross
Chief Scientific Officer
Scottish Government

Path360 Scotland: Advancing Healthcare Science and Diagnostics Across Scotland

National Perspective on the Current Landscape

Professor Catherine Ross
Chief Scientific Officer for Scotland

Scottish Government
Riaghaltas na h-Alba

Skill Exchange

Naomi Elkin
Principal Clinical Scientist & UK NEQAS
Cardiac Markers Scheme
NHS Greater Glasgow & Clyde

Catherine Ross
Chief Scientific Officer
Scottish Government

Quality Systems, EQA and New Models of Testing

Naomi Elkin
Principal Clinical Scientist & UK NEQAS Cardiac Markers Scheme Organiser

Path360 Scotland Meeting
16 September 2026

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Main Sponsor

Jade Erwin
Head of Digital Transformation
Source LDPath

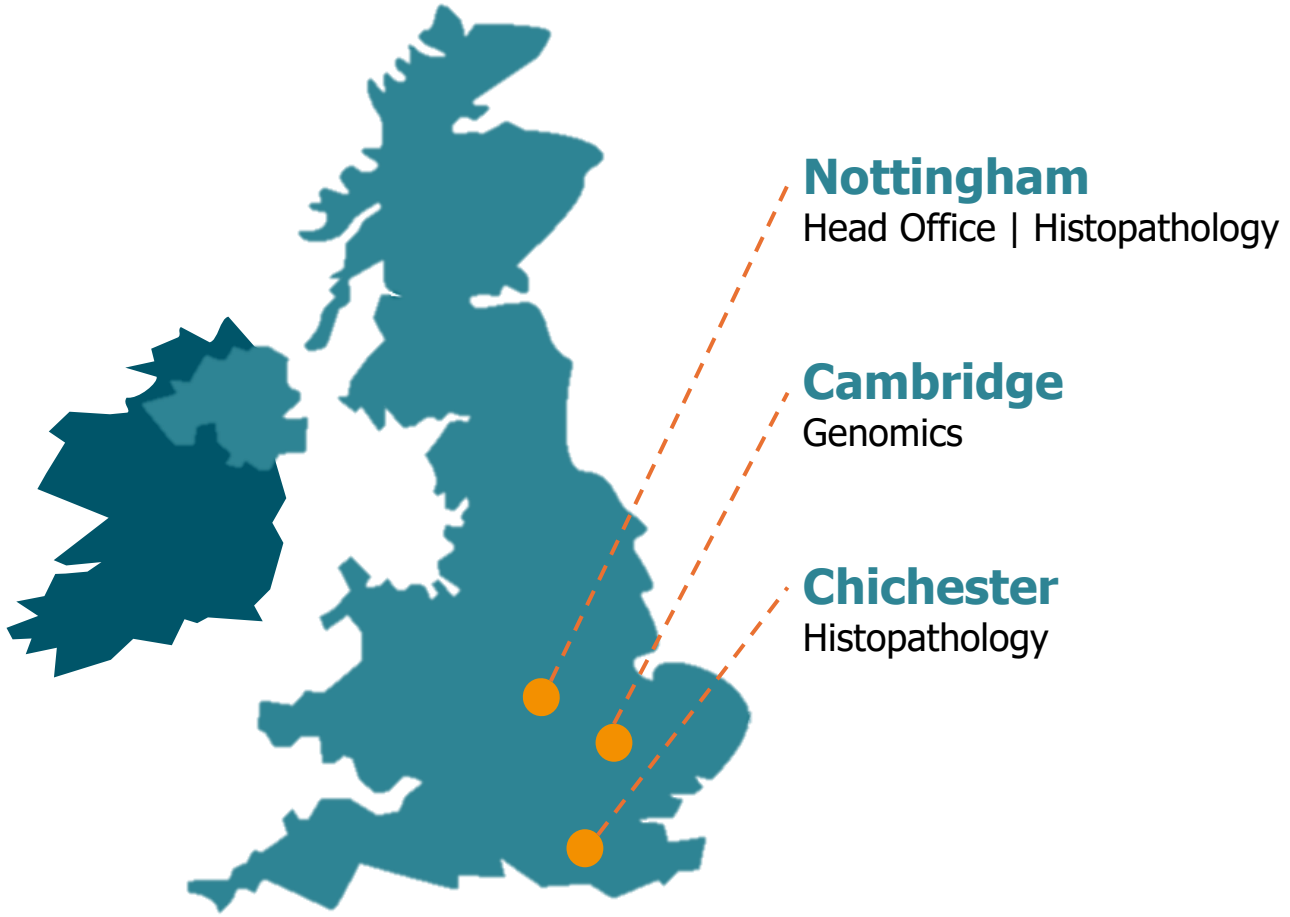
Source LDPath

From Analogue to Digital:
Revolutionising Pathology to Help You Meet RCPath Turnaround Directives

Jade Erwin – Head of Digital Transformation
Alana Jackson – Business Development Manager

Source BioScience Laboratories

Two UKAS accredited laboratories delivering histopathology services across all disciplines.



Nottingham
Head Office | Histopathology

Cambridge
Genomics

Chichester
Histopathology

Key Achievements

Support Over 90
NHS Sites

280+ Consultant
Pathologists

Dedicated Service Manager,
Integration & Courier Team

350k+ Cases Reported
& 1 million+ Slides Scanned
in the Last 12 Months

Proven Expertise
Achieving KPI Compliance
Averaging 90% for TATs

Operating 6 Days a Week
to Further Reduce TATs

Why Go Digital

DIGITAL

GLASS

*2026 digital statistics support same-day TAT.
**Glass average TAT typically falls within 4 days. Contracted to 7 working days.

Integration Options

Scanner Integration

Supporting direct image transfers straight into Indica Halo.

✓ Scanner agnostic

Vendor Integration

Multiple partnered relationships with key IMS providers to offer a streamlined service and easier allocation of cases from your IMS.

✓ Digital images are stored for a minimum of 8 years

LIMS-to-LIMS Integration

Direct LIMS-to-LIMS integration streamlining outsourced testing from order to result.

✓ Instant report availability

- ✓ Faster Turnaround Times
- ✓ Seamless Case Transfer
- ✓ Real-Time Case Tracking
- ✓ Simplified Workflows

Integration Plugins

Source LDPath offers **platform-agnostic integrations**, tailored to your existing digital infrastructure.

Laboratory Information Management System (LIMS) Plugin

Seamless transfer of order messages and issuing pathology results and reports into the hospital's LIMS.

Image Management System (IMS) Plugin

Seamless access and transfer of digital pathology images through the hospital's IMS.

- ✓ Instant report availability
- ✓ Faster TATs
- ✓ Easily interpretable results
- ✓ Reduced risk of sample loss or damage

Integration Options in Practice

Integration Model (By Case Study)	No. Cases Reported	Reduced Time (Procedure to Outsourcing)
Scanner	**6,000+**	**7** days → **3** days
LIMS-to-LIMS	**11,000+**	**9** days → **5** days
LIMS-to-LIMS	**14,000+**	**18** days → **4** days

2026 Case Study 1

Based on 5,721 cases, within a 6-month period.

1.8 Days
Average TAT

18%	61%	96%
0-day TAT	≤ 1-day TAT	≤ 5-day TAT

2026 Case Study 2

Based on 1,676 cases, within a 3-month period.

1.9 Days
Average TAT

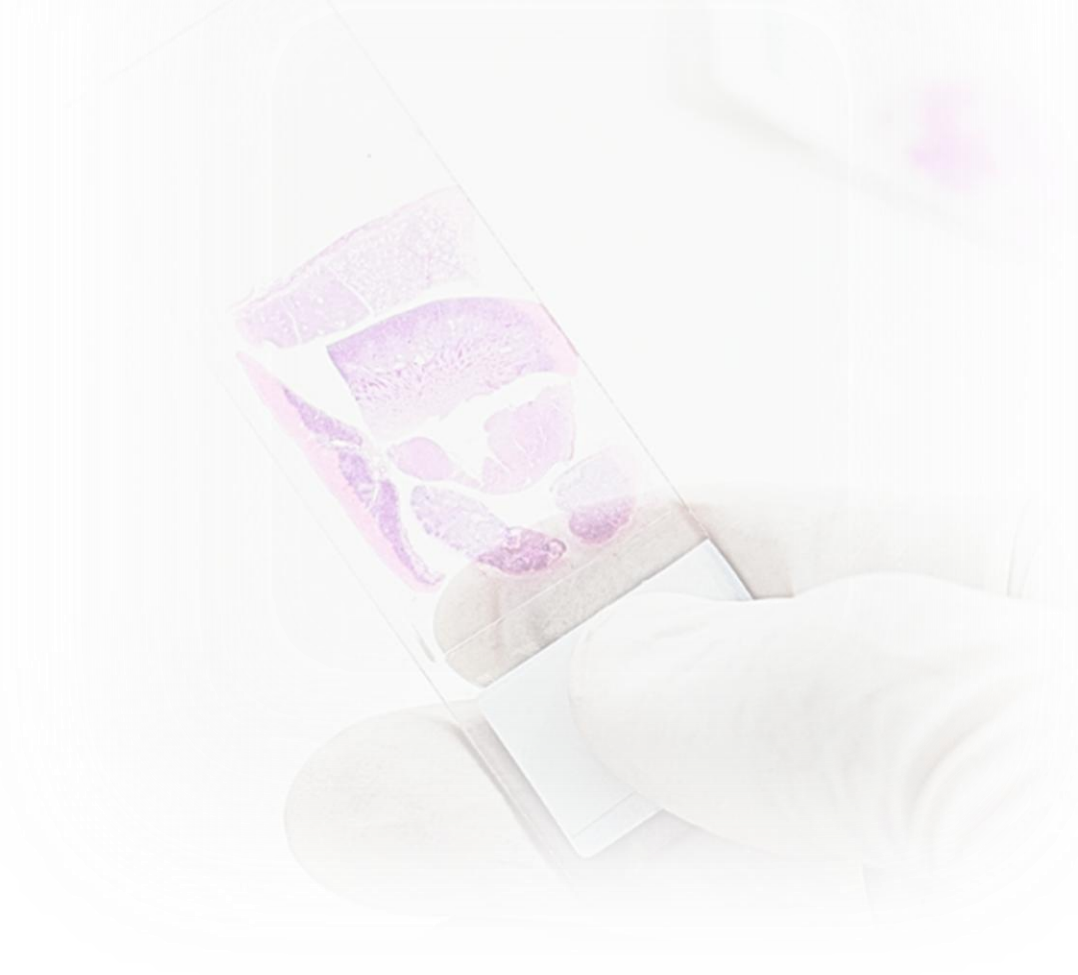
13%
0-day TAT

56%
≤ 1-day TAT

96%
≤ 5-day TAT

TalkingPoint PathXchange

- Import module eliminates manual case handling with outsourced providers
- Automated read/write integration with LIMS
- Auto-generated manifests for outbound samples
- Complete case data written back to LIMS



Time Impact – Case Study

Manual process
2.5 min
per report

VS.

Automated import
30 sec
per report

10,369
Reports processed

346
Hours saved

~9 weeks
FTE admin time saved

80% reduction in processing time

Our Pathologist Network Feedback

I have never worked with a lab with such a **high level of quality control** and this "right first time" approach means specimens move through the pathway more efficiently and **improves TATs**.

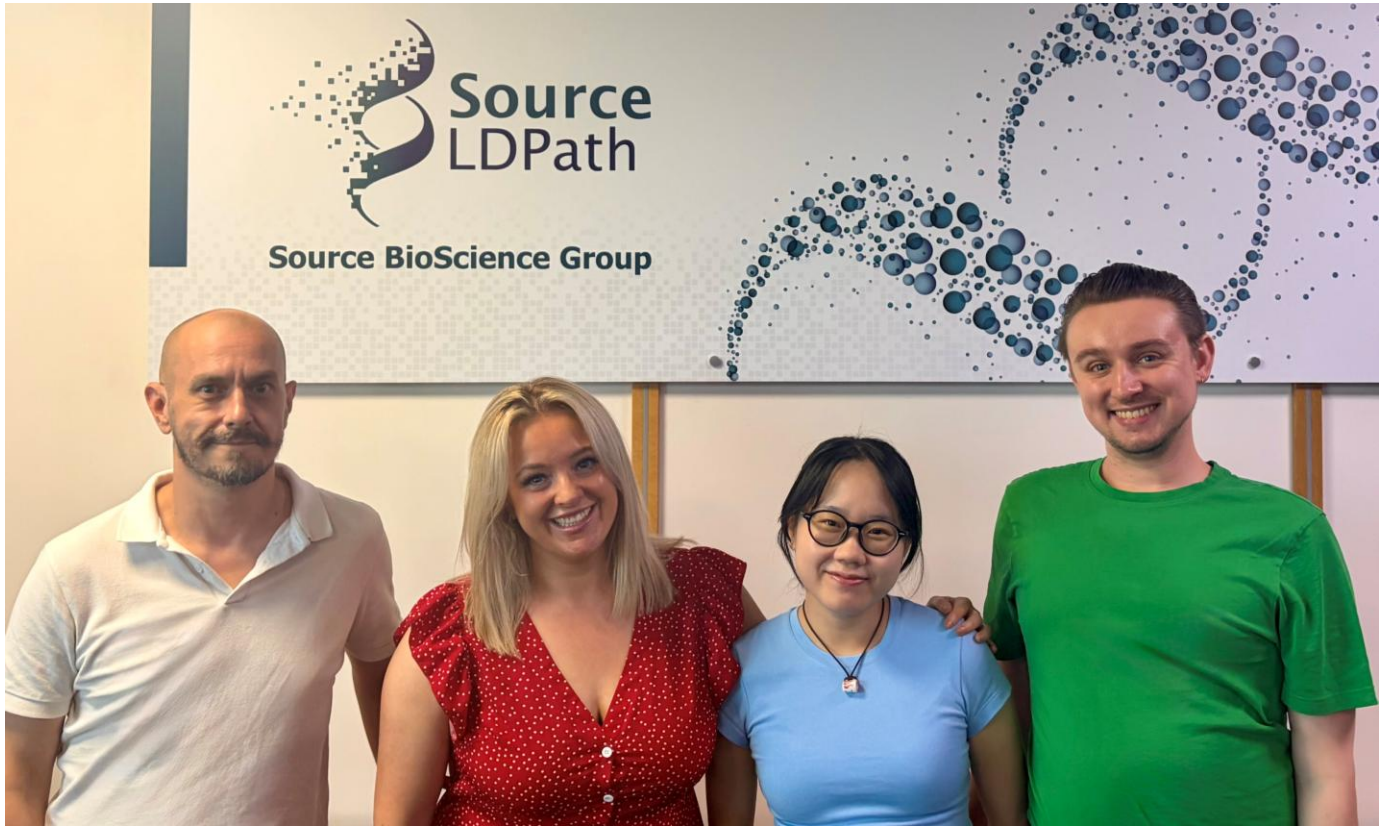
Dr James Carton
Consultant Histopathologist

