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Bwrdd Iechyd Prifysgol
Cwm Taf Morgannwg
University Health Board

Produced on behalf of Cwm Taf Morgannwg UHB by

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Outline Business Case for Llantrisant Health Park

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Summary sheet

Llantrisant Health Centre OUTLINE BUSINESS CASE (OBC) – HIGH VALUE (OVER £2 MILLION VALUE OF PROCUREMENT)	
SRO	Paul Mears, CEO Cwm Taf Morgannwg University Health Board
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1.1	Updated with latest Capital Cost Profile	Henry Mony de Kerloy	16/11/25

Appendices

Appendix Ref	Appendix Name
Appendix 1	Strategic Overview Document
Appendix 2	Orthopaedic Regional Plan
Appendix 3	Arthroplasty Pathway
Appendix 4	LHP Operational and Clinical Model
Appendix 5	Benefits Register
Appendix 6	Risk Register
Appendix 7	Capital Cost Plan
Appendix 8	Revenue Costs Working Paper
Appendix 9	Comprehensive Investment Appraisal (CIA) Model
Appendix 10	Phase 2 Programme

Glossary

Term	Description
ABUHB/AB	Aneurin Bevan University Health Board
BAU	Business As Usual
BCR	Benefit Cost Ratio
BfW	Building for Wales
BIM	Building Information Modelling
BREEAM	Building Research Establishment Environmental Assessment Method
CDE	Common Data Environment
CIA	Comprehensive Investment Appraisal
CIA	Comprehensive Investment Appraisal
CSF	Critical success factor
CTMUHB/CTM	Cwm Taf University Health Board
CAVUHB/CAV	Cardiff and Vale University Health Board
DHSC	Department of Health and Social Care
FBC	Full Business Case
GiRFT	Get it Right First Time
HB	Health Board
JAG	Joint Advisory Group

Term	Description
MMC	Modern Methods of Construction
NEC	New Engineering Contract
NPC	Net Present Cost
NPSV	Net Present Social Value
NWSSP - SES	NHS Wales Shared Services Partnership - Specialist Estates Services
NZC	Net Zero Carbon
OBC	Outline Business Case
POWH	Princess of Wales Hospital
PM	Project Manager / Programme Manager / Project Management
PSC	Professional Services Contract
PWF	Preferred Way Forward
RGH	Royal Glamorgan Hospital
RPA	Risk Potential Assessment
SAB	SuDS Approval Body
SCP	Supply Chain Partner
SO	Spending Objective
SOC	Strategic Outline Case
SRO	Senior Responsible Officer
WG	Welsh Government

1 Executive summary

1.1 Structure and introduction

The purpose of this outline business case (OBC) is to outline key objectives, current plans for investment and seek approval for funding of **£1.67m** from Welsh Government to proceed to full business case (FBC) for Phase 2 of the Llantrisant Health Park (LHP) Programme.

The programme is being led by the LHP Project Team at Cwm Taf Morgannwg University Health Board (CTMUHB) in partnership with Aneurin Bevan University Health Board (ABUHB) and Cardiff and Vale University Health Boards (CAVUHB). Health Boards in South East Wales have committed to active collaboration where this delivers added value to clinical service delivery, access, and sustainability, as it does for this scheme.

The programme is being delivered across multiple phases to deliver improved regional access to diagnostics, endoscopy and orthopaedic surgery. Phase 1 of the programme covers provision of diagnostic and endoscopy services alongside provision of site wide supporting infrastructure and the OBC for that phase was approved in October 2025.

This OBC covers Phase 2 of the project being Orthopaedic Surgery and supporting ward accommodation. The structure of the OBC is outlined in the table below.

Case	Section	Purpose	Description
Strategic	2	Strategic Context	Provides an overview of current services and explains how the project is strategically placed to contribute to the delivery of organisational goals.
	3	Case for Change	Establishes the case for change by outlining the spending objectives, existing arrangements and business needs.
	4	Potential Scope and Services	Identifies the potential scope of the project in terms of the operational capabilities and service changes required to satisfy the identified business needs.
	5	Benefits and Risks	Identifies the benefits, risks, constraints and dependencies for the project.
Economic	6	Options Identification and Appraisal	Explores the preferred way forward by agreeing critical success factors (CSFs), determining the longlist of options, and undertaking a SWOT analysis to identify a shortlist of options.
	7	Economic Appraisal	Appraises the economic costs, benefits and risks for the short-listed options and concludes which option represents the best value for money.
Commercial	8	Procurement Route, Scope and Contractual Details	Outlines: • the procurement strategy and routes that have been agreed. • the scope of the procurement • the contractual arrangements of the potential deal to deliver the recommended solution for the project.
Finance	9	Financial Appraisal	Sets out the forecast financial implications of the preferred option.
Management	10	Management Arrangements	Sets out the arrangements put in place to manage the project to successful delivery.

1.1 Background and context

During autumn 2022, Cwm Taf Morgannwg University Health Board (CTMUHB) became aware of the intention of British Airways Avionics Engineering (BAAE) to sell their former engineering site in Llantrisant. The site was vacant, as BAAE had relocated their service provision to St Athan during early 2022 (but remained as tenants of the site).

