WEST YORKSHIRE & HARROGATE PATHOLOGY NETWORK STRATEGY

Executive Summary

1. Aspiration

Pathology consolidation is a national agenda, developed from the two Carter reviews in 2008 and 2016, and forming an NHSI programme in 2017. Across WYAAT, we are committed to working together in West Yorkshire & Harrogate (WY&H) as a pathology network, to deliver high quality, efficient and effective services to our population. We recognise that consolidation is an important factor in the delivery an effective service.

Pathology in WY&H delivers approximately 50 million tests from 12 laboratories. It employs almost 1200 staff (WTE) and has a turnover of £92m per year. We have experience of consolidation already within the network, with the formation of a joint venture between Airedale NHS Foundation Trust and Bradford Teaching Hospitals NHS Foundation Trust, with Harrogate & District NHS Foundation Trust joining on 1 October 2019. Alongside this, WYAAT has enabled some small-scale consolidation e.g. immunology testing to LTHT.

Creating a single network from our current service configuration will be complex however, there are significant benefits to be achieved including:

- Sustainable workforce model with greater opportunities for career development
- Improved patient and user / clinician experience
- Efficient, high quality accredited services
- Sustainable and resilient service

The scale of our ambition has been recognised through capital allocations to the network, with £12million to support the implementation of a single LIMS, which will allow us to operate effectively as a network and £27million to provide a new state of the art purpose-built laboratory at St James's University Hospital.

Consolidation is a journey which may take us a number of years. This document outlines the aspiration to deliver a consolidated service across the region, based on current data and assumptions. Consolidation will take place in several stages, for example:

- Within an organisation (e.g. LTHT consolidation across LGI and SJUH)
- Within a provider entity (e.g. HDFT joining the Joint Venture)
- Between laboratories across different organisations (e.g. CHFT microbiology testing to an alternative laboratory, to support its hospital reconfiguration plans).

At each stage, we will revisit our assumptions and potential benefits, and develop a full business case, to ensure that our plans are still clinically and financially viable.

There is commitment amongst all organisations to this process which will assess consolidation against a series of 'gateways' defining quality, performance and efficiency criteria, alongside an economic assessment of viability, which must be met before any movement of services takes place. We will only consolidate where there is evidence that this is the right thing to do and will result in a better service than that delivered now.

To support the achievement of our aspiration, we will work together

as a single network, within the legal and commercial constraints of the organisations in the network.

2. Recommendations

The recommendations of the Pathology Programme Board are for the WYAAT Committee in Common to:

A. Note the content and outcomes of the analysis to determine potential models for laboratory configuration across the network
B. Approve the proposed configuration for blood sciences, with an AHL at every hospital site, and three hub sites at Airedale General Hospital (AGH), Pinderfields General Hospital (PGH) and the new laboratory at St James's University Hospital (SJUH).
C. Approve consolidation of microbiology testing from the existing five laboratories to no more than two sites.
D. Agree that, based on the current modelling, a single microbiology hub offers the greatest benefits for the network but that this will continue to be reviewed and tested through a full business case, with updated assumptions, following the implementation of earlier stages of consolidation. Recognising that as the specialist reference centre, the SJUH laboratory would be the identified site for a single microbiology hub. As such, this forms part of the LTHT baseline planning assumption in the SJUH laboratory OBC, to consolidate laboratory services in the new facility.
E. Approve the commencement of a review of the clinical model for microbiology to support a consolidated laboratory model.
F. Approve the approach to implementation through a series of gateways to ensure that performance, efficiency and quality are of the required standard before any test activity will be consolidated
G. Approve the principle that the cellular pathology laboratory configuration should remain within the current configuration until the impact of other initiatives is understood
H. Approve the development of a clinical strategy for cellular pathology
I. Approve the approach that each stage of consolidation will be subject to a business case assessment, revisiting assumptions and considering the financial viability due to any stranded costs or commercial considerations, and approve the commencement of this detailed planning process
J. Approve the commercial and management model and commencement of a process to develop a Full Business Case (FBC) for the organisational and management structure of the network including:
    a. Establishment of a second pathology provider entity alongside the existing IPS joint venture
    b. Establishment of a partnership agreement between the two commercial entities in the network
    c. Agreement of a clear risk and gain share model for the WYAAT Trusts in the network
    d. Establishment of a Pathology Collaboration Board, and support earlier establishment in shadow form
    e. Establishment of a Clinical Oversight Group and an Operational Oversight Group and support earlier establishment in shadow form.