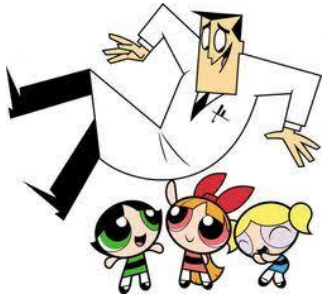
A **national leader** in adopting and operationalising a fully digital pathology model, pioneering this approach in 2013. This transformation has had a **profound impact** on diagnostic efficiency, workflow flexibility, and the evolution of my own professional practice. And numerous others.

Dr Essam Raweily
Consultant Cellular & Dermatopathologist

A defining strength of this lab is its **bespoke, internally developed LIMS**. Unlike off-the-shelf solutions, this system is continuously refined to support **lean workflows**, evolving clinical needs, and the laboratory's strategic direction.

Meet the Team





- ✓ Experienced team
- ✓ Dedicated support
- ✓ Tailored solutions
- ✓ Fast response times
- ✓ End-to-end delivery

Making Outsourcing Feel Inhouse

- Integration project management support
- End-to-end validation testing
- Post-integration support

Contact the Team

sourcebioscience.com
enquiries@sourcebioscience.com

LinkedIn

Project Support

Jade Erwin
Head of Digital Transformation

Onboarding & Enquiries

Alana Jackson
Business Development Manager

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Refreshments & Networking

Chair Morning Reflection

Dr Bernie Croal
President
The Royal College of Pathologists

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Case Study

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David Sims
Clinical Solution Executive
InterSystems

InterSystems
Creative data technology

Beyond Boundaries

Unlocking the next level of Connected Pathology

David Sims
Clinical Solution Executive, InterSystems
16th September 2026

The evolution of LIMS and Pathology Data

From digitising individual laboratories to connecting pathology across organisational and platform boundaries

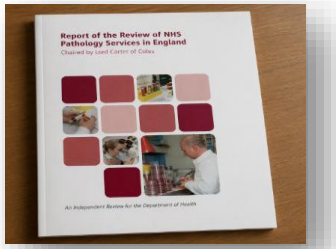
1980s | 1990s–2005 | 2006-2026 | 2027+

01 Digitise

Standalone systems replace paper-led registration and reporting.

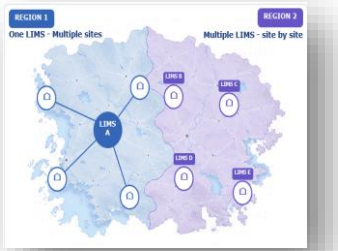
02 Integrate

LIMS connects to analysers, PAS, EPR and GP requesting.



03 Consolidate

Lord Carter Review accelerates hub-and-spoke thinking



04 Share

Networks pursue common platforms with standardised workflows.

05 Collaborate

Share workload, expertise and services across the network.

06 Federate

Connected networks operating as one intelligent ecosystem.

KEY MESSAGE **The first era digitised laboratories. The next consolidated services. The emerging era connects pathology data across boundaries**

Pathology consolidation across Great Britain

Three different answers to the same question: How do we consolidate to support clinical and operational practices

WALES

National LIMS service

CONTROL POINT

All-Wales service and configuration

STANDARDISATION

Workflow, integration, quality and BI

DELIVERY

Single instance of **InterSystems TrakCare Lab Enterprise** LIMS for all the country

SCOTLAND

Common national product

CONTROL POINT

National product; Board deployment

STANDARDISATION

Workflow, coding and SNOMED CT

DELIVERY

Distributed service model; framework adoption

ENGLAND

Regional network model

CONTROL POINT

Network operating model and governance

STANDARDISATION

27 Pathology Networks. Hub-and-spoke service design

DELIVERY

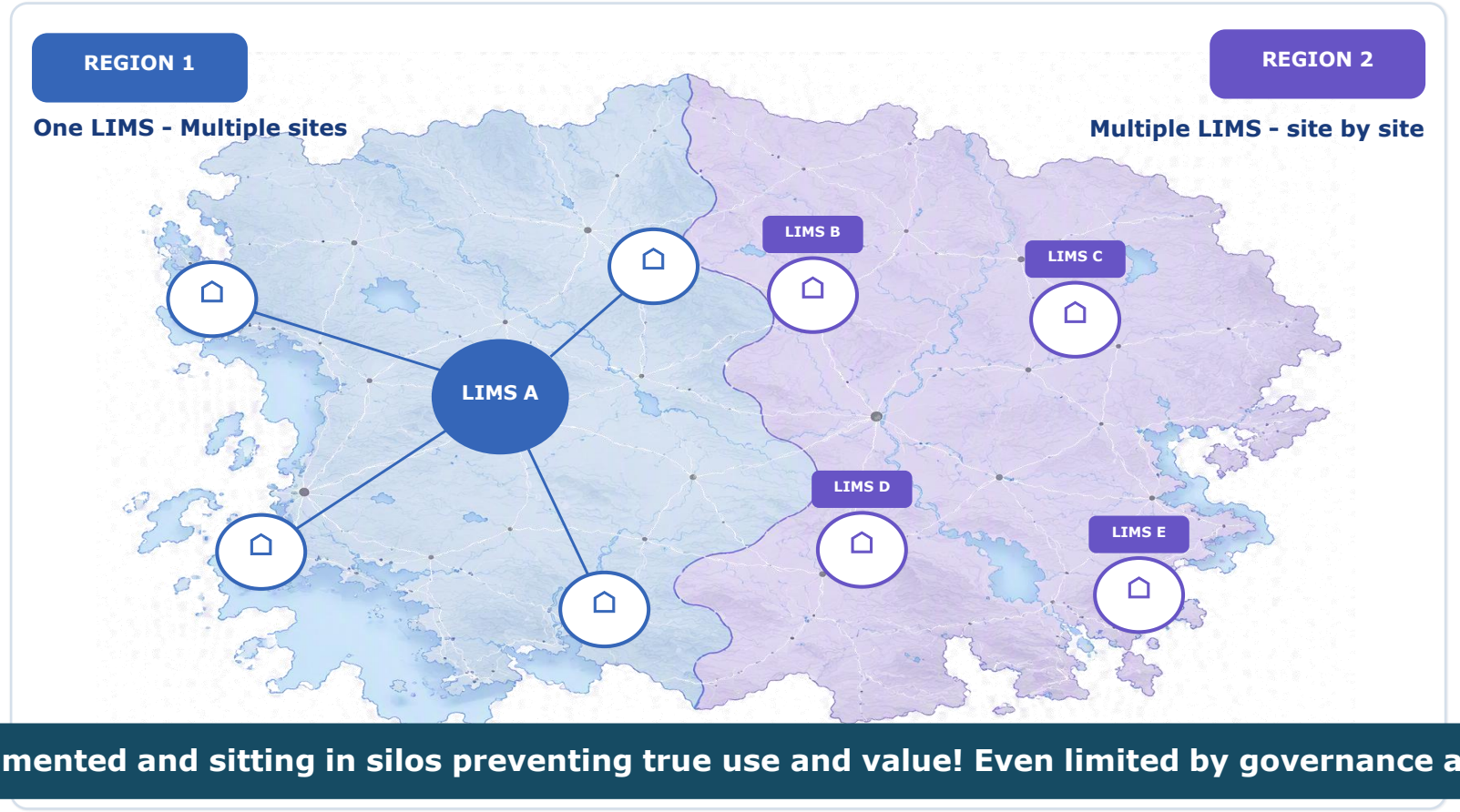
Network instance or interoperability by network

Different approaches. The same pressure for scale, resilience and standardisation.

Implication: "consolidated pathology" does not imply a single architecture, procurement boundary or convergence path.

The ambition is clear: connect pathology data across a ‘network’

The desire is there, but practical barriers continue to slow progress and limit access to pathology data.



Data is still fragmented and sitting in silos preventing true use and value! Even limited by governance and boundaries!

WHAT GETS IN THE WAY

LIMS projects can be difficult

Complex programmes can take longer than planned.

Access to legacy data

Historical results and context can remain in older systems

Different legacy starting points

Sites begin with different LIMS, interfaces, infrastructure and levels of digital maturity

Levels of standardisation

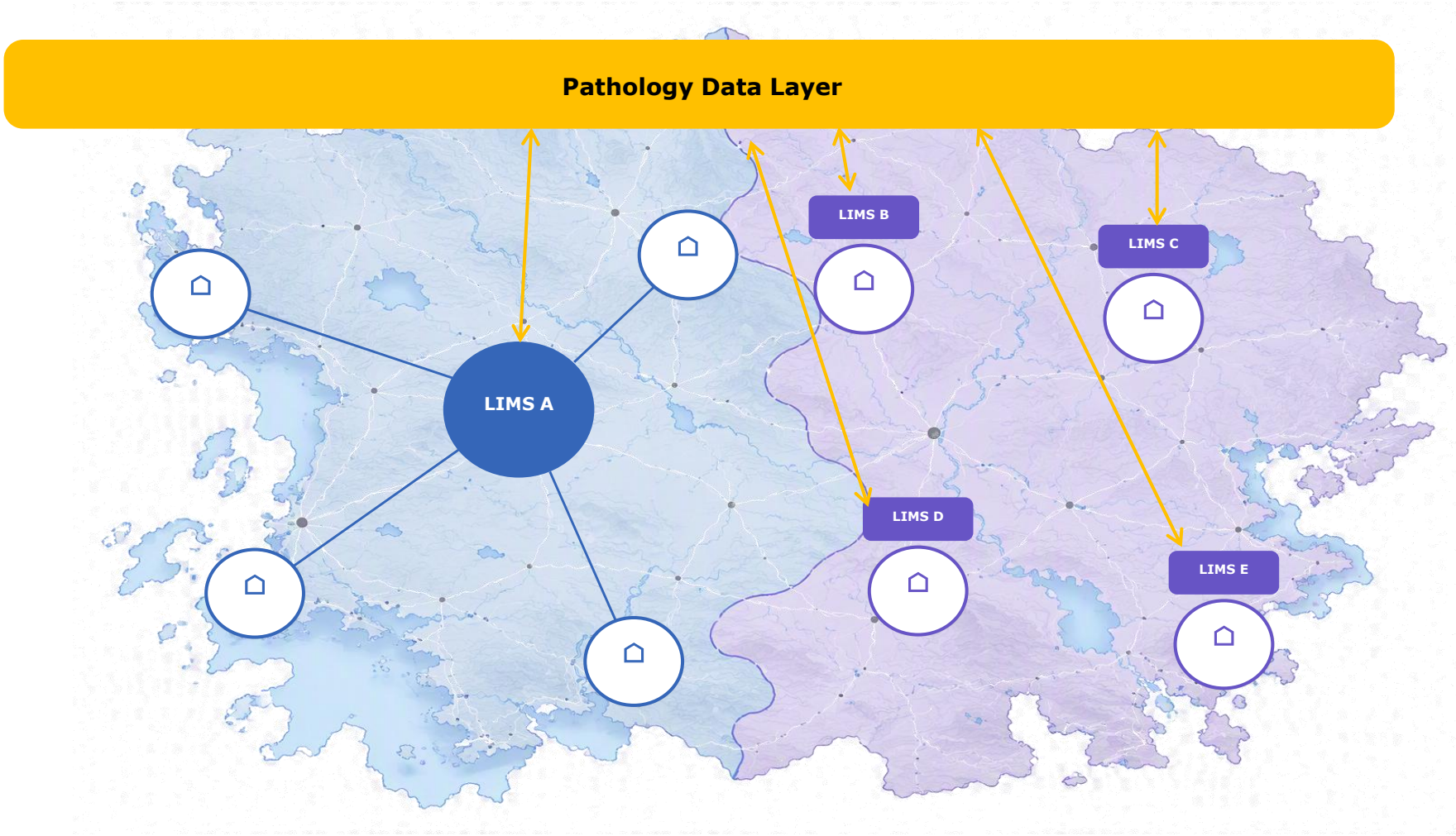
Different test catalogues, coding, processes and local practices.