The total site covers over 20 acres with a developed area comprising three separate buildings totalling over 10,300sqm. There is parking on site for around 300 cars. The site has the potential capacity and infrastructure for a wide range of clinical services, and in addition to the existing buildings, there is also an area of cleared ground that is available for further on-site development.

In December 2022 CTMUHB submitted a case to Welsh Government (WG) to support the purchase of the site, which was to be known as Llantrisant Health Park (LHP). This case set out the initial development aims and aspirations. Approval was given and £8m funding released to support the site purchase as a regional elective care facility. The purchase completed in February 2023.

The vision for LHP is to establish a standalone site for high-volume, low-complexity surgical and diagnostic procedures to address capacity shortfalls, meet future demand challenges and support consolidation of services where this will add value to participating health boards. LHP will also act as an enabler for further regional service reconfiguration. The development of a dedicated facility for planned care, separated from emergency care, was a key commitment in the Welsh Government's recovery document, *"Our Programme for transforming and modernising Planned Care and reducing waiting lists in Wales"* (April 2022).

The need to introduce diagnostic and treatment capacity to the South East Wales region has never been greater. Since the COVID-19 pandemic, waiting lists have increased to their highest ever levels and Health Boards have struggled to address this within existing capacity and working practices. Set alongside this is the increasing aging population and acute medicine pressures which indicate that a significant change to current practice and how we use our existing infrastructure is essential if performance and access to treatment is to be improved.

LHP offers the region a unique opportunity to deliver new ring-fenced elective capacity, encompassing innovative developments and state of the art practice. The site will provide efficient and proven effective models of care to deliver increased diagnostic and treatment facilities across the region. These models are fully in line with the **Getting it Right First-Time** surgical hub models, recognised as best practice across the UK.

The proposal for Phase 1, subject to the earlier OBC, incorporates:

- **Imaging capacity** – incorporating MRI, CT and ultrasound as part of a Community Diagnostic Hub (CDH)
- **Endoscopy capacity** – elective and screening services to increase capacity across the region and address the projected six suite shortfall across the region by 2027/28 and to introduce a training academy to respond to workforce shortfalls.

This OBC, for phase 2, proposes a **High-volume, low-complexity orthopaedic inpatient unit** - providing capacity for up to six theatres to deliver arthroplasty (knees and hips) surgery for patients meeting the criteria for treatment without critical care support. An inpatient unit co-located with the theatres will accommodate patients requiring an overnight stay.

It is recognised that Health Boards have obligations in respect of public engagement and consultation when introducing significant service changes, and these will have some application when progressing a model of regionally based provision of elective services.

The principle of patients travelling further to access more timely care has been tested in a regional context with a recent engagement exercise for cataract surgery, when positive feedback was received from both public and Llais. Close contact with Llais will be maintained as the LHP plans progress, to ensure that the required arrangements are in place and that any concerns / issues arising are addressed and mitigated as appropriate.

This OBC seeks approval to progress to Full Business Case (FBC) for Phase 2 of the LHP Programme and to restate the case for a new regional Health Park across three health boards, CTMUHB, ABUHB and CAVUHB.

Welsh Government and the IIB are supportive of delivering this project, given the pressing need to improve regional acute services for the people of Southeast Wales.

Vision and spending objectives

The vision is for the Llantrisant Health Park to be an exemplar facility providing a standalone elective diagnostic and surgical facility for the South East Wales Region. Within this overarching vision, phase 2 is proposed to deliver a regional elective surgical hub (ESH) for primary arthroplasty surgery. The intention is to create a centre of excellence for planned (High Volume Low Complexity) HVLC primary arthroplasty surgery, delivering productivity and quality of care for patients that consistently meets best practice, and delivers optimum value.

The design of the LHP building will prioritise operational efficiency through ring-fenced theatre capacity, standardised care pathways, and lean scheduling practices. By removing the variability associated with mixed elective/emergency lists, the centre will achieve higher theatre utilisation rates and reduced cancellation rates. The use of day-case arthroplasty pathways, supported by enhanced recovery protocols and prehabilitation, will further improve throughput and reduce length of stay. Benchmarking against GIRFT metrics will be used to monitor performance and drive continuous improvement.

The LHP will be fit for the future. It is designed using evidence from a range of sources, including Getting it Right First Time (GIRFT) and the British Orthopaedic Association (BOA), the National Joint Registry (NJR), British Association of Day Surgery (BADs) and other professional bodies. There will be sufficient capacity to meet current and future demand resulting in timely access to services.

The spending objectives listed in the table below were agreed by members of the LHP Programme Board in September 2024.