3. Strategic Case

In addition to the national drive from NHS Improvement to consolidate

pathology services into 29 networks based on the findings of the two Carter Reports (in 2008 and 2016 respectively). We see many of the national drivers reflected in West Yorkshire & Harrogate (WY&H) across our current service operations, including:

- **Workforce sustainability -** ageing workforce, staff shortages, inability to support development of new roles at an individual laboratory level, limits to current operating hours in disciplines outside of blood sciences and evolving user requirements in this area.
- **Variation in efficiency –** significant variation in productivity levels and turnaround times across laboratories
- **Variation in cost and price** – significant variation in price per test across laboratories
- **Technology** – benefits of automation cannot be fully achieved without sufficient volumes of tests, significant expenditure on MSCs, with potential to increase buying power through a network approach
- **Estates** – estate utilisation is not currently optimised
- **Quality requirements** - not all laboratories are currently fully accredited for all disciplines by UKAS and other quality organisations
- **Demand** – demand across WY&H for pathology testing is rising by approximately 3% per year, pressures to reduce or maintain turnaround times to support patient flow and earlier cancer diagnosis
- **Cost** – NHSI has identified the potential of the network to achieve cost savings of £8m per year.

4. Economic Case

4.1. Blood sciences and Microbiology Configuration

In order to determine a preferred laboratory configuration, analysis was undertaken on a series of options to indicate which of the options offered the most benefit to the network.

Recognising the urgent and acute needs, an Acute Hospital Laboratory has been retained on every site in the development of all laboratory configuration options. Some AHLs will also perform direct access tests to maintain an efficient volume to maximise productivity. All other routine samples will be sent to a hub site for processing.

4.2. Long-list analysis

A long-list of 18 potential configuration options was generated, building on the case for change, the premise that SJUH would continue to act as the specialist / reference laboratory for the region and therefore also as a routine processing hub, and identification of which sites could act as hubs for each discipline.

The 18 options long-listed for blood sciences and microbiology were subjected to several criteria to create a shortlist. These included:

- The need for AGH to be a hub site given the recent formation of the JV, which if not a hub would result in unacceptable commercial losses
- The need for PGH to be a hub site given the laboratory is in a purpose built PFI facility, which if repurposed to an AHL, would result in significant costs.
- A recognition that as technology is evolving, departmental boundaries are changing and therefore department adjacency between microbiology and blood sciences was most desirable

- The CHFT reconfiguration would mean that the CRH site would be most suitable for a blood sciences hub, rather than a microbiology hub. Due to the reconfiguration plans, HRI would operate as an AHL, not a hub.

From this, six shortlisted options were generated for analysis against a set of criteria developed by pathology clinicians and managers and supported by staff engagement sessions which resulted in new criteria being included, and weightings applied to reflect feedback from staff teams.

4.3. Short-list analysis

In addition to the agreed six options, two further options were modelled for scenario E x C (BS: SJUH, AGH and PGH, M: SJUH, AGH) to represent alternative flows of tests. E x C (iv) aligns distribution of tests within the IPS JV commercial model (from HDH to AGH). E x C (iii) routes microbiology tests from CRH to AGH in order that the laboratory can achieve 1 million tests, and the associated benefits.

A series of workshops were held to develop the scoring, which evolved through feedback from the pathology collaboration group, individual trust management teams, and from the pathology programme board.