Laboratory and programme capacity

Transformation competes with operational pressures and depends on scarce laboratory, digital and programme expertise.

More than a LIMS: Connecting Pathology Ecosystems

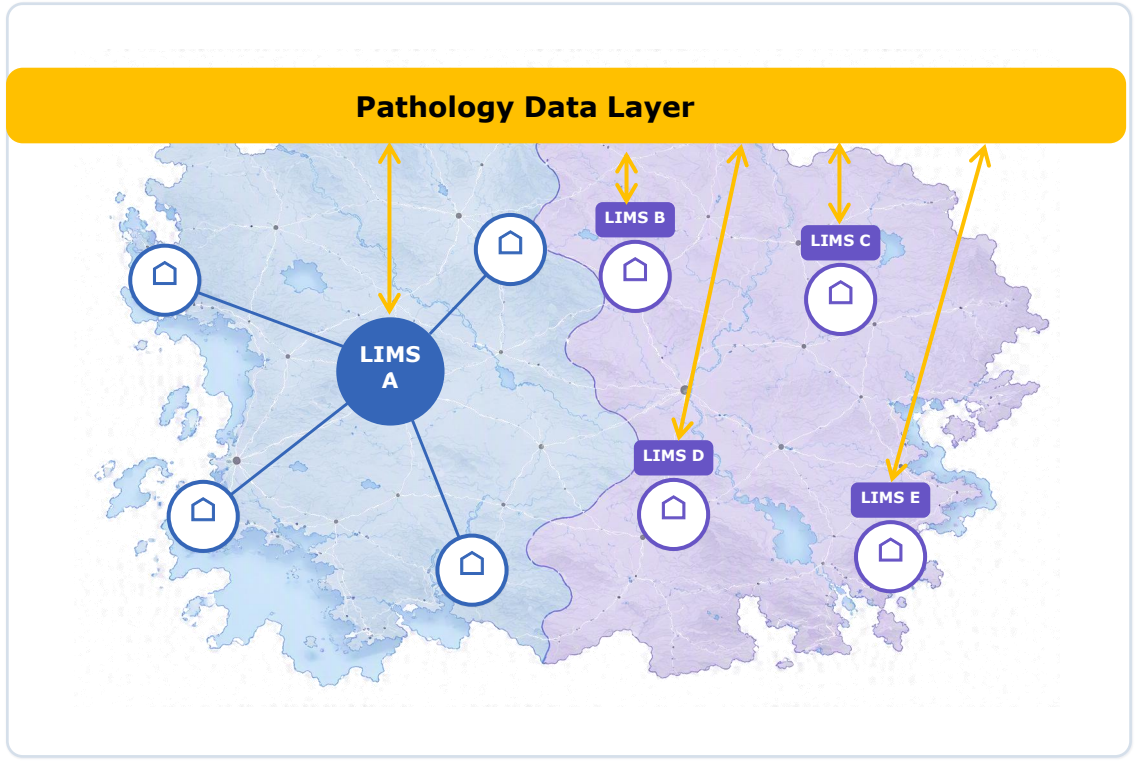
Different regional LIMS models, connected through a shared data, workflow, analytics and AI ecosystem.



More than a LIMS: Connecting Pathology Ecosystems

Different regional LIMS models, connected through a shared data, workflow, analytics and AI ecosystem.

REGIONAL LANDSCAPE



SHARED ECOSYSTEM

Connect
FHIR • HL7
Secure APIs

Orchestrate
Identity • workflow
Audit • provenance

Unify data
Trusted pathology information layer

Learn
Analytics • AI
Decision support

One ecosystem, without requiring one system

Regions retain their local operating models while sharing data, workflows, visibility and intelligence.

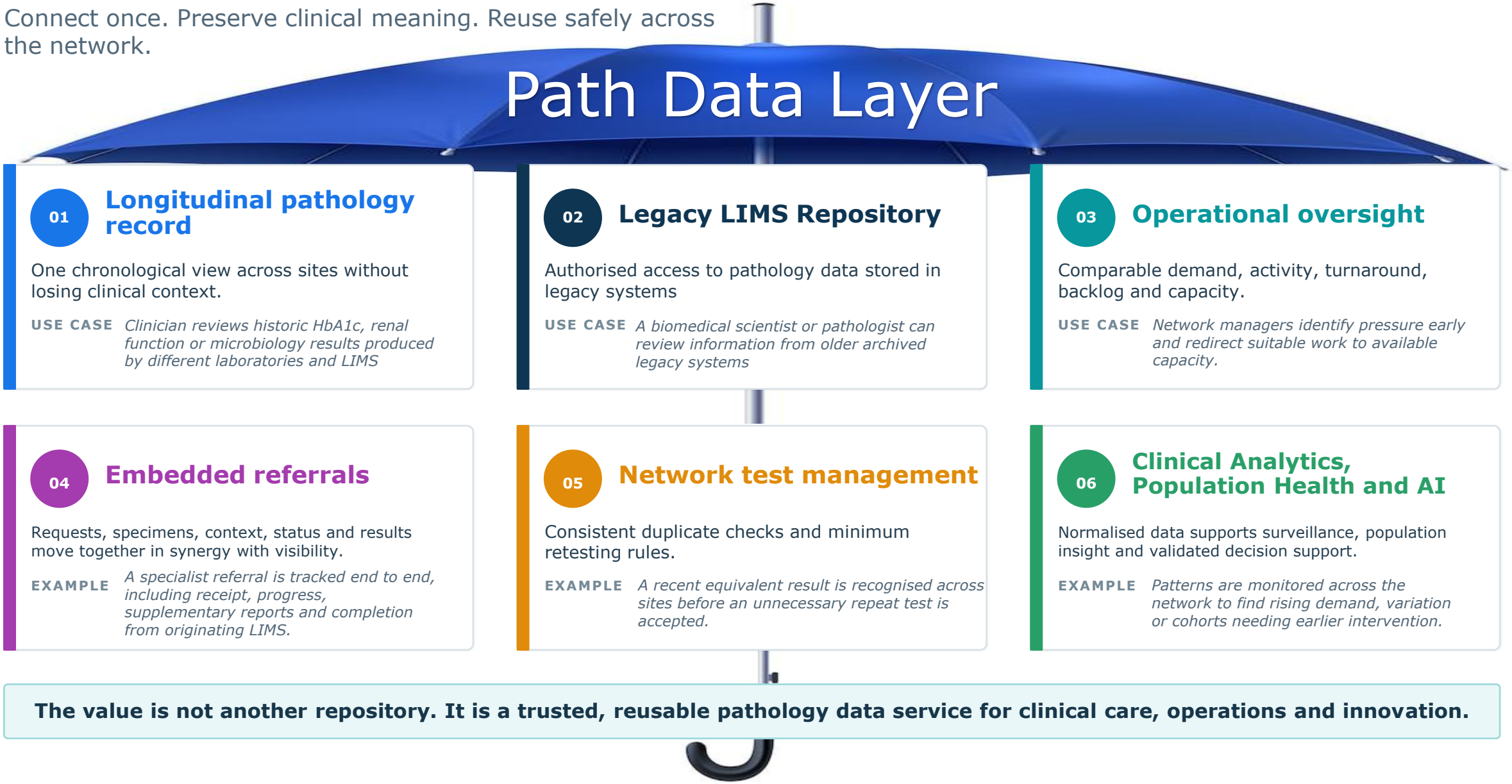
A LIMS IS NOT A BLOCKER!

WHAT THIS ENABLES

- **Unified record** — Across boundaries
- **Work sharing** — Referrals and workload
- **Live visibility** — Capacity and turnaround
- **Interoperability** — Standards exchange
- **Analytics & AI** — Decision support

What the shared pathology data layer makes possible

Connect once. Preserve clinical meaning. Reuse safely across the network.



01 Longitudinal pathology record

One chronological view across sites without losing clinical context.

USE CASE *Clinician reviews historic HbA1c, renal function or microbiology results produced by different laboratories and LIMS*

02 Legacy LIMS Repository

Authorised access to pathology data stored in legacy systems

USE CASE *A biomedical scientist or pathologist can review information from older archived legacy systems*

03 Operational oversight

Comparable demand, activity, turnaround, backlog and capacity.

USE CASE *Network managers identify pressure early and redirect suitable work to available capacity.*

04 Embedded referrals

Requests, specimens, context, status and results move together in synergy with visibility.

EXAMPLE *A specialist referral is tracked end to end, including receipt, progress, supplementary reports and completion from originating LIMS.*

05 Network test management

Consistent duplicate checks and minimum retesting rules.

EXAMPLE *A recent equivalent result is recognised across sites before an unnecessary repeat test is accepted.*

06 Clinical Analytics, Population Health and AI

Normalised data supports surveillance, population insight and validated decision support.

EXAMPLE *Patterns are monitored across the network to find rising demand, variation or cohorts needing earlier intervention.*

The value is not another repository. It is a trusted, reusable pathology data service for clinical care, operations and innovation.

The next consolidation is not another boundary.

It is a shared view across every boundary.

Slido

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Case Study

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Case Study

Simon Brown
Director
ProfilerLive

Path360 Scotland: Advancing Healthcare Science and Diagnostics Across Scotland

ProfilerLive

From Competence to Confidence

What two NHS pathology networks learned about workforce assurance

Simon Brown

Director, ProfilerLive

16 September 2026

The assurance question

ProfilerLive

> If I asked today whether your workforce has the capability required to support tomorrow's service,
>
> **how quickly could you answer**
> **… with confidence?**

ProfilerLive: digital training, competency and workforce assurance

One digital foundation for workforce capability, built to grow with your service.

Who we are	A UK-based workforce assurance solution provider and long-term content development partner.
What we do	**We make workforce capability part of everyday service management, giving staff clear direction, managers actionable insight and executives evidence for assurance.**
How we do it	We work collaboratively to combine your expertise with our digital platform, programme library and content development service throughout the licence.
Who we work with	Pathology and other diagnostic services, at different scales and stages of development. Our content-agnostic approach adapts to their clinical and operational needs.

Our first Scottish deployment is in preparation

subject to contract signature

What ProfilerLive Does

One digital foundation for workforce capability

ProfilerLive helps organisations develop workforce capability, see where evidence is current or gaps remain, and act with confidence.

Digitise

Training, competency and evidence

Replace fragmented records with structured training and assessment evidence

Make visible

Capability, validity, gaps and priorities

Give staff, managers and executives clear visibility of capability and gaps.

Act & improve

Priorities, development & assurance

Set priorities, assign owners and follow through to strengthen productivity and resilience.

Connect training and competency evidence with everyday service management.

What that enables is managing workforce change at scale

Diagnostic services must manage workforce capability through constant change.

Major system change	Operational pressure	Workforce development
New equipment and software	Productivity & urgent service issues	Induction and assessment
New ways of working	Rotations, joiners and leavers	Career progression
Service consolidation	Limited training and assessor capacity	CPD and portfolios
Who needs training before change goes live?	**Where should scarce training time go first?**	**What does each person need to develop next?**

All of this happens simultaneously, not sequentially

Current capability evidence helps services prioritise development and manage change.

Different services, different starting points

Two pathology customers — and how a smaller service could scope its own start.

North West London Pathology	South West London Pathology	A smaller service
A foundation at pace	**Capability through transformation**	**A proportionate start**
Seven hospital sites An already harmonised network Priority: accessible, live evidence	Five sites across four acute trusts New equipment and workflows Changes to training governance	One site or department A defined staff group to begin Priority requirements first

The transferable lessons are evidence, ownership and review - not the scale.

A starting point that fits your service, with room to develop

NWLP: a foundation at pace

North West London Pathology

6
months to go-live

7
hospital sites

900+
staff live

1,000+ competencies digitised

23 service go-lives

Prior network harmonisation and content clean-up supported delivery.

A usable network foundation first, followed by progressive improvement

NWLP: a foundation for wider development

The value continued after go-live.

> **“There’s better and clearer information at every level, and staff like using it”**
>
> Angela Jean-François, Managing Director, NWLP

Staff ownership

Access evidence and monitor progress

Management visibility

Review current status and focus follow-up

Wider use

Induction and portfolios
Training academy programmes

Current evidence supports daily management and wider staff development

ProfilerLive

SWLP: workforce capability as critical infrastructure

Five sites across four acute trusts, maintaining services through major change.

> **“Workforce capability has to be governed with the same discipline as equipment, LIMS and SOPs.”**
>
> Simon Brewer, Managing Director, South West London Pathology

Service transformation

New suppliers, analysers and workflows across disciplines

Workforce pressure

Staff turnover, limited training time and fragmented records

Workforce capability became part of the operating model

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SWLP: ownership and protected time

Making training, assessment and review part of the operating model.

Half a day per month

Rostered as the expected norm for staff training

Leadership

Central Education and Training team

Clear ownership

Learners, tutors and service managers

Routine review

KPIs and targeted follow-up

February 2026: reported staff engagement doubled over 12 months.

Learners need time to complete work. Assessors need time to review it.

SWLP: measurable progress, with a clear next step

Assignment validity: the share of competency programmes that are in date

Starting position

51%

7 February 2025

Progress achieved

71%

31 August 2026

Next target

80%

SWLP target
End December 2026

2,400 more valid assignments

What enabled the improvement

ProfilerLive

Digital programmes, visibility of gaps and reporting to focus follow-up.

SWLP

Protected training time, clear ownership and regular management review.

How we support the next step

Targeted reporting

Prioritise work closest to completion and resolve assessment and sign-off bottlenecks.

Joint review

Agree actions, track progress and plan renewals before evidence expires.