Ref	Theme	Spending objective
SO1	Meet population needs	The delivery of an elective high volume low complexity model of care for the South East Wales Region on a phased basis. Phase 2 to focus on the delivery of elective orthopaedic arthroplasty. Services to be operational by the end of the 2028/29 financial year. A Future phase 3 to consider further regional services such as pathology or day surgery.
SO2	Maximise capacity	To maximise clinical capacity on the LHP site. To ensure that the maximum amount of available space is directed towards direct service delivery with supporting services managed from the neighbouring RGH site.
SO3	Innovation and Standardisation	To facilitate and support the use of innovative design and delivery solutions in both clinical and non-clinical services. To implement standardised protocols and practices to promote efficient service delivery offering improved value for money, reported via comprehensive patient level costing, delivering a lower procedure cost than English tariff.
SO4	Enable training / development of future workforce	To enable increased training and development of secondary care staff including accommodating more medical trainees and medical students

Ref	Theme	Spending objective
SO5	LHP Models of Care and Workforce Models	To develop a new model of care and workforce models to support the delivery of the core services, the models will support efficient delivery of services
SO6	Sustainable estate	To deliver a sustainable infrastructure on the site maximising decarbonisation and net zero opportunities.

1.2 Case for change

Current service provision for the region is delivered for each of the health boards' populations within each health board's geographic footprint. Patients from each Health Board currently access services in other health boards as part of agreed patient flows for specific service pathways. Additional capacity is delivered through a range of means including internal additional capacity using NHS clinicians (commonly referred to as waiting list initiatives) and in-sourcing.

In considering the solution in the business case, considerable research has been undertaken by the LHP team alongside other clinical and non clinical colleagues. As well as considering evidence offered by GiRFT, they have undertaken learning with a number of established Elective Surgical Hub in England. This has made a contribution to the development of both pathways and processes as well as the building infrastructure and provided a compelling evidence base to support the development of a high volume low complexity primary arthroplasty unit at LHP.

There has been a regional focus on developing a solution to the challenges faced by orthopaedics across South East Wales which has culminated in the development of the Regional Orthopaedic Plan, Appendix 2 to this document. This plan is recognised as being in its first phase but has focused on the development of detailed regional demand and capacity modelling, undertaken with the support of WG colleagues, to prove the need for additional theatre capacity at LHP for the region.

The outcomes of the regional planning exercise clearly demonstrate that there is a shortfall in orthopaedic capacity in the region, with the greatest shortfall in lower limb, as shown in the table below.

Sub specs	South-east Wales		
	Recurrent demand IP24/25	Demand in 28/29	
		1% growth	4% growth
FA	1,630	1,695	1,891
Paeds	358	372	415
Upper Limb	1,500	1,560	1,740
Hands	2,870	2,985	3,329
Lower Limb	4,895	5,091	5,678
Spine	1,476	1,535	1,712
Other	274	285	318
Total	13,003	13,523	15,083
Arthroplasty	3,578	3,721	4,150

The recurrent demand levels for lower limb surgery (which is predominantly arthroplasty related) is significantly larger than all other orthopaedic specialities in the region and this demand is set to grow in the next 3 years until 2028/29 when LHP is programmed to open.

The problems becomes even more apparent when factoring in capacity against these demand levels as shown below

Type	Current gap / surplus (2025/26)			Projected 2028/29 -position				
	New OP	Treatment	Tx w new OP conversion (40% assm)	Treatment / surplus gap if		Efficiency opportunity	Recurrent net treatment gap / surplus (Mar 29) if	
				Demand @ 1% to 29	Demand @ 4% to 29		Demand @ 1%	Demand @ 4%
Foot / ankle	-422	-83	-252	-371	-728	98	-273	-630
Paeds	-211	-17	-101	-140	-255	16	-124	-239
Upper limb	487	81	81	-21	-326	125	104	-201
Hands	-394	-616	-774	-965	-1,538	209	-756	1,329
Lower limb	-2,278	-250	-1,161	-1,544	-2,691	1,148	-396	-1,543
Spine	1,074	-595	-595	-708	-1,047	44	-664	-1,003
Other	-198	-254	-333	-347	-390	0	-347	-390

From this table, against lower limb capacity shortfalls dominate both in 25/26 (shown in blue) and projected forward 2028/29, where, if the higher level of growth is realised, demand could exceed capacity by over 1,500 cases per annum for lower limb surgery.

The proposed solution our LHP is to build 6 theatres and 54 supporting beds that will form a regional primary arthroplasty hub. The Unit is planned to operate in line with GiRFT performance standards which would see delivery of 4 joints per day, at 5 days per week (although weekend working could become an option) over 48 weeks of the year. This would give additional capacity of 960 cases per theatre, a total of 5,760 cases per annum.

The LHP facility will be utilised to undertake both core and additional capacity for CTMUHB and additional capacity for the region. For CTMUHB there are significant efficiencies in co-locating with orthopaedic theatres in terms of improved performance, workforce efficiencies as well as benefits in plant and infrastructure. As a result the three theatres currently providing orthopaedic surgery at Princess of Wales Hospital (POWH) are proposed to transfer to LHP on opening, giving a further 3 theatres for additional regional activity.