The outcome of the scoring is outlined in Table 1 below. Each rating was allocated a corresponding score from 0 to 4:

Table 1: Summary scoring table

EVALUATION		A/B BS: SJUH, AGH M: SJUH, PGH	B/C BS: SJUH, PGH M: SJUH, AGH	D/B BS: SJUH, AGH, CRH M: SJUH, PGH	E/A BS: SJUH, AGH, PGH M: SJUH	E/B BS: SJUH, AGH, PGH M: SJUH, PGH	E/C BS: SJUH, AGH, PGH M: SJUH, AGH	E/C (vi) BS: SJUH, AGH, PGH M: SJUH, PGH	E/C (iii) BS: SJUH, AGH, PGH M: SJUH, AGH
Quality	Clinical Effectiveness	Neutral/ Positive	Neutral	Neutral/ Positive	Positive	Neutral/ Positive	Neutral	Neutral	Neutral/ Positive
	Safety	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral
	Resilience	Neutral	Neutral	Neutral	Negative	Neutral	Neutral	Neutral	Neutral
	Patient Experience	Neutral	Neutral	Neutral	Positive	Neutral / Pos.	Neutral	Neutral	Neutral / Pos.
Workforce	Workforce	Negative	Neutral / Neg.	Neutral	Neutral	Neutral	Positive	Neutral / Positive	Neutral
Ops.	Standardisation	Neutral	Neutral	Neutral	Positive	Neutral	Neutral	Neutral	Neutral
	Technology	Neutral	Neutral/ Neg.	Neutral	Neutral/ Pos.	Neutral	Neutral/ Neg.	Neutral / Neg.	Neutral
	Estates	Neutral/ Neg	Positive	Neutral	Positive	Neutral	Neutral	Neutral / Neg	Negative
	Logistics	Negative	Neutral	Neutral / Pos.	Positive	Neutral / Pos.	Neutral / Pos.	Neutral / Neg.	Neutral / Neg.
	Environment	Negative	Neutral	Neutral / Pos.	Positive	Neutral / Pos.	Neutral / Pos.	Neutral / Neg	Neutral / Neg.

Finance	Affordability	Neutral	Neutral / Pos.	Neutral	Neutral / Pos.	Neutral / Pos.	Neutral	Neutral	Negative.
	Value for money	Neutral/ Neg.	Negative	Neutral / Pos.	Positive	Neutral / Pos.	Neutral	Neutral	Neutral / Pos.
Achievability		Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral

Each criterion was assigned a previously agreed weighting, the outcome application of this weighting is outlined in Table 2 below:

Table 2: Summary scoring table (weighted)

Criteria	Sub-Criteria	Weight	AxB	BxC	DxB	ExA	ExB	ExC	ExC iii	ExC iv
Quality	Clinical Effectiveness	9%	**0.27**	**0.18**	**0.27**	**0.36**	**0.27**	**0.18**	**0.18**	**0.27**
	Safety	6%	**0.12**	**0.12**	**0.12**	**0.12**	**0.12**	**0.12**	**0.12**	**0.12**
	Resilience	6%	**0.12**	**0.12**	**0.12**	**0**	**0.12**	**0.12**	**0.12**	**0.12**
	Patient Experience	9%	**0.18**	**0.18**	**0.18**	**0.36**	**0.27**	**0.18**	**0.18**	**0.27**
Workforce	Workforce	20%	**0**	**0.2**	**0.4**	**0.4**	**0.4**	**0.8**	**0.6**	**0.4**
Operations	Standardisation	2%	**0.04**	**0.04**	**0.04**	**0.08**	**0.04**	**0.04**	**0.04**	**0.04**
	Technology	2%	**0.04**	**0.02**	**0.04**	**0.06**	**0.04**	**0.02**	**0.02**	**0.04**
	Estates	2%	**0.02**	**0.08**	**0.04**	**0.08**	**0.04**	**0.04**	**0.02**	**0**
	Logistics	2%	**0**	**0.04**	**0.06**	**0.08**	**0.06**	**0.06**	**0.02**	**0.02**
	Environment	2%	**0**	**0.04**	**0.06**	**0.08**	**0.06**	**0.06**	**0.02**	**0.02**
Finance	Affordability	10%	**0.2**	**0.3**	**0.2**	**0.3**	**0.3**	**0.2**	**0.2**	**0**
	Value for Money	10%	**0.1**	**0**	**0.3**	**0.4**	**0.3**	**0.2**	**0.2**	**0.3**
Achievability	Achievability	20%	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**
Weighted Score			**1.49**	**1.72**	**2.23**	**2.72**	**2.42**	**2.42**	**2.12**	**2.00**
Ranking			**8**	**7**	**4**	**1**	**2**	**2**	**5**	**6**