Digital evidence, protected time and active management underpin the progress achieved and the next step.

SWLP: one evidence base, meaningful at every management level

Shared workforce information, summarised for assurance and detailed for action.

Management level	What they see	What it enables
Strategic assurance Executive team	KPI summary, trends and variation across services	Set priorities and hold services accountable for improvement.
Performance ownership Divisional and service leads	Service-level gaps, progress and engagement	Identify barriers, allocate capacity and agree recovery actions.
Operational action Assessors and tutors	Individual assignments, renewals and outstanding tasks	Support completion, review evidence and complete sign-offs.

The same evidence connects executive oversight with service priorities and individual action.

One digital foundation, built to grow with you

Live evidence for staff ownership, everyday decisions and clearer assurance.

Prepare people for service change.

See who needs training before new ways of working go live.

Focus scarce training and assessor time.

Use visible gaps and priorities to direct professional input.

Support each person's development.

Give staff ownership of their progress and next steps.

Start where the need is greatest. Build as your service develops.

Establish › Operationalise › Optimise › Extend

Your expertise and clinical ownership, supported by our platform and content development throughout the licence.

From competence to confidence

Across your service or NHS board, how quickly could you show

where capability is strong,
where it is fragile,
and what action is already under way?

One thing to try tomorrow

Pick your three most fragile benches.
Ask how many people can run them unsupervised at 2am.
Notice how long it takes you to find out.

Confidence comes from current evidence that people can see, govern and act on.

ProfilerLive

Thank you for listening

Come and talk to us

Visit our stand to explore how ProfilerLive can reduce avoidable training and assessment work, and quantify the potential return for your service.

Let’s stay in touch
Scan for my contact details

Simon Brown

Director, ProfilerLive

info@profilerlive.com

www.profilerlive.com

Leadership Interview

Karen Brazier
Professional Advisor for Healthcare Science
Scottish Government

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Case Study

FUJIFILM
Value from Innovation

Path360

Case Study

Ashley Ballard
Consultant Biomedical Scientist & Digital Pathology Lead
University Hospitals Dorset

One Dorset Pathology

A cloud-native digital pathology case study

Architecture, deployment sequence, what worked, and what was harder than expected

Ashley Ballard
Trainee Consultant Biomedical Scientist and Digital Pathology Lead, University Hospitals Dorset
Path360 Scotland, Glasgow, 16 September 2026

One Dorset Pathology

A pan-Dorset cellular pathology network run by two trusts: University Hospitals Dorset (Bournemouth hub, Poole spoke) and Dorset County Hospital, Dorchester. Part of the Southern Counties Pathology network.

NHS
University Hospitals Dorset
NHS Foundation Trust

~420,000	~60,000	~400,000	3	4	~1,500
population served	cases a year	slides a year	laboratory sites	whole-slide scanners	slides a day at design load

Where the service is under pressure

- **A reporting deficit we cannot recruit out of.** 7.5 WTE consultant pathologists short, on the trust risk register at a score of 15.
- **A fifth of the work bought in.** 9,334 cases through locum, in-sourced and out-sourced reporting in 2023/24.
- **Turnaround well short of the local target.** Between 49 and 66 per cent within ten days across the last two years, against 95 per cent.
- **Growth hidden in the blocks.** Case numbers flat while slides rose 22 per cent. Activity counted in cases does not show the work.

And where the network is uneven

- **Dorchester is not yet digital.** Gated by a LIMS upgrade and a change freeze as well as network infrastructure issues.
- **Cytology capacity.** Not yet implemented.

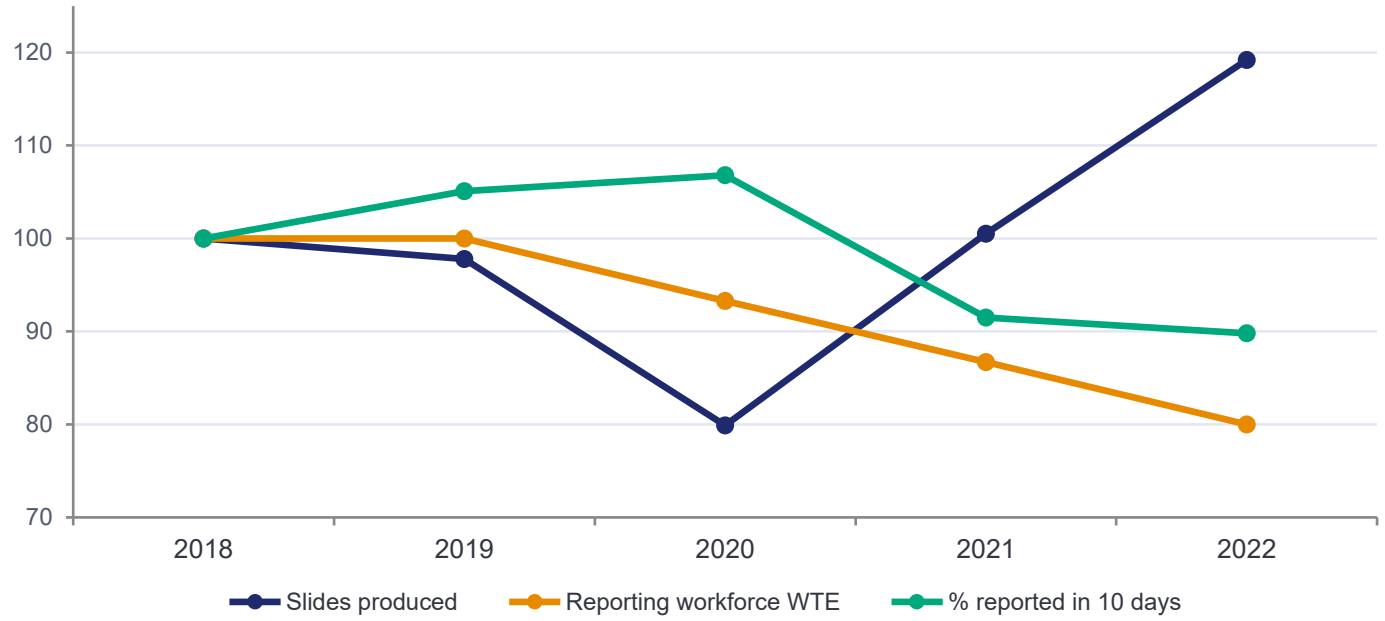
What we hoped digital would do about all of it: make a pathologist's location irrelevant, let subspecialty work be allocated across the network, turn outsourcing from a courier problem into a click, and give us the data to see whether any of it worked.

University Hospitals Dorset operational and establishment data; One Dorset Pathology service delivery reports to August 2026.

Workload rose, the reporting workforce fell

University Hospitals Dorset cellular pathology, 2018 to 2022. Indexed to 2018 = 100 so the three series can be read against one another.

University Hospitals Dorset
NHS Foundation Trust



Actuals	2018	2022
Slides	207,874	247,748
Cases	45,579	40,796
% in 10 days	59%	53%
Reporting WTE	15	12

Cases fell. Slides rose 22 per cent.

Smaller lesions, more thorough sampling and more complex reporting mean more blocks and more levels per case. Activity counted in cases hides the growth entirely.

Since then

2023

58 per cent of cases within ten days, on the same measure. A partial recovery.

2023

A deficit of 7.5 WTE consultant pathologists, on the trust risk register at a score of 15.

2024/25

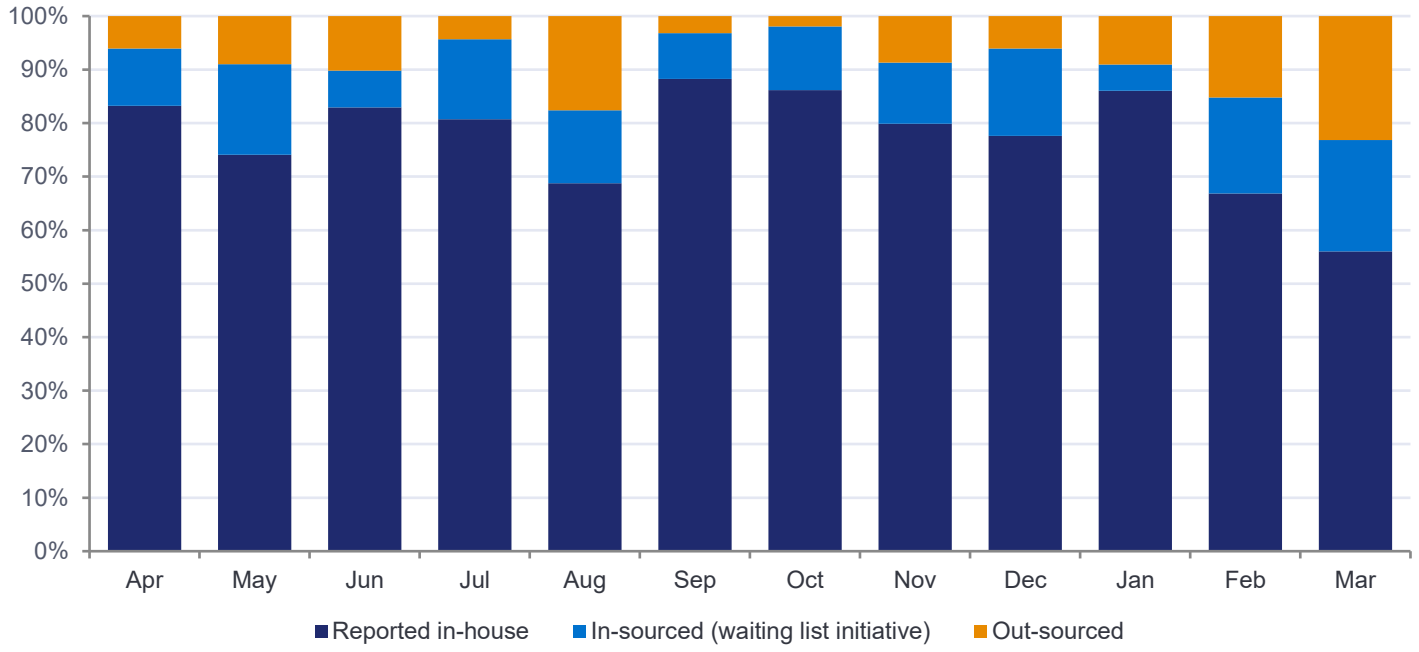
41,446 cases and 49 per cent within ten days, on the national measure and a financial year, so not directly comparable with the years above.

University Hospitals Dorset cellular pathology activity and establishment data, 2018 to 2023; NHS England diagnostic digital capability return, 2024/25. We did not maintain a comparable annual series for slides or reporting establishment after 2022, which is one of the reasons the programme included a data layer.

Buying reporting capacity to fill the gap

How University Hospitals Dorset histology cases were reported, month by month, April 2023 to March 2024.

University Hospitals Dorset
NHS Foundation Trust



83% → 56%

share of cases reported in-house, across a single financial year

£382,000

spent on locum, in-sourced and out-sourced reporting in 2023/24, covering 9,334 cases, against a budget of under £20,000. Around £70 a case.

This is the pattern that made the business case. Not the technology, and not the productivity literature: a service buying an increasing share of its own core work on the spot market, with no prospect of recruiting its way out.

It was a problem for us largely because every case moved as glass. That is the part of this picture that changes later in the talk.

University Hospitals Dorset case reporting mix, April 2023 to March 2024; outsourcing and locum costs reconciled to the general ledger and validated by the trust finance team.

What the platform actually had to do

The functional requirements that drove every architectural decision that follows. Whole-slide imaging is an unusual workload: very large objects, written once, read rarely, retained for years, and latency-sensitive when they are read.

NHS
University Hospitals Dorset
NHS Foundation Trust

Ingest	~1,500 slides a day at design load across three sites. Each scanner needs 1 Gbps sustained. Bournemouth runs two.	**Object size**	~1.5 GB per whole-slide image on average, ~300,000 images a year.
Retention	8 years, two UKAS cycles, under RCPath guidance. Nothing can be deleted early.	**Read latency**	Under 25 ms per concurrent user, 6 Mbps average and 15 Mbps peak per viewer.
Access pattern	Heavy read in the first days after scanning, then near-cold. Storage cost is dominated by data nobody is looking at.	**Integration**	Bi-directional with the LIMS, plus tracking, macro-imaging, AI, voice recognition and cancer registry outputs.

Two of these fight each other. Sub-25 ms read latency wants fast storage; eight years of write-once data wants cheap storage. Resolving that tension is what tiering is for, and it is where our first architecture failed.

Fujifilm high level technical design, One Dorset Pathology, v2.4

The Azure deployment · attempt one, 2022

The trust already held an Azure tenancy and high-speed private connectivity was already being built for other programmes, so on paper this was the only viable cloud option. The trust owned all of the infrastructure and the Microsoft licensing.