Alongside the additional capacity created by LHP, the transfer of primary arthroplasty activity from the current 3 CTM theatres to LHP will enable the further development of sustainable orthopaedic services within the South East Wales Region. Since the roof works completed at Princess of Wales Hospital (POWH), CTM elective orthopaedic activity has transferred to POWH where it is being used as an early implementer site for the LHP pathway. The transfer of this activity to LHP will not only support the delivery of improved efficiencies within the service but will also offer up three theatres capacity to the overarching orthopaedic programme.

The focus on this OBC has been the development of additional capacity for the arthroplasty pathway through the creation of infrastructure to support HVLC primary arthroplasty surgery at LHP. However, the regional orthopaedic plan identifies additional orthopaedic specialities that are also under pressure. In looking at the numbers in table 5 above it is clear that further capacity is required to support treatment pathways for arthroplasty revisions, upper limb, hand and foot and ankle surgery.

From an overall systems viewpoint the capacity released at POWH has the ability to meet this, however it is recognised that a whole systems approach will need to be adopted as to how capacity should be managed and services provided across the region.

How the CTM capacity released through the transfer of arthroplasty to LHP can support further regional reconfiguration for other orthopaedic specialities will be explored in the second phase of the regional orthopaedic plan.

However, it is clear that this is a further beneficial opportunity from the LHP Hub and the centralisation of primary arthroplasty at LHP. The outputs and resources associated with the use of this capacity sit outside the scope of this OBC but will be part of the regional orthopaedics plan.

The benefits in location of the unit should see much improved reduced length of stay for lower limb arthroplasty and an improved patient experience. The proposal would be to offer capacity to regional partners and develop a collaborative model of regional lower limb arthroplasty service delivery.

1.3 Economic Case

Options identification

The purpose of the Options Analysis is to identify and appraise the options for the delivery of project and to recommend the option that is most likely to offer best value for money.

However, in this instance this section will not undertake a traditional options appraisal using the business case framework, which is an approach that has been agreed with colleagues in the Capital and Estates team in Welsh Government (WG).

The reasons for this centre on the fact that on purchase of the site a case for purchase was prepared and resulted in approval of capital funds to enable the same. The funding was made on the condition that CTM collaborated with other NHS organisations to develop the site as part of a regional approach to the delivery of services. Therefore, consideration of alternative site options is not relevant.

The services included at this business case stage are the same as those included in the original case for the purchase of the site, with some small changes to the numbers of the same, in line with demand and capacity modelling provided in Section 3 of this case. In addition, after purchase, regional partners were asked to nominate desired alternative or additional services to be included at LHP; no changes or additions to the scope of services were requested or proposed at this time.

As a result, this section will not consider alternative options for service change with the scope and scale having been proven in the sections above. In addition, following WG approvals, design work has already progressed beyond the traditional stage for an OBC, with WG approval to proceed to RIBA 3 given in December 2024. It should be noted that the current design leaves most of the site's *plateau area* un-developed which could support a further phase of expansion

Finally, a main contractor for completion of the design phase was appointed on 28 March 2025. This appointment was made after a lengthy tender process utilising the Crown Commercial Services Framework under 2 lots to encourage bidders from both pure modular and other off site construction backgrounds to develop the more beneficial construction solution for LHP.

The tender process demonstrated a modular form of MMC was preferred and WG approval to enter into the design contract was received on 14 March 2025. As a result, the build methodology has also been fully determined. Therefore, the economic appraisal in following sections will focus on the preferred option against a business-as-usual comparator only.

Economic appraisal

The results of the economic appraisal demonstrate that the preferred way forward offers value for public money. This option is an NHS-funded capital build for the Orthopaedic Surgical Hub at Llantrisant Health Park, delivering theatres and ward accommodation for high-volume, low-complexity arthroplasty procedures.

Requiring capital investment of £123.6m (including VAT) and ongoing revenue costs of £36.8m p.a. (excluding depreciation), based on estimated costs and benefits, it is anticipated that phase 2 of the LHP will deliver an incremental Net Present Social Value (NPSV) of £500.7m and a Benefit

Cost Ratio (BCR) of 1.54. This represents £1.54 of incremental benefit delivered for every £1.00 of incremental whole life cost, because of the quantifiable benefits that it has been possible to state in monetary values at this point in time, including:

- **High volume, low acuity model of care increasing throughput:** Delivery of the surgical hub will address current regional Arthroplasty capacity shortfalls and ensure future demand can be met. As well as reducing waiting times for patients, the delivery of high volume, low acuity model will enable the delivery of a standardised pathway, increasing throughput and making best use of resources.
- **Improved patient outcomes from earlier access to surgical intervention, reduced length of stay and less healthcare acquired infections:** Reduced length of stay is known to result in fewer complications and support speedier recovery times. This, combined with the reduced waiting times, lead directly to better patient outcomes, specifically improving quality of life for those requiring surgical interventions such as arthroplasties.