Based on this analysis, option ExA, with three Blood Sciences centres at SJUH, AGH and PGH and a single Microbiology laboratory at SJUH is the highest scoring

scenario. ExB and ExC both have the same weighted score in joint second. The scoring suggests that option ExA (when fully implemented) offers the most benefit to the network, when all criteria are collectively considered.

4.4. Cellular Pathology

For cellular pathology, consolidation into one or three hubs was considered, alongside maintaining the current configuration of five hubs. It was felt in the workshops that there were several initiatives in development and implementation, including auto-sectioning and digital pathology, which would have a significant impact on the discipline. The recommendation was made to maintain the current laboratory configuration of five hubs in the medium-term while the impact of these initiatives is better understood and seek benefits through standardisation and improved productivity across the network.

5. Pathology Programme Board recommendations

The pathology programme board considered the outputs of the analysis and agreed the following:

Blood Sciences:

- Board recognised the three-hub model for blood sciences as the highest scoring option and the preferred model for laboratory configuration for this discipline.
- Board supported the following hub sites to support geographical spread and 6-hour TAT:
  - Airedale General Hospital;
  - St James University Hospital new build laboratory;
  - Pinderfields General Hospital; and
  - A single specialist / reference centre at the SJUH new build laboratory
- Board supported the gateway approach to implementation and identified this as fundamental to successful implementation.

Microbiology:

- Board supported consolidation of microbiology into fewer sites than the current configuration.
- Board recognised that the analysis, applying current assumptions, demonstrated that a single microbiology hub offered the most benefit to the network. However, given the longevity of the implementation process and potential changes in population, demand, workforce and technology over that period, the Board agreed these assumptions would need to be reviewed and tested as part of a full business case to assess the quality and economic case for consolidation to a single laboratory.
- Board supported the proposal for SJUH to act as the specialist reference centre for microbiology and therefore will be a hub for routine processing in all options, including a single site option.
- Board supported the gateway approach to implementation and identified this as fundamental to successful implementation.

Cellular Pathology:

- Board supported the proposal to maintain the current laboratory configuration in the medium-term whilst the implementation of key initiatives is taking place, recognising efficiencies would be expected as part of this process.
- Board supported the proposal to create a clinical vision and strategy for cellular pathology to support identification of a future service configuration.

6. Financial Case

The assessment of the financial impact has been modelled for the three highest scoring options within the analysis. This takes into account:

- Estimated pay cost change in each option (as undertaken in the analysis of the shortlisted options)
- Non-pay savings at 15% (in all options) as a result of greater buying power as a network
- Logistics costs (based on an average cost per driver and vehicle)
- Transitional costs to support implementation
- Estate costs (excluding SJUH which is subject to a separate business case process)

Redundancy costs have not been considered. It is anticipated that the consolidation can be managed without any redundancies required, based on the experience of other networks, and the longevity of the implementation period.

Table 3 below summarises the estimated 10-year savings per option as well as the NPV savings using a discount factor of 3.5%.