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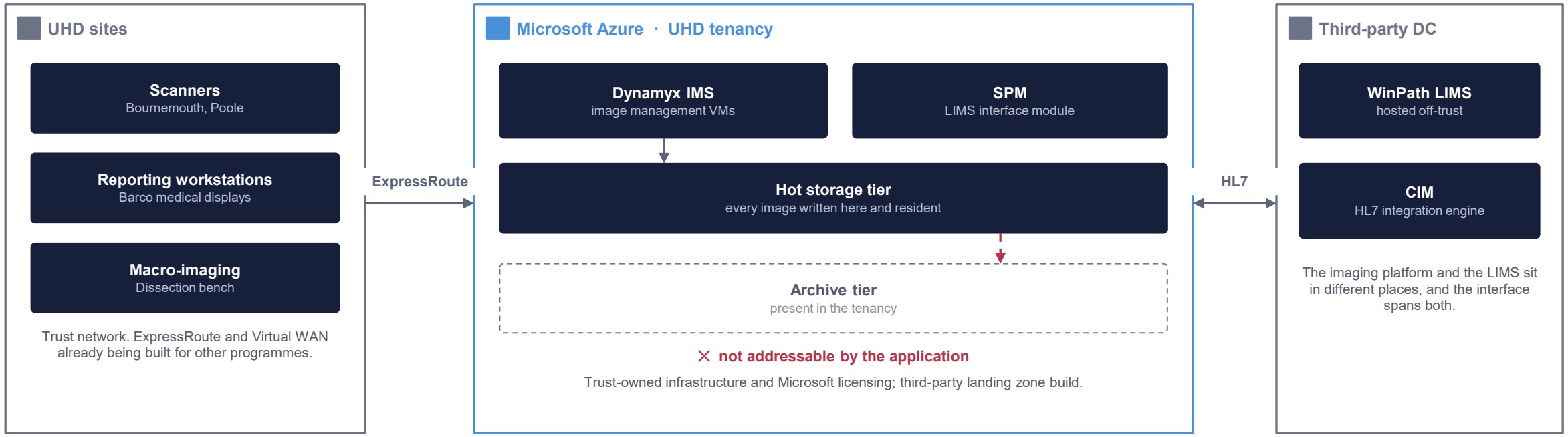

It worked. The pilot went live to UHD histology in 2022 and ran until early 2023. What it could not do was hold eight years of images at a price the service could afford.

Fujifilm high level technical design, One Dorset Pathology, v1.2, December 2022

Seven storage configurations, none of them viable

December 2022. Every option we could construct on the trust tenancy was engineered and tested against the requirements. Each one failed at least one of them.

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Storage configuration	Read performance	Lifecycle management	Capacity ceiling
Blob v1 presented over NFS	Good	**None**	Scales
Blob v2 presented over NFS	**Poor**	Yes	Scales
Azure Files, SMB share	Adequate	Scripting only	**100 TB**
Premium managed disk	Good	**None**	**32 TB**
Ultra managed disk	Good	**None**	**64 TB**
SMB plus Blob v2, dual presentation	Mixed	Third-party scripting	**100 TB live**
Native Blob REST API	n/a	Yes	**Not callable by the application**

The root cause

The image management product had no concept of a storage tier. Every image was written to hot storage and stayed there. Tiering could only be done outside the application, and rehydrating an archived image took up to fifteen hours — unusable in a diagnostic workflow.

This was a limitation of system architecture, not a defect in Azure. That distinction mattered to us, because it decided which supplier we took the problem to.

Requirement for year one alone was 399 TB, rising to 3.2 PB by year seven. At those volumes an untiered platform is not a cost problem. It is a stop.

One Dorset Pathology storage options appraisal, 12 December 2022; Microsoft draft options paper, January 2023; project board reports, December 2022 to February 2023. Monthly costs are omitted deliberately.

Three options, one set of requirements

March 2023. The project board asked for a price for an on-premise build, asked Microsoft for a workaround, and asked the supplier for the architecture of its own hosted product. This is how they compared.

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	Storage tiering	Capacity headroom	Who owns the infrastructure	Verdict
Stay on the trust Azure tenancy	Only outside the application	Hard ceilings at 32 to 100 TB	Trust, including licensing	Rejected — needs engineering the product does not support
Build on-premise	Achievable	Achievable, at capital cost	Trust, plus refresh and datacentre	Rejected — capital profile and local IT resource
Supplier-managed service on AWS	Native to the product	Contracted to 3.2 PB over seven years	Supplier; trust owns the connection	**Adopted — board decision, 8 March 2023**

Why the board went that way

- **Storage tiering worked natively.** The same product, on the supplier's own reference architecture, addressed hot and archive tiers as designed.
- **Cost moved from capital to revenue.** Storage, maintenance, licensing and AI sit inside one managed service on a fixed-cost footing.
- **Infrastructure responsibility moved.** The supplier took the platform. Local effort went to validation, adoption and the network instead.
- **There were reference sites.** Two English NHS trusts were already running the same architecture and could be visited.

One Dorset Pathology project board, 17 January and 8 March 2023

The AWS deployment · as deployed

A supplier-managed virtual private cloud in the London region. All image data resides in UK availability zones. The trust owns the connection into it, the validation on top of it, and nothing in between.

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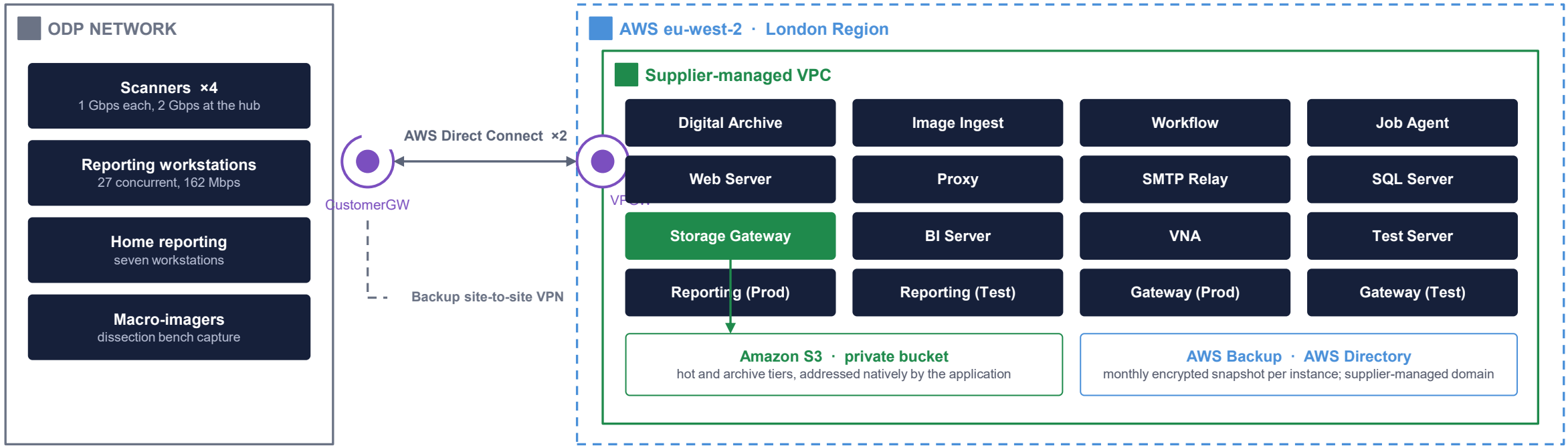

The most consequential line in this diagram is the one that is not a box: responsibility for everything inside the VPC moved to the supplier, and the trust kept the connection, the validation and the clinical risk.

Sixteen EC2 instances. Multi-availability-zone resilience is specified for the vendor-neutral archive only, not for the core platform.

FUJIFILM high level technical design, One Dorset Pathology, v2.4; One Dorset Pathology network diagram. Internal addressing, VPC and bucket identifiers, hostnames and the managed domain are omitted deliberately.

What runs on it, and what it holds

Named in full, because "we went digital" covers a lot of different decisions. Everything on the left is either live today or contracted and in build, and the slide says which.

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Live today

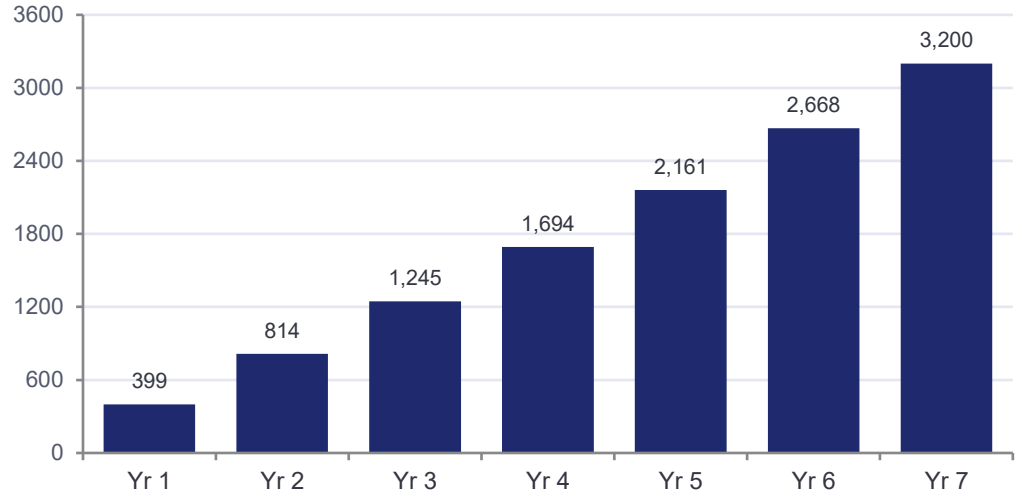
- **Synapse Pathology.** FUJIFILM cloud image management and viewing. Renamed from Dynamyx in September 2024.
- **Synapse Reporting.** Reporting opens inside the case, with templates, cancer datasets and SNOMED coding.
- **Synapse Business Intelligence.** Dashboards and alerting built directly on the platform database.
- **Synapse VNA.** FUJIFILM TeraMedica vendor-neutral archive, across multiple availability zones.
- **3D Histech scanners.** Two at the Bournemouth hub, one at Dorchester. DICOM output.
- **Menarini macro imagers.** Gross and macroscopic image capture at the dissection bench.

Contracted and in build — not in clinical use

- **IBEX Galen Breast and Prostate.** CE-marked clinical AI, integrating through the Synapse Gateway AI Orchestrator.
- **Source LDPath integration.** Two-way digital outsourcing. In current development.

Interfaced with Clinisys WinPath, Roche Vantage specimen tracking and the trust integration engine.

And what it holds



~1.5 GB
average whole-slide image

~300,000
images a year

8 years
retention, two UKAS cycles

A contracted projection, not measured consumption. Storage is the cost that compounds, and it was the hardest thing to move once it was in place.

FUJIFILM high level technical design, One Dorset Pathology: contracted storage projection based on tendered slide volumes and adoption rates. Not observed consumption.

Getting the data in and out

Whole-slide imaging is the heaviest imaging workload most laboratories will ever carry. The connection, not the cloud, is where the engineering effort went, and where nine months of delay came from.

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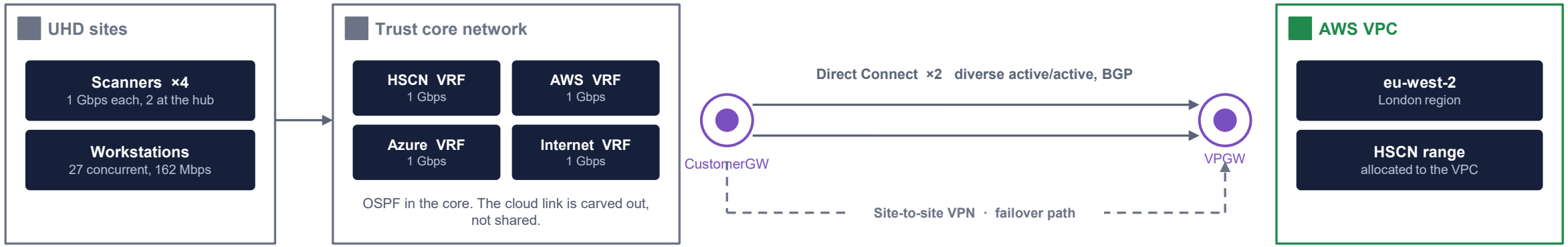

Bandwidth required	Ingest	Clients	Total
Royal Bournemouth (hub)	2 Gbps	162 Mbps	2.16 Gbps
Dorchester	1 Gbps	162 Mbps	1.16 Gbps

Latency	Viewing experience
0–25 ms	No pauses
25–250 ms	Pauses
Over 250 ms	Not usable

What we found the hard way

A failover test in January 2025 lost LIMS connectivity entirely. The cloud link failed over correctly; the LIMS connections were statically routed and did not follow it. Rebuilt on route-based VPN with dynamic routing.

Our failover design was correct on paper and still lost the LIMS in practice, because resilience had been built one connection at a time. We found that in a test rather than in service.

UHD AWS and Azure connectivity design and the FUJIFILM to UHD Direct Connect convergence diagram; One Dorset Pathology AWS resilience review, January 2025. Bandwidth assumes the current scanner and concurrent licence count.

How a case actually moves

Integration, not imaging, is where a digital pathology deployment is won or lost. Every link below is an interface that had to be specified, built, validated and clinically risk-assessed.

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Order in

WinPath LIMS request and demographics → **SPM** specimen processing module → **CIM** HL7 OML^O21 orders → **Mirth engine** inside the VPC → **Synapse** case created → **Roche Vantage** tracking, bi-directional

Images in

Scanners whole-slide images → **Direct Connect** 2 Gbps ingest → **Storage gateway** SMB presentation → **S3 bucket** tiered, eu-west-2 → **Image attached to the case**

Macro images and request forms take a separate route: trust TIE, then SFTP into the VPC, matched on case number.

AI

Synapse Gateway rules-based routing → **Scan quality control** focus, artefact → **IBEX Galen** breast and prostate, CE-marked → **Contracted and integrating — not in clinical use anywhere in our network**

Report out

Synapse Reporting voice recognition, datasets → **SNOMED coding** structured output → **LIMS and EPR** via the trust TIE → **COSD to NHSE** automated → **Cancer registry** Somerset → **Synapse VNA** shared image layer

The interface defects that cost us time were mundane and none of them were imaging: order messages missing block and slide detail, test format translation errors, and a patient with one NHS number under two hospital numbers being rejected outright.