In addition to this, there are other quantifiable benefits which it has not yet been possible to state in monetary values given the information that is available at this time. These will be explored further at FBC-stage and, it is expected, will further strengthen the BCR. These include:

- **Productivity gains because of standardised pathways:** In addition to the reduced length of stay and increased throughput, the standardised pathway is likely to provide other opportunities to deliver productivity gains, such as delivering rota efficiencies and enabling more efficient procurement and reduced waste. Predictability of care also reduces the risk of cancellations and Did Not Attend (DNAs).
- **Impact of a more sustainable workforce:** The benefits identified in terms of improved recruitment and retention provide opportunities to reduce the impact of long-term vacancies reducing agency, locum and bank usage and, potentially, reducing recruitment time and costs.

LHP will also deliver various non-financial benefits which while they cannot be quantified in monetary terms are equally important to the delivery of local, regional and national policy. These include:

- **Improved patient experience:** As well as reduced waiting times and length of stay, patient experience is enhanced by the modern fit for purpose facilities and the ease of access the location of LHP offers, with its good road links and parking.
- **Increased staff satisfaction:** The improved training pathway and increased training opportunities, along with the modern fit for purpose facilities and a consolidated service model that enables more effective ways of working, contributes to staff satisfaction and creates an attractive place to work which will support recruitment and retention of highly trained health professionals.
- **Increased training opportunities:** The additional theatre capacity will provide significant opportunities to increase the number of training places available in the region.
- **Increased compliance:** Delivery of orthopaedic services in a hub will ensure alignment with GIRFT principles. Modern fit for purpose facilities that are compliant with WHBNs and HTNs, achieve BREEAM rating of Excellent.
- **Reduced health inequalities:** Reduction in waiting times and ease of access supports equality of access.
- **Community Benefits:** The contractor has agreed to implementing several community benefits, including hiring local, providing volunteering and donations to local organisations, investing in people learning and using Welsh and investing in the local supply chain.
- **Future proofing:** The site also provides a level of future proofing by providing expansion space that offers opportunities for other future developments.

- **Impact of a more sustainable estate:** The delivery of appropriately designed compliant facilities provides opportunities to contribute to CTM UHB's environmentally sustainable goals and national strategies around decarbonisation and optimising energy efficiency. The transformed model of care with its standardised pathway is likely to make it easier to implement and maintain sustainability programmes that CTM UHB has instituted in other areas, such as reducing waste and single use products.
- **Opportunities for future transformation:** The additional capacity offered by LHP provides opportunities to transform and reconfigure core local services and deliver things differently in the future. The successful delivery of a regional centre will also provide proof of concept as the basis for the development of any future regional pathways.

The results of the options appraisal are presented in the table below.

Table 1 - Results of options appraisal

Element	Option 0 - BAU	Option 1 - PWF
Initial capital investment (including VAT)	-	£123.6m
Incremental NPSV	-	£500.7m
Benefit Cost Ratio	-	1.54

It should be noted that this assessment is based on an initial assessment of benefits and further work is required to quantify these more fully. As outlined above, it is anticipated that this is likely to further strengthen the BCR and value for money case as the scheme progresses to FBC stage.

1.4 Commercial Case

To maintain momentum within the programme, the main contractor was appointed during RIBA 3 for continued development of the design and construction elements. This ensures the contractor is involved in the more detailed design incorporating the latest technology and identifying programme opportunities. The appointment was made via the Crown Commercial Services Framework which offered the opportunity to tender for both traditional and modern methods of construction. WG approved the appointment which was made in March 2025.

WG also approved early site wide demolitions in January 2025. These have been delivered by a contractor appointed under the Crown Commercial Framework. Works commenced on 14 April and completed on 6th October within the approved funding level despite a short programme delay.

For the main contract, WG have approved funding for the whole programme up to the end of RIBA 3. From July onwards the programme moved onto a phased basis and funding was split between the phases. After reconsideration of the scope of phase 2 this was instructed to recommence at the beginning of September with fees of £1.9M approved to fund this phase OBC. A further £1.669M fees will be required should the OBC be approved to enable completion of design and preparation of an FBC.

The Contractor tendered design fees will need to be uplifted to support Phase 2 design works. The tender fee assumed a single phase business case process and start on site with phased completions. The move to separate phases with differing design, business case and construction programmes has elongated the design phase. For the 2 main priority phases it has added ca 6 months to the programme. Whilst the uplift will be required for phase 2 it is covered in this case and shown below

Cost element	Original Tender £000	Phase 1 PCSC £000	Phase2 PCSC £000	Total PCSC Fees £000
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RIBA 3	400	1,491	1,534	3,025
RIBA 4	3534	1,405	924	2,328
Total	3,934	2,896	2,457	5,353
				1,419
				36%

These increases are within procurement permitted levels and have been validated by CTM's Cost Advisors.

A further consequence of the move to separate phases has been the need to consider the construction (ECC) contract approach. Previously a single FBC would have approved the total contract sum for the entire construction period. On a phased basis approvals and funding will be staggered. As a result an options appraisal was undertaken that identified that separate ECC contracts would be entered into for the construction of each phase. This was considered the lowest risk option that delivered compliance with standing financial instructions and procurement regulations as well as reduced overall risk to cost and programme.