Table 3: Summarised 10-year savings (Capex, transitional cost, pay and non-pay included)

All Costs Over 10 years	As-Is (£ 000s)	Option (£ 000s)	10-year Savings (£ 000s)	% Savings	NPV Savings (£ 000s) (Discount Factor @ 3.5%)
Option BS – E and Mic – A	1,138,701	1,057,667	81,034	7.1%	62,644
Option BS – E and Mic – B	1,138,701	1,059,764	78,938	6.9%	61,000
Option BS – E and Mic – C	1,138,701	1,062,275	76,427	6.7%	59,017

The table indicates that Option BS – E and Mic – A will yield the highest NPV savings over a 10-year period, with a saving of £62.644 mil. Refer to Appendix I for detailed financial modelled figures.

Since the NHS Improvement targets did not consider the implementation timeline and cost, it is not possible to directly compare the 10-year savings opportunity with the published targets. However, when considering the changes in annual cost post implementation, the comparable annual savings of between £9,615,000 and £10,152,000 can be achieved in these models range between 108% and 114% of the £8,878,000 target set in the revised 2018 ‘state of the nation’ report.

7. Commercial Case

7.1. Proposed commercial structure

The most effective way in which to come together as a single network across WY&H is through a single entity. However, the current commercial and legal entities in place in the network constrain this. As MYHT and LTHT are not Foundation Trusts, these organisations cannot join the existing joint venture. CHFT could join the joint venture, subject to agreement of its Trust Board and the IPS Board.

Given the above models, constraints and outcomes of the discussions held with Trusts, an initial option to explore further would be to consider establishing two organisations with a collaboration agreement between them:

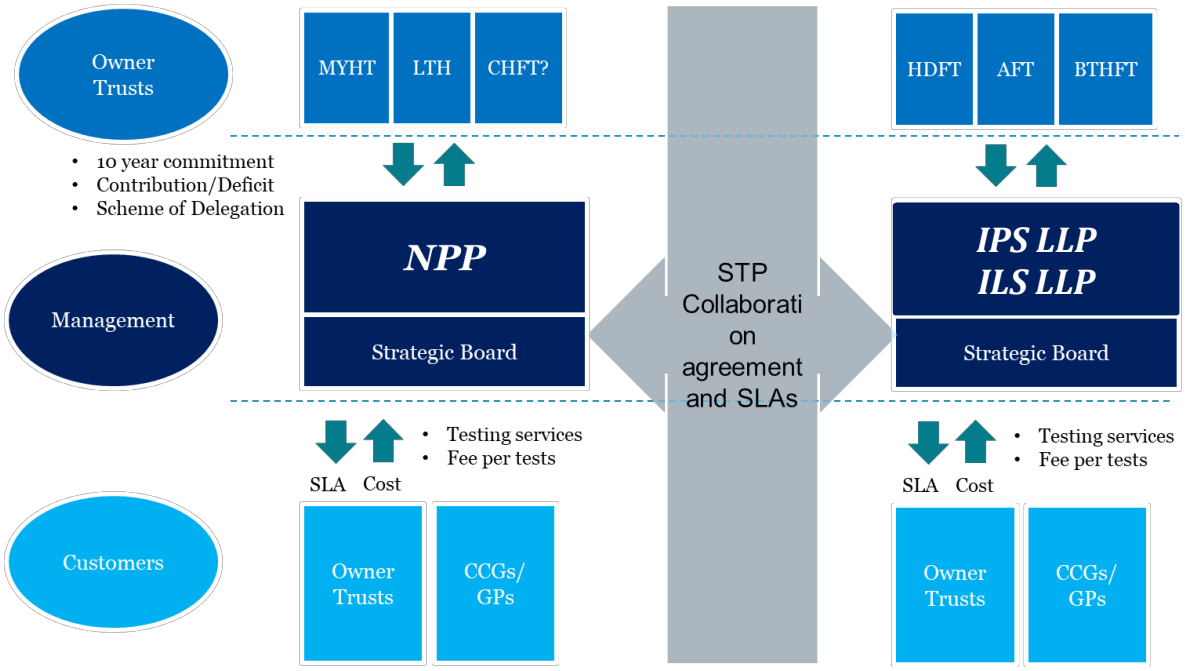
I. IPS LLP: Already established and providing full pathology services to HDFT, AFT and BTHFT*;
II. Hosted Arm's length organisation or contractual joint venture to provided full pathology services to founding members*, LTHT and MYHT.