Fujifilm high level technical design v2.4

What the hosted model actually buys us

Two years in, these are the things we would not have on a locally hosted build, each set against what it would have taken on-premise.

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Storage that has no ceiling

399 TB in year one to 3.2 PB in year seven, tiered natively, with no refresh cycle.

On-premise: an array procurement every few years, sized on a guess made before adoption is known.

A fixed-cost footing

Storage, maintenance, licensing and the AI modules sit inside one seven-year managed service.

On-premise: repeated capital bids, and a refresh cliff arriving whether or not there is capital that year.

Change without a local project

The supplier updates and optimises the platform directly. Our effort goes to validation and adoption.

On-premise: every upgrade is a local build, a change window and a share of a stretched IT department.

New modules land in the same place

Reporting, business intelligence, the AI gateway and the vendor-neutral archive arrived without new local hardware.

On-premise: each one is a server, a firewall rule, a backup policy and its own project.

AI that is not locked to one vendor

The gateway routes slides to AI applications on configurable rules rather than each tool being wired in on its own terms.

On-premise: a tool bought in three years becomes a pathway rebuild, and the field narrows to whoever will integrate.

Partners connect at the cloud edge

External organisations reach the platform where it lives, rather than through a bulk export across the trust firewall.

On-premise: sharing a case means moving gigabytes out of the building. The next slide is what this makes possible.

And the trade, stated plainly: a dependency on one supplier for the platform, and a hard dependency on the network. Data residency, backup and disaster recovery are contracted rather than controlled by us. Those are real, and they are the price of everything above.

Adoption and turnaround time

University Hospitals Dorset histology, monthly. Digital adoption is the thing we controlled; turnaround time is the thing we are trying to change, and it has not moved yet.

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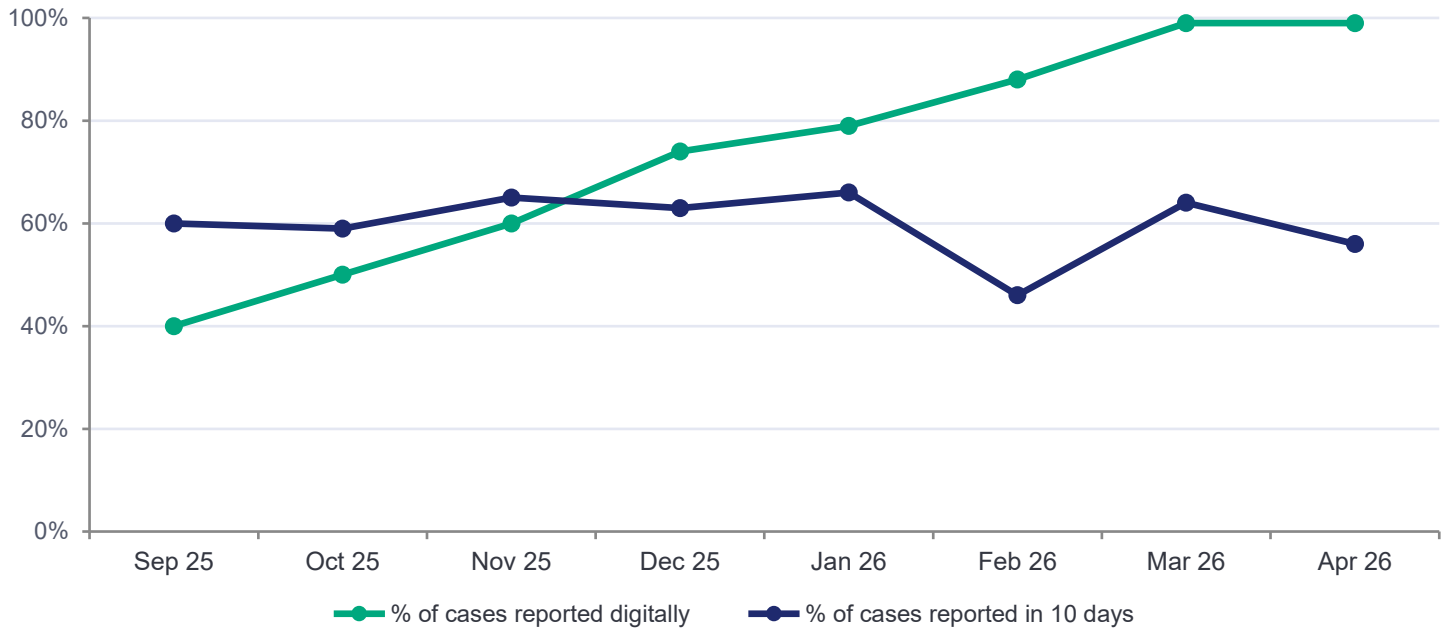

Adoption is done

40 per cent to 99 per cent in seven months and holding at 99 per cent through to July 2026. Platform and pathologist validation complete to RCPath guidance.

Turnaround time has not followed

February 2026 dipped to 46 per cent as reporting moved onto the new platform. June 2026 fell to 36 per cent, driven by a pathologist shortage across the quarter rather than by the system. Neither is a digital pathology effect, and neither is an improvement.

This is the honest position two years in. We can show that the platform was adopted; we cannot yet show that it moved turnaround times, and a service with a reporting workforce deficit was never going to see that effect quickly. Measuring it is what the business intelligence layer is for.

University Hospitals Dorset monthly service delivery reports, September 2025 to August 2026. February 2026 figures are the restated values. Some months are not reported and are omitted rather than interpolated.

Digital outsourcing to Source LDPath

A two-way integration with our external reporting provider: eight steps, structured messages in both directions, no paperwork. In build, not in clinical use.

University Hospitals Dorset NHS Foundation Trust

OUTBOUND the case goes out

1 Patient information
transferred from our LIMS to the platform

→ **2 Case assignment**
we assign the case to a Source LDPath pathologist, in Synapse and in the LIMS

→ **3 Automated request**
slide link, demographics, specimen, clinical and macroscopy details

→ **4 Automated checks**
demographics and image identifiers checked through to Halo AP at their end

→ **5 Automatic transcript**
everything transcribed into their LIMS from the initial message

→ **6 Reporting**
assigned to their reporting pathologist

INBOUND the report comes back

7 Reporting availability
final, supplementary and preliminary reports translated into a structured message

← **8 Into our LIMS**
translated back on our side and filed against the originating case

← **Filed against the case in Synapse and WinPath**
no manual intervention at either end

The image does not travel

What goes out is a link to the slide, not the file. The same pattern our AI integration uses, and the reason this is straightforward on a hosted platform.

Structured messages both ways

The same mechanism carries the request out and the report back, so nothing is retyped at either end.

The return leg does not exist today

At present an outsourced report comes back separately and is rekeyed into the laboratory system by hand.

One Dorset Pathology and Source LDPath integration design, September 2026. In current development and not in clinical use.

What we expect the outsourcing link to change

Earlier in this talk outsourcing was the problem. This is why we no longer see it that way, and what we will be measuring.

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Outsourcing in 2023/24

9,334 cases reported through locum, in-sourced and out-sourced routes. Twenty-two per cent of the year's work, bought on the spot market because we could not report it ourselves, and expensive to scale because every case moved as glass.

Outsourcing once the link is live

A route we can plan around rather than fall back on. Sending a case costs a click rather than a courier and a week, and the report returns into the case on its own.
A fully digital outsourcing workflow offers significant savings in admin time.
Once fully digital we are anticipating an average turnaround time of three working days for outsourced cases.

What that is worth, on our own volumes

Working days removed from each outsourced case	Case-days returned a year	Additional % of cases meeting 10-day TAT
1 day	9,334	2.5%
2 days	18,668	5.0%
3 days	28,002	7.5%

At 2023/24 volumes, applied to the 9,334 cases that went out.

And what it will not do

Outsourcing buys reporting capacity. It does nothing for the laboratory half of the pathway, and on our own numbers a good deal of our delay sits before a pathologist ever sees the case.

We are not expecting this to fix turnaround on its own, however, we do expect that it will significantly improve our situation.

For a department carrying a 7.5 WTE consultant deficit it cannot recruit out of, the difference between a stopgap and an operating model is whether the route is cheap enough to use deliberately. That is what we are building.

University Hospitals Dorset outsourcing, in-sourcing and locum activity 2023/24, reconciled to the general ledger and validated by the trust finance team. The case-days arithmetic is our own, on our own volumes.

What we learned, and what we would do differently

University Hospitals Dorset
NHS Foundation Trust

1 We asked the storage question too late

We settled where to host before establishing which tiers the imaging product could address, how rehydration was triggered and how long it took. That order cost us the best part of a year.

2 We modelled year one, not eight

Our early sizing was built on the first year of images. It is the retention period that determines the problem, and eight years of write-once objects is a different proposition from one.

3 Our failover was right on paper

Resilience had been built one connection at a time, so the design was correct and the test still lost the LIMS. We would test end to end from the start.

4 We underestimated integration

Imaging was the straightforward part. Order messages, identifiers, macro images and the route the report takes back are where the time actually went.

5 Validating off the live pathway worked

A pre-production environment turned RCPath validation from a blocker into a workstream. Clinical safety still took more resource than we had budgeted for.

6 Buying the data layer with the images was right

Without it we could not have measured any of this, and we did not want to be waiting on someone else's evidence to know whether our own service had improved.

Not one of the six was an imaging problem.

Where that leaves us

Dorset went digital because it was buying an increasing share of its own core reporting on the spot market, with a 7.5 WTE consultant deficit and no way to recruit out of it.

The architecture is a supplier-managed virtual private cloud, dual diverse private circuits, tiered object storage and an integration engine. The imaging was the straightforward part.

We built it first on the platform we already had, and it failed on storage tiering, which was a limitation of the imaging product rather than of the cloud. That cost us about a year.

Ninety-nine per cent of cases are reported digitally and validation is complete. Turnaround time has not yet moved, the benefits of digital are still unproven for us at present.

Questions

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CONVENZIS

Lunch & Networking

Chair Afternoon Address

Dr Bernie Croal
President
The Royal College of Pathologists

CONVENZIS

Case Study

Dedalus LIMS

Path360

16th September 2026

Path360 Scotland

Lessons Learned from a Pathology LIMS Implementation Project – Mark Hill

NHS Deep Dive

Dr Ian Godber
President
The Association for Laboratory Medicine

The Smart Laboratory: How Automation and AI Shape Our Future

Dr Ian Godber

President
The Association for Laboratory Medicine

Consultant Clinical Scientist
NHS Greater Glasgow and Clyde

Association for Laboratory Medicine

Health and Social Care Service Renewal Framework (2025) – What are the drivers

June 2025

Improving Access to Treatment in Scotland:

- tackling long waiting lists
- improving the patient experience
- delivering more appointments and procedures by using National Treatment Centres
- establishing "centres of excellence" for specific areas like cancer, ophthalmology, and orthopaedics.
- a focus on expanding services like "Hospital at Home," which provides acute care in a patient's own home

Service Renewal – What are the drivers

Shifting the Balance of Care

- **move services away from acute hospitals and into community-based settings.** This involves providing more support in local communities and homes and
- **strengthening primary care services, like general practice and community pharmacies**. The aim is to ensure that hospitals are reserved for the most acute and complex cases, while more routine care is delivered closer to home.

Service Renewal

The overarching goal is to enable people in live longer, healthier, and more fulfilling lives by shifting the focus of the health and social care system from reactive care to:

- **Proactive prevention**
- **Early intervention**

NHS England 10 Year Plan in comparison

July 2025

- Standardisation and interoperability across digital laboratory systems to achieve the ambitions for the NHS App and Health Companion
- Patient-facing diagnostic tools and empowering patients with better information
- Expansion of community-based phlebotomy and sample logistics to support care outside hospitals
- Sustainable investment needed to expand diagnostic services in line with future demand, enable innovation, and fund the preventative diagnostics critical to delivering Neighbourhood Health

What is the role of Diagnostics?

Key themes involving Diagnostics

- Patient led diagnostic strategies
- Point of Care Testing
- Patient Centric Sampling
- Digital Innovation
- Prevention
- Funding models
- Collaboration

Patient led diagnostic Strategies

The patient needs to be the focus of the investigation

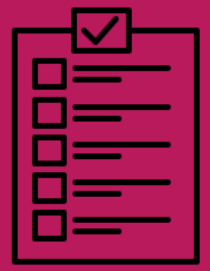
- Keeping patients out of hospital is key
- We need to be focusing on technologies to improve access to diagnostic tests

Examples

- Point of Care Testing (POCT)
- Patient Centric Sampling
- All require a robust digital infrastructure

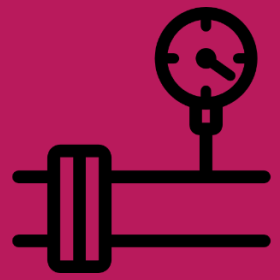
Digital Innovation

- Expanding video consultations and remote monitoring for long-term conditions.
- Laboratory Systems – require intra-operability through standard coding (SNOWMED-CT) and standardised practices
- Novel ways of working – Clinical Decision Support
- Artificial intelligence (AI) – how do we integrate, how do we monitor quality
- Personalised Healthcare – one size does not fit all
- Move to patient led monitoring –wearable technologies



Standardisation

- Required to underpin a robust digital infrastructure
- Test nomenclature
- Cut offs/Action Limits
- Understanding of variation
- Alerts
- Referral Guidelines
- How can we facilitate this Nationally?