Site wide planning permission was granted on 29 September 2025, however this was based on original designs and layout, an amended planning application will need to be made for Phase 2 which will be undertaken between OBC and FBC stages.

1.5 Financial Case

The financial analysis demonstrates that delivery of the preferred way forward is affordable providing that Welsh Government capital funding can be secured, and agreement reached with commissioners about revenue funding requirements.

Capital affordability

The cost plan prepared by CTM's Cost Advisors, based on RIBA 2 design, estimates that delivery of LHP will result in capital investment requirements of £123.6m in total, including expenditure incurred to date. The funding requirement takes account of £1.933M funded to OBC approval:

- Fees to Complete RIBA 3 and 4 and FBC approval £1.669M
- Construction - £120.0m.

It should be noted that this remains a forecast cost at this stage and the Board is requested to approve this OBC with this cost as a cost not to be exceeded. Due to the pace at which design has progressed a number of drawings and plans are being finalised which may impact on the final cost. The submitted OBC capital cost will not exceed the cost in this OBC.

Revenue affordability

Work undertaken by the programme team and finance leads indicates that the orthopaedic unit will incur recurring revenue costs of £39.9 million per annum, including:

- Pay costs of £15.0 million for approximately 220 WTE staff
- Non-pay costs of £24.8 million, covering theatre and ward consumables, building running costs, and depreciation of £3.16 million

These indicative costs are based on high level assumptions at this stage and will be firmed up at FBC stage once more detailed information, such as the workforce plan, is available.

£10.46m p.a. of funding has been identified which will partly cover these additional costs which include the following sources:

- £7.3m associated with the substitution of existing services at CTM including transfers of Ward, Theatres, Medical staff and non-pay costs
- Anticipated £3.16m of Welsh Government Central funding for depreciation

This leaves an affordability gap of £29.5 million across the region. Work is underway with partner Health Boards and Welsh Government to develop a sustainable solution that aligns with the regional service model and supports timely access to care. Engagement activity is being coordinated to ensure transparency and shared understanding, drawing on lessons from previous programmes and focusing on collaborative planning to address both financial and operational challenges.

1.6 Management Case

The overall LHP project has been and will continue to be managed to PRINCE2 project management standards with the LHP Project Team leading on delivery. The project governance and reporting structure is outlined in the management case, showing all key workstreams, task and finish groups, with boards and teams where approvals and decisions are made.

A project programme has been developed to control and track the progress and delivery of the project and resulting outcomes. The key milestones for the infrastructure programme are summarised below.

Milestone	Start	Completion
SOC submission and approval	Sept 2024	Sept 2024
OBC submission and approval	Oct 2025	Jan 2026
FBC submission and approval	May 2026	June 2026
Demolition works start	Apr 2025	Oct 2025
PCSA design works:		
RIBA 3 Design	Sept 2025	Dec 2025
RIBA 4 Design	Dec 2025	April 2026
RIBA 5 Design Construction	June 2026	July 2028
Surgical hub construction	June 2026	July 2028
Operational Commissioning	Aug 2028	Oct 2028
Handover of fully commissioned buildings	Nov 2028	Dec 2028

Within the PRINCE 2 governance arrangements the PMO is classed as part of the Assurance function.

Programme

- Review of upcoming programme activity and milestones with LHP Technical PM and Project Director to determine outputs required by workstreams.
- Create lookahead programme highlighting key programme deliverables over coming weeks/months for dissemination to workstreams.
- Track workstream output and performance toward achieving programme deliverables and feed progress into monthly reporting – PMO drumbeat.

Risk

- Review of risk with LHP Technical PM and Project Director to review and update risk register based on workstream risks.
- Track workstream risks and feed into project reporting – PMO drumbeat.

Key Performance Indicators (KPIs)

- Work with LHP Project Director to determine workstream KPIs.
- Track workstream KPIs and feed into project reporting – PMO drumbeat.

Reporting

- Work with PMO governance lead to integrate programme, risk and KPI updates into monthly drumbeat reporting.
- Provide updates to LHP Design Team Meeting and Programme Board.

1.7 Summary recommendation and requirements

The works funded so far have delivered interim mobile capacity on the site alongside the site wide building demolition works. All other work has been focused on the design of the total Health Park to end of RIBA Stage 3 and commencement of RIBA Stage 4 Design Works for Phase 1 CDH and supporting side wide infrastructure.

The recommended option is to proceed to complete RIBA design stages 3 and 4 and develop an FBC for a regional orthopaedic hub .

Spend so far on this phase only is £1.9MM, all sunk costs have been included in the Phase 1 OBC and FBC. The LHP Programme is seeking urgent approval of this business case and the release of further funding of £1.67M for the RIBA 4 and 5 design stage of the Orthopaedic Surgical Hub to avoid delay to the programme.