*CHFT as a foundation trust would have the option to join either entity.;

III. Collaboration agreement with clear joined governance, protocols and principles to identify collaboration and management areas that would benefit the network; and
IV. SLA agreement between the two organisations for the provision of services such as:
    a. Access to the current MES at IPS LLP to benefit from pricing;
    b. Joint IMT LIMS procurement;
    c. Consolidation of tests to a single SnomedCT repertoire;
    d. Consolidation of specialist services at best value for money location;

The initial partnership network model may be structured as in Figure 1 below:

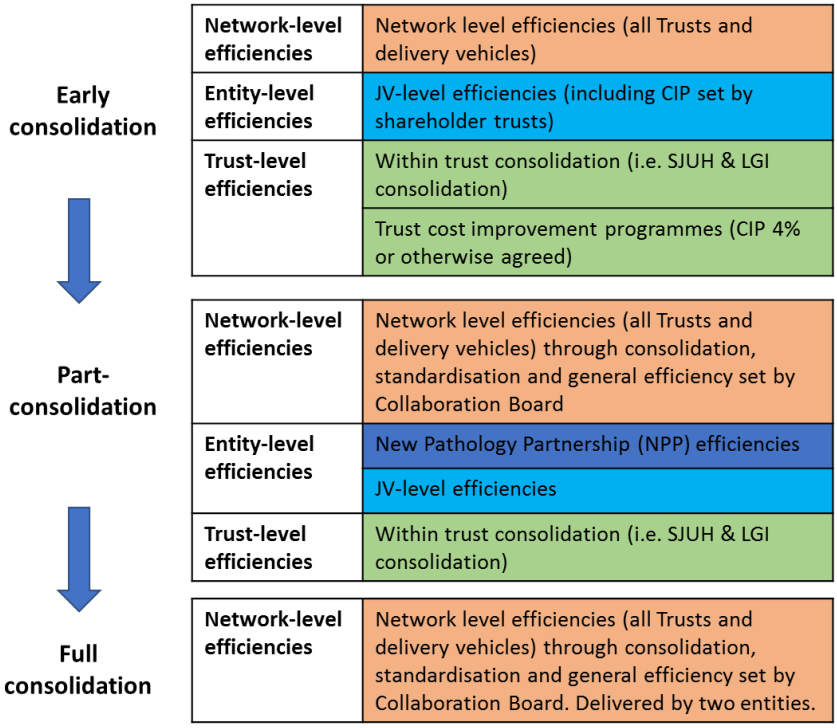
Figure 1: Proposed Commercial Structure



7.2. Risk and Gain Share

Given the size of the network and the number of steps to consolidation, a multi-level approach to managing risk and benefits will be required. Once the network is operational and full consolidation has been achieved, it is anticipated that this will be managed as a single network, with the member trusts as the owners and beneficiaries of this structure and operation. However, given the staged approach to consolidation and the commercial arrangements described, this will also evolve as outlined in Figured 2 below.

Figure 2: Proposed principles to manage risk and gain share within the network



There are already risk and gain share principles in place across WYAAT which will underpin our approach. Benefits achieved by the network will need to be appropriately apportioned between delivery vehicles and within owner trusts within those arrangements. These arrangements will need to be agreed between the trusts in the network and managed through the Collaboration Board and agreements described. This will be a key part of developing the FBC for the commercial and management structure.