Pressures

- Workforce
- Workload
- Turnaround time
- Quality of results and reports
- Access to results
- How might we improve and optimise our services?

Clinical Decision Support

- The concept of Clinical Decision Support (CDS) is a function of health information technology that provides timely information to help inform decisions about a patient's health and management
- A variety of tools, including alerts and reminders, clinical guidelines, condition-specific order sets, focused patient data reports and summaries, templates, diagnostic support, and contextually relevant reference information
- A tool designed to improve patient outcomes, enhance health care quality, avoid errors and adverse events, improve efficiency, reduce costs, and increase provider and patient satisfaction
- It is not intended to replace clinician judgment but rather to assist care team members in making timely, informed, higher-quality decision

Association for Laboratory Medicine

diagnostics

MDPI

Review

Intelligent Liver Function Testing (iLFT): An Intelligent Laboratory Approach to Identifying Chronic Liver Disease

Jennifer Nobes [1,2], Damien Leith [3,4], Sava Handjiev [1,4], John F. Dillon [3,4] and Ellie Dow [1,*]

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Abstract: The intelligent Liver Function Testing (iLFT) pathway is a novel, algorithm-based system which provides automated laboratory investigations and clinical feedback on abnormal liver function test (LFT) results from primary care. iLFT was introduced to NHS Tayside, Scotland, in August 2018 in response to vast numbers of abnormal LFTs, many of which were not appropriately investigated, coupled with rising mortality from chronic liver disease. Here, we outline the development and implementation of the iLFT pathway, considering the implications for the diagnostic laboratories, primary care services and specialist hepatology clinics. Additionally, we describe the utility, outcomes and evolution of iLFT, which was used over 11,000 times in its first three years alone. Finally, we will consider the future of iLFT and propose areas where similar 'intelligent' approaches could be used to add value to laboratory investigations.

Keywords: automation; algorithm; intelligent; liver function tests; chronic liver disease; diagnosis; management; referral; fibrosis; precision medicine; laboratory

check for updates

Citation: Nobes, J.; Leith, D.; Handjiev, S.; Dillon, J.F.; Dow, E. Intelligent Liver Function Testing (iLFT): An Intelligent Laboratory Approach to Identifying Chronic Liver Disease. *Diagnostics* **2024**, *14*, 960. https://doi.org/10.3390/diagnostics14090960

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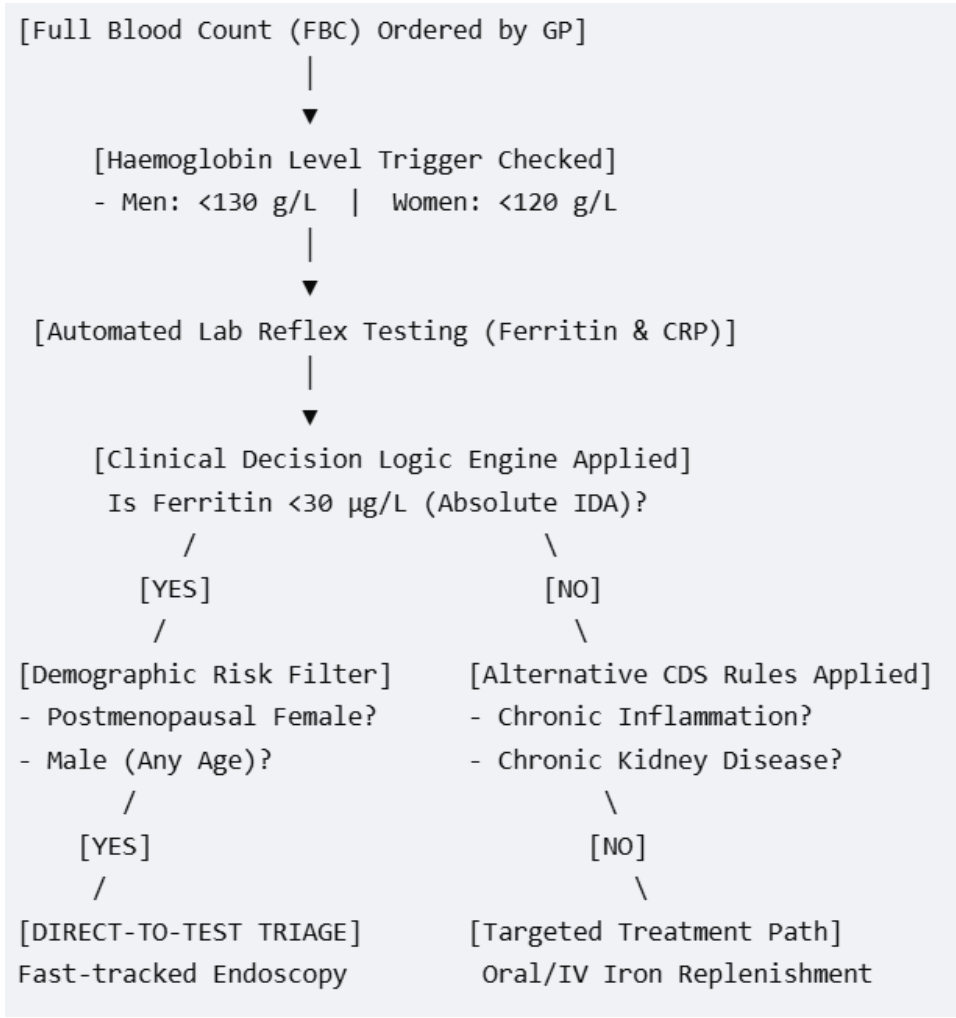
1. Introduction

Chronic liver disease (CLD) remains the only major disease area in which the rate of premature mortality (deaths in people under the age of 65 years) has not improved since 1970 [1]. Over 10,000 people die annually from CLD across the United Kingdom, with half of the deaths occurring between 45 and 64 years of age [2], and liver disease is now the second leading cause of years of working life lost in Europe [3]. Globally, over 2 million deaths per year are attributed to CLD (liver cirrhosis, viral hepatitis and liver cancers) [4]. Furthermore, despite the advent of some notable breakthroughs, such as the introduction of highly effective direct-acting antivirals in the treatment of viral hepatitis C [5], current projections are for CLD to become an even greater global health challenge. The prevalence of cirrhosis will continue to increase [6], largely driven by the global increase in metabolic dysfunction-associated steatotic liver disease (MASLD) [7,8], which currently affects over one in three adults and one in ten children globally [9]. Linked to the increasing prevalence of cirrhosis, the incidence of primary liver cancer is also rising rapidly, with projections indicating that there will be around 9700 diagnoses per year by 2040 in the UK. With an average five-year survival of just 13%, this represents a significant national health concern [10]. Globally, the number of new cases and deaths from liver cancer per year is predicted to increase by over 55% by 2040, compared to 2020 [11]. In this context, cost-effective approaches to identify CLD early are essential.

However, challenges exist in identifying CLD. Conventional liver blood tests—commonly referred to by the misnomer 'liver function tests' (LFTs) in the UK—are requested ever more commonly [12], but, in isolation, these routine tests lack sufficient sensitivity and specificity to ensure the early diagnosis of liver disease [3,12]. Furthermore, even when abnormal LFTs are identified, they are often inadequately followed up, without further aetiological



Clinical Decision Support

- Data Capture – Clinical Conditions
- Data Capture – Drug therapies (HEPMA)
- Configure Order Comms systems e.g. ICE
- Automated decisions
- Intelligent Requesting and Cascade Testing
- Automated Commenting and Alerting
- Demand Optimisation – rules based on time, clinical parameters and previous investigations
- Appropriate use of tests – Right Test, at the Right Time
- Efficient use of resources – Sustainability and improved patient experiences

Clinical Decision Support

Look at profiles

- Initial tests a “bare minimum”
- Cascade based on results – e.g. urea with a raised creatinine, AST with a raised ALT
- ? Symptom based requesting

Blocking tests

- Minimum retest intervals
- Adding intelligence – previously abnormal results, improving results, locations, consultants

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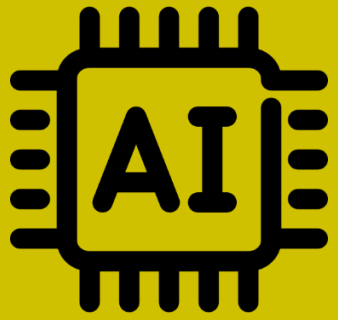
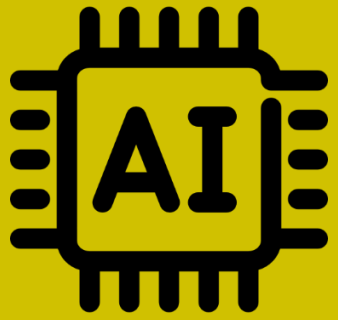
- Shared decision making
- Personalised approach to health
- Reduce harm and waste
- Reduce unwarranted variation
- Manging risk better
- Become improvers and innovators



Artificial Intelligence

- Inclusion of learned behaviour in algorithms
- Examples including predicting disease based on set parameters
- AI algorithms combined with troponin results enhance the rapid diagnosis and exclusion of MI by interpreting biomarker levels alongside clinical data to improve speed and accuracy over traditional, rule-based pathways. Models like CoDE-ACS and ARTEMIS use machine learning to provide a probability score, significantly reducing the time needed to rule out heart attacks in patients with chest pain
- Wearable technologies – e.g. Oura ring. Not for diagnosis - FDA



Artificial Intelligence

- Who owns the data?
- How is data shared
- Local v Cloud based Research
- Cost – currently increased use and immature infrastructure leads to increased cost
- From a QC perspective, this is an ever-changing evolving data set – how do you QC the outcomes it generates

Barriers

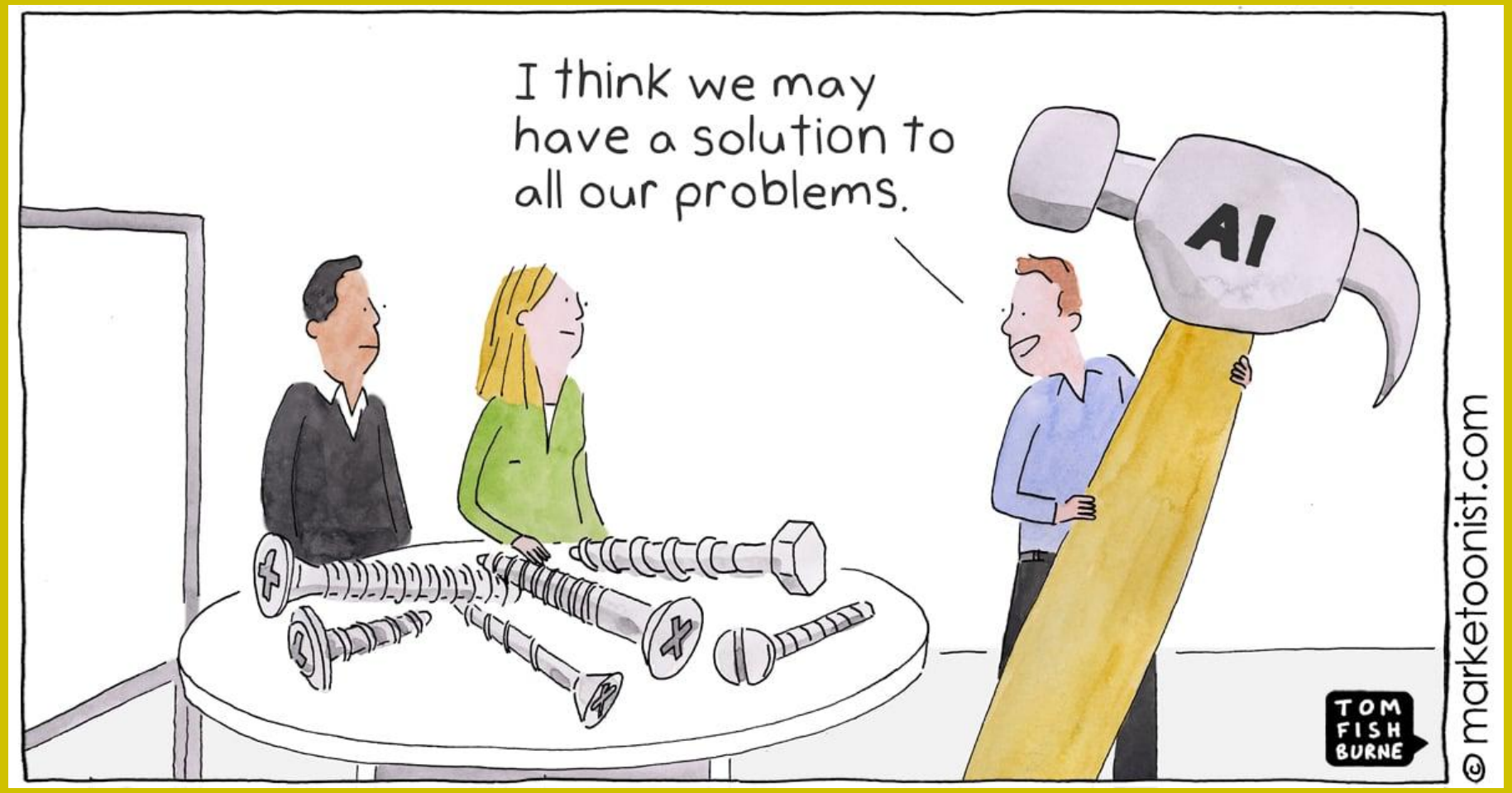
Why aren't we doing this?