Strategic Case

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2 Strategic context

2.1 Introduction

This section of the business case outlines the strategic context for the proposals to develop the regional Llantrisant Health Park by explaining how the project is strategically placed to support delivery of services across the three Health Boards in the South East Wales Region, Aneurin Bevan (ABUHB), Cardiff and Vale (CAVUHB) and Cwm Taf Morgannwg (CTMUHB). This section will:

- Provide a summary of the Programme progress to date;
- Provide an overview of the organisations working in partnership to successfully deliver the project;
- Outline how the project will contribute to achieving our business strategies and aims;
- Describe how the project aligns with other relevant local and national strategies;
- Describe the geographical context and local health needs.

2.2 LHP programme context and background

The LHP site was acquired in February 2023 by CTMUHB for £7.8m capital funding provided by Welsh Government. The site is located directly adjacent to the Royal Glamorgan hospital and extends over 20 acres. At the time of purchase the site included two storeys separate buildings totalling over 10,300sqm. The layout of the site already supported car parking for over 299 and separate front and rear access roads to the buildings.

As well as the existing building footprints, there is a further developable area on the site for an additional building. The case for purchase described how the site was ideally suited to provide a high volume low complexity diagnostic and elective treatment centre with benefits for the whole South East Wales region. At the time of purchase the proposed scope of services to be provided at LHP were:

- A **Community Diagnostic Hub** comprising:
 - ♦ Diagnostic Imaging – CT, MRI and Ultrasound
 - ♦ Regional Endoscopy services
 - ♦ Plain Film X Ray
- A **Surgical Hub** comprising:
 - ♦ Up to six orthopaedic theatres for high volume low complexity works
 - ♦ Up to 54 beds to support the orthopaedic theatres
 - ♦ A self-contained day surgery unit containing six theatres

Immediately following the purchase of the site, a design team and internal programme team were appointed to commence site master-planning and design development. During this time, a successful early termination of the lease to the incumbent tenant was agreed giving CTMUHB full access to the site from October 2023. This access facilitated detailed and intrusive survey work to be undertaken which identified several limitations to the existing buildings impacting on their ability for use as healthcare premises.

At their request, a Strategic Overview Document was submitted to Welsh Government in September 2024 which gave a detailed overview of the programme and included a comprehensive option appraisal to identify the optimal way forward for the site infrastructure. The preferred option was the demolition of the existing buildings and replacement with modular buildings which would deliver the quickest and most value for money solution. This can be found in Appendix 1.

This approach was formally considered by Welsh Government alongside the completed RIBA 2 design works at the Infrastructure Investment Board in November 2024.

Following this meeting, approval was given to proceed to RIBA 3 design stage and in January 2025 approval was given to demolish the buildings on the site in a separate advance works package. Demolition works commenced on 14 April 2025 and works completed on 3rd October 2025. The works package was delivered within the funding envelope provided despite a small delay to the programme.

A condition of the approval to continue design work was that a business case was delivered at the completion of the RIBA Stage 3 of the development.

At this point, the programme was continuing under a single business case route but with phased completions, with the CDH completing ahead of the surgical hub. This position changed in July 2025, following a programme assurance review, with confirmation from WG that the programme should proceed under a phased approach with separate business cases for each of the proposed phases of development.

During the review, concerns were raised on the demand and capacity planning and ability to evidence the scope and scale of the proposed Hubs within the programme. This has been addressed for the services contained in the phase 1 OBC and to facilitate this for the orthopaedic activity, expertise from Welsh Government has been provided to develop the demand and capacity modelling with regional partners. However, the move to a phased approach prompted a further review on the scope of each phase. Whilst the CDH is a straightforward stand-alone phase, disaggregating the originally proposed surgical hub into phases was more complex.

Further to this, the orthopaedic demand and capacity has progressed at pace with regional engagement and support and highlights the criticality of increasing orthopaedic capacity. The activity and demand modelling for day surgery modalities has not developed at the same pace. In addition, a day case development would be CTM only. It is recognised that the overriding priority is the increase in diagnostic and orthopaedic capacity and therefore a decision was made to focus phase 2 on the orthopaedic hub only, with the number of theatres required being supported by the regional demand and capacity planning as well as a proposed transfer of CTM orthopaedic activity to LHP to support the realisation of further efficiencies.

The original (pre phasing) design had a surgical hub spread across 2 buildings, 1 containing theatres (day and orthopaedic) and the other containing inpatient facilities for the orthopaedic theatres. To create a standalone orthopaedic hub the RIBA 2 design has had to be revisited architecturally to create a single building with orthopaedic theatres and beds only. Day surgery may be in the scope of a later phase 3 development. However, the regional position has been to support phases 1 and 2 as the programme overriding priorities at this stage.

As a result of the redesign works at this OBC stage for Phase 2 drawings are at signed off RIBA 2 stage. The M&E strategy has required minimal changes but has had to be reviewed. There will be a short RIBA 3 phase before RIBA 4 design takes place following OBC approval.