8. Management Case

8.1. Management structure for the network

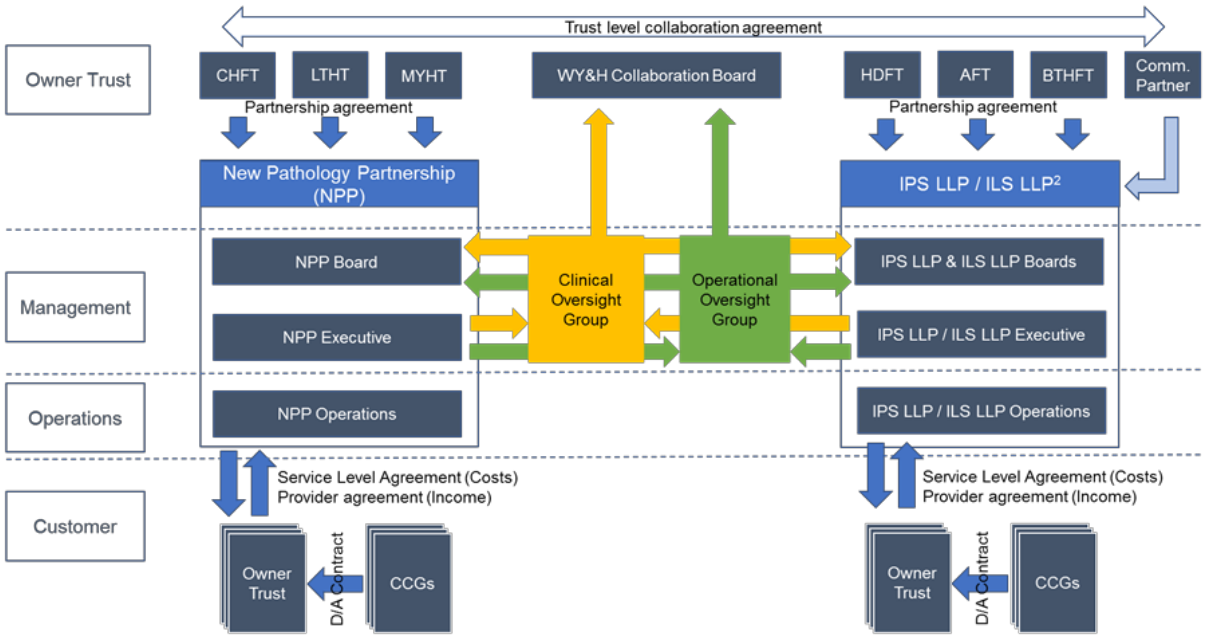
Given the commercial constraints to forming a single entity, a management structure is proposed which will align with the commercial structure of two operational entities / units which will manage their services separately but have the necessary service level agreements in place to ensure that effective operational collaboration can take place.

To support this, three key governance structures will be required:

- WY&H Pathology Collaboration Board – an independent board with representation from all six trusts, to provide strategic direction and oversight to the service. This should include CEOs and executive director membership from each trust. The primary responsibility will be ensuring the two pathology providing entities collaborate towards a more effective WY&H service as a whole.
- Clinical Oversight Group – a joint body with clinical leadership from each of the pathology providing organisations, alongside a range of users / stakeholders. The primary function is to define the quality requirements of both organisations, ensuring equity of provision across WY&H, alongside advising the collaboration board on clinical governance and strategy.
- Operational Oversight Group – a joint body with operational leadership from both organisations. This group will hold both organisations to account for quality and value for money across the network, provide guidance as well as advise on shared business cases, make recommendations on areas of operational consolidation, and ensure performance data is collected and reviewed at a network level.

Figure 3 below depicts how the governance would function alongside the two pathology provider entities.

Figure 3: Proposed WY&H Pathology Network Management Structure



8.2. Implementation approach

Implementation should be carried out incrementally to minimise operational risk. It should also be recognised that consolidation of pathology is a resource intensive project that requires a dedicated team with support from both the management as well as the operations teams to deliver a successful outcome.

The implementation plan should be phased and set-up as workstreams for effective delivery and control. Preparation is essential, commercial agreements and Board approvals must be in place, and all areas of the consolidation initiative must be signed off before commencing the transition. The timeline will vary as more detail becomes available, particularly when considering financial viability of implementation given existing commercial and PFI arrangements, but an indicative timeline for a consolidation initiative of the scale across WY&H is a minimum of 4 to 5 years as shown in figure 5 below.