- Aging systems – LIMS systems, changing uses
- Lack of integration – Lab and Clinical Systems
- Lack of standardisation in coding
- Lack of agreement on processes
- Incomplete data sets for trend analysis – Health status
- Testing and evaluation – appropriate demographic, fairness, bias
- Requirement for Accreditation – MHRA/UKAS
- QA/QC – data sets are not static

Moving to an Intelligent, Preventative Strategy

- **Prevention First** approach - prevent illness and proactively meeting their needs.
- This approach aims to not only improve individual well-being but also reduce the long-term financial pressure on public services.
- From a diagnostics viewpoint we need to integrate to form diagnostic pathways based on disease e.g. Heart Failure which should be identified in Primary Care
- We need to embrace technology and shift our way of thinking
- Ensure the **appropriate** investigations are carried out in the correct patients at the **earliest possible time**
- Can self monitoring help?

We have the tools; how can we use them correctly



Keynote Presentation

Dr Angela Burns
Principal Clinical Scientist
NHSGGC

NHS Deep Dive

Nicola Williams
Consultant Clinical Scientist
Public Services Delivery Scotland

Public Services Delivery
Scotland

NHS SCOTLAND

Genomics and Population Health: Future Approaches for Scotland

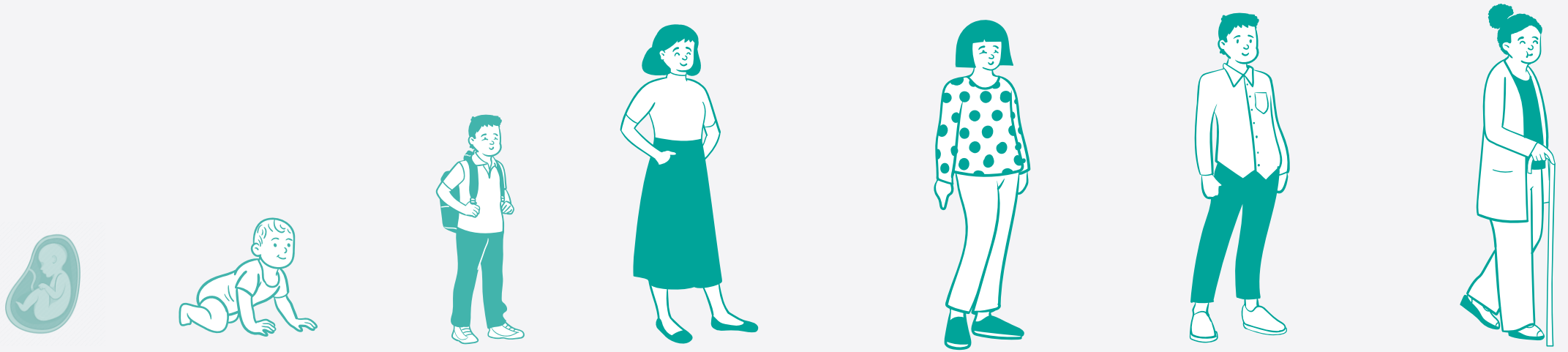
Nicola Williams,
Consultant Clinical Scientist,
Scottish Strategic Network
for Genomic Medicine (SSNGM)

Introduction

1. Why genomics matters to population health
2. Scotland’s current genomics landscape
3. Emerging opportunities
4. Challenges and considerations
5. Future approaches for Scotland
6. Vision for 2035

Why Genomics Matters for Population Health

By 2035, genomics is predicted to be part of over 50% of all healthcare episodes and used across a patient's lifetime



- Non-invasive pre-natal diagnosis
- Sequencing newborns for genetic conditions Rapid WGS for NICU/ PICU
- Early diagnosis and intervention for childhood onset genetic conditions
- Early identification of adults at high risk e.g. inherited cancer/ cardiovascular disease
- Avoid adverse drug reactions e.g. in stroke care/better tailored medicine dosing based on genetic risk profile (PGx)
- Early diagnosis, tailored treatment and improved monitoring for cancer
- Identification of adults at high risk of developing conditions more common in later life e.g. dementia

Moving from sickness to prevention

Image courtesy of Professor Sandi Deans, NHS England Genomics Unit

A population health approach

- Moving from reactive care to prevention – from a ‘one size fits all’ approach to targeted prevention with earlier identification of individuals and communities at increased risk.
- More precise targeting of prevention and screening programmes.
- Better allocation of healthcare resources through precision medicine – the right test, for the right patient, at the right time.
- Reduced health inequalities through proactive intervention.
- Improved outcomes across the life course, and better understanding of the impact on common and rare diseases, and cancer.

Scotland’s Current Genomics Landscape

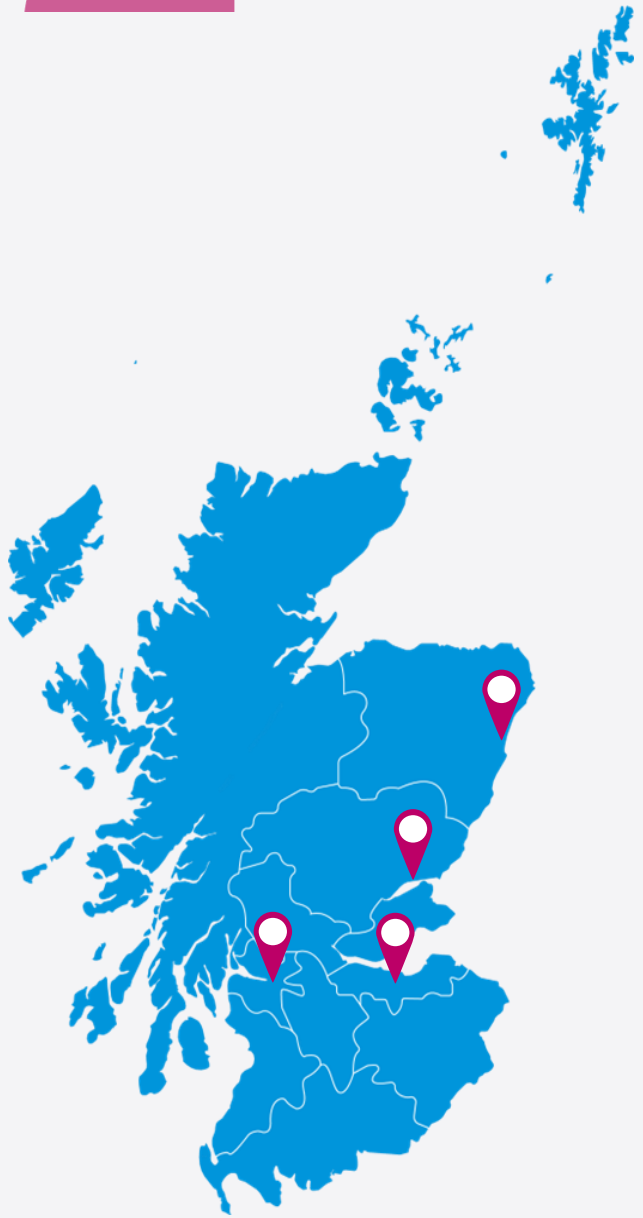
NHS Scotland

Established infrastructure with 4 regional Genomic Centres

- NHS Greater Glasgow and Clyde, NHS Lothian, NHS Grampian and NHS Tayside.
- Deliver comprehensive genomic testing to the patient of Scotland for Cancer, and Rare and Inherited Disease.

Public Services Delivery Scotland

- Scottish Strategic Network for Genomics Medicine (SSNGM).
- National Service Directorate (NSD) – commissioning of the genomic laboratories.
- National Digital Platform (NDP) – new data and digital infrastructure.



NHS SCOTLAND

Healthier Scotland
Scottish Government

Research and Innovation

Key partner organisation

- Universities across Scotland.
- Data and digital infrastructure.
- Public Health Scotland.
- Third sector organisations.
- Industry.

University of Dundee

1495 University of Aberdeen

Research Data Scotland

epcc

Public Health Scotland

Cancer Research UK Scotland Centre

The University of Edinburgh

University of Glasgow

Emerging Opportunities

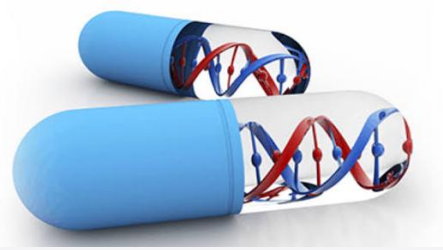
Population Genomics Screening Programmes

Genomics England Generation Study

- Whole genome sequencing of 100k babies, targeted to ~200 conditions.
- Early detection/ intervention, genomic data available for life.
- Could replace newborn bloodspot screening programme.

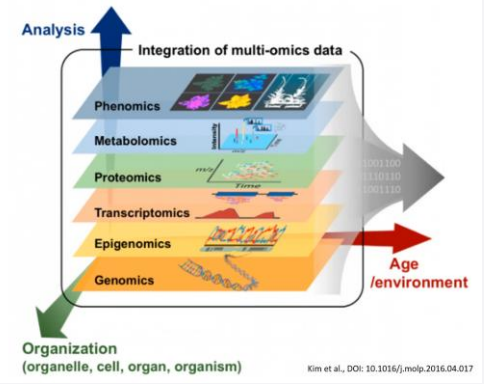
Pharmacogenomics

- Determines how genetic make-up affects response to medicine.
- Affect many areas of health – oncology, cardiovascular, psychiatry.
- Reactive or pre-emptive testing – significant barriers to at scale implementation.



Future Considerations

- Polygenic risk scores – stratification of populations into different risk categories.
- Multimodal OMICS – combining various types of biological data to help treat illness.
- Artificial Intelligence and genomic analytics – to accelerate precision medicine.



Challenges and Considerations

Key priorities

Implementation at scale

- ✓ Large growth in testing predicted with population level genomics.
- ✓ National coordination and sustainable funding model, health economics.

Ethics, governance and data stewardship

- ✓ Ensuring data is safe and secure with appropriate sharing of data for research to benefit citizens.

Public engagement and trust

- ✓ Putting citizens at the heart of our decisions through informed consent and transparent communication.

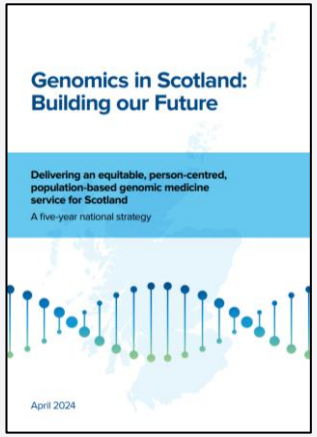
Workforce and capacity

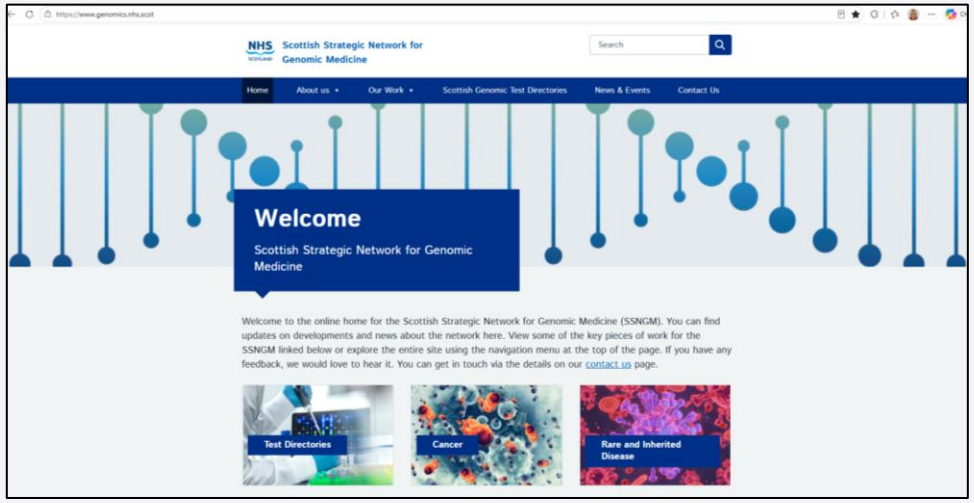
- ✓ Within genomic service but also across almost all clinical specialities ensuring increased genomics literacy.
- ✓ New multi-disciplinary teams capable of interpreting complex genomic data with clinical information.

Future Approaches for Scotland

Preparing for the future

- National coordination and policy.
- SSNGM and National Test Directory.
- Horizon scanning and innovation pathways.
- Integration with population health planning.
- Creating a sustainable genomic ecosystem – Triple Helix.
- Genomic Laboratories service redesign .





Vision for 2035

Scotland’s Genomic Medicine Strategy

Establish an equitable, person-centred and rights-based genomic medicine service that can improve health outcomes for people in Scotland and better enable us to use genomic information to support disease prevention and early detection.

- ✓ Put in place solid foundations, the building blocks that pave the way.
- ✓ Prevention-led healthcare.
- ✓ Personalised and equitable services.
- ✓ Improved population outcomes through genomic medicine.

Genomics has the potential to transform Scotland's approach to population health, shifting the focus from treating disease to predicting, preventing, and personalising care across the life course while supporting equitable and sustainable healthcare delivery.

This resource may be made available, in full or summary form, in alternative formats and community languages. Please contact us on **0131 275 6000** or email **altformats@nhs.scot** to discuss how we can best meet your requirements.

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