Given the proposed scale of consolidation and the respective financial and commercial restrictions within the current pathology providers in West Yorkshire & Harrogate, there will need to be a phased approach to evaluating consolidation at each stage of the process, revisiting the assumptions and benefits.

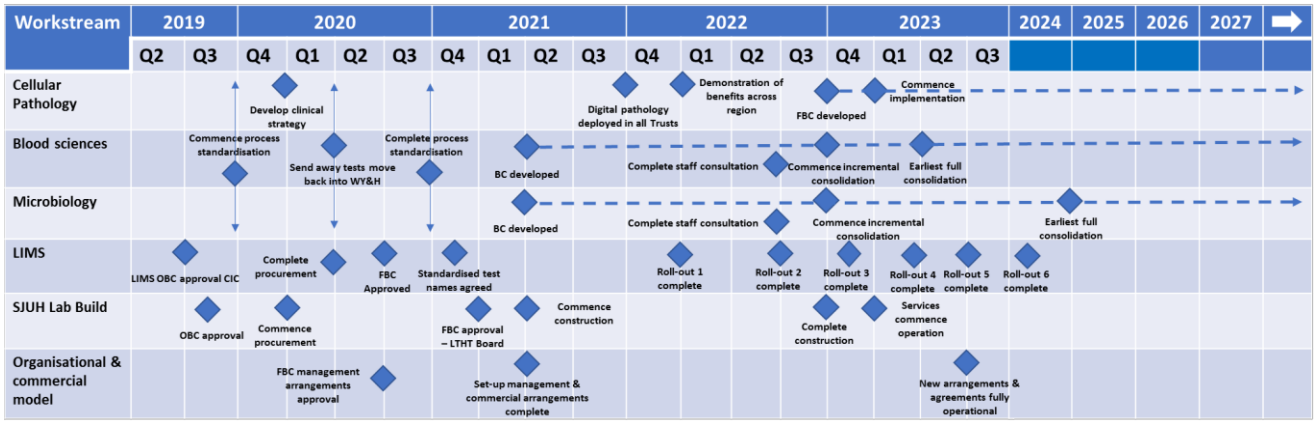
There are several potential stages to consolidation which will need to be worked through, with considered evaluation through business case production (and sign off) at each stage to ensure that the proposed consolidation is still viable, clinically and financially. There is commitment amongst all organisations to this process which will assess consolidation against a series of ‘gateways’ defining quality, performance and efficiency criteria which must be met before any movement of services takes place.

To effectively consolidate any laboratory activity, there are a number of interdependent activities and workstreams which need to be implemented before the benefits of consolidation can be fully achieved:

- Standardisation of processes
- LIMS implementation
- New build facilities (SJUH lab)
- Digital pathology

The earliest point at which these enabling initiatives would be in place to support full consolidation is 2023/24. However, when considering the quality and efficiency gateways, alongside the financial viability of consolidation when linked to potential stranded costs, this timescale could extend by several years. An overview of the high-level implementation plan can be found in Figure 4 below.

Figure 4: WY&H Pathology Network Implementation Plan



8.3. Benefits realisation

There are both clear drivers and potential benefits for a change to our current configuration of laboratory services across pathology. At this stage, we recognise that early benefits can be achieved through standardisation of processes, implementation of a single LIMS and through incremental consolidation. All benefits will not therefore be contingent on the implementation of a fully consolidated model.

Our agreed approach to developing a business case at each stage of consolidation to assess against clear gateways, will detail the benefits and overall impact as part of this process. The collaboration board will oversee implementation and realisation of benefits within the network. As outcomes of implementing a phased approach to standardisation and consolidation, we expect to achieve:

- Recurrent financial savings (pay and non-pay)
- Increased income through repatriation of send away tests to WYAAT footprint
- Increase efficiency and productivity of pathology services across the network
- Sustainable pathology workforce across the network
- Improved patient experience
- Increased service quality and clinical effectiveness.