The revised programme delivery structure is as set below:

- Phase 1: CDH comprising MRI, CT, non-obstetric ultrasound, plain film x-ray capability and endoscopy including a regional endoscopy training centre of excellence. This business case also includes the wider site infrastructure required to facilitate later developments. The OBC was approved in October 2025 with an FBC proposed to be submitted in early December 2025.
- Phase 2: surgical Hub comprising six orthopaedic theatres and supporting wards.
- Potential Phase 3: Scope to be subject to a regional review, could contain up to six-day surgery theatres.

This outline business case has been prepared to seek outline approval for the **Phase 2 – Regional Orthopaedic Arthroplasty Surgical Hub**.

The development of a Regional Elective Orthopaedic Primary Arthroscopy Centre in South East Wales represents a strategic response to the growing demand for minimally invasive orthopaedic procedures, particularly in the context of increasing musculoskeletal morbidity and constrained elective capacity across the region. This proposal aligns with the Welsh Government's *A Healthier Wales* strategy and the NHS Wales *Planned Care Recovery Plan*, which advocate for the transformation of elective services through regional collaboration, innovation, and sustainable models of care.

The LHP site delivers a unique opportunity to develop infrastructure that supports the design of a clinical pathway that incorporates best practice and challenges traditional ways of working. Significant research which looks at both UK and worldwide practice for delivering lower limb arthroplasty has been undertaken by the LHP clinical team and will be discussed in later sections of this case.

2.3 South East Wales regional overview

The South East Wales Region is establishing a Regional Joint Committee. The South-East Wales Regional Joint Committee (RJC) represents an evolution of and step change in the potential for existing partnership arrangements and is a strategic collaboration established by direction of the Cabinet Secretary for Health and Social Care. It more formally brings together Aneurin Bevan University Health Board, Cardiff and Vale University Health Board, and Cwm Taf Morgannwg University Health Board to oversee regional planning and service delivery for a catchment population exceeding 1.5 million, noting the service provision of these organisations reaches beyond this. The RJC seeks to transform regional collaboration by providing collective leadership for planning, commissioning, and delivering health services. It focuses on aligning clinical service development with population health needs, addressing service and financial challenges, and reducing unwarranted variation in outcomes and access.

The RJC will operate under four core partnership principles;

- A system-focused partnership aiming for agreed population outcomes
- A low-bureaucracy, high-trust environment
- A system enabler fostering collaboration
- A culture of constructive behaviours.

The RJC has been established to:

- (a) Create a step change in the effectiveness of arrangements to collaborate across the regional footprint in the interests of our shared population, marking a change in the way we work collectively as health boards.
- (b) Provide collective leadership for the regional planning, commissioning, and delivery of services for the population served by the three health boards, considering the service challenges, financial challenges and population health needs of all three organisations.
- (c) Establish a regional approach to the development of clinical services planning, aligned to regional population health needs assessments, to develop and deliver sustainable services in terms of achieving quality and outcome measures, workforce and financial sustainability.
- (d) Identifying priorities for the three health boards, where a regional approach will deliver benefit.
- (e) Explore how the benefits of a regional health economy are harnessed to best serve the south-east Wales population of over 1.5million.
- (f) Reduce unwarranted variation and inequality in health outcomes, access to services and experience at a regional population level.

The RJC builds on the existing regional portfolio currently comprises several programmes: orthopaedics; diagnostics; ophthalmology; stroke; and cancer services. Health Boards in South East Wales have committed to active collaboration when adding value to clinical service delivery, access, and sustainability. Health Board planning teams (joined by clinical, operational, and other colleagues where beneficial) continue to meet on a regular basis to agree common approaches to strategic challenges, progress ongoing regional collaborative programmes, share experience / best practice and to consider future opportunities for closer working to mutual benefit.

2.3.1 Cwm Taf Morgannwg University Health Board

Established in 2009, Cwm Taf Morgannwg University Health Board (previously known as Cwm Taf University Health Board) provides primary, community, hospital and mental health services to the 450,000 people living in the County Boroughs of Bridgend, Merthyr Tydfil and Rhondda Cynon Taf. The Health Board employs approximately 12,000 staff and has an annual budget of approximately £1.3 billion.

CTMUHB's long term strategy, CTM2030: Building Healthier Communities Together has four strategic goals: Improving Care; Creating Health; Sustaining our Future; and Inspiring People. Using population health focused information to drive decision making, the UHB aims to reduce health inequalities, deliver person-centred care and ensure high quality, safe services are sustainable in the future.

Regional working with partners actively supports the UHB's aims and vision, as working together to deliver the changes needed to ensure people living in CTM communities receive safe, good quality services and benefit from advances in treatment and care that will help them to live healthy longer lives.

CTMUHB is located between Wales' capital city Cardiff to the south, the coastal town of Porthcawl to the west, and the Brecon Beacons National Park to the north. Hospital sites include:

- Prince Charles Hospital
- Princess of Wales Hospital
- Royal Glamorgan Hospital
- Ysbyty Cwm Cynon
- Ysbyty Cwm Rhondda
- Ysbyty George Thomas
- Cefn Yr Afon
- Dewi Sant Health Park
- Glanrhyd Hospital
- Pontypridd Cottage Hospital
- Keir Hardy University Health Park
- Maesteg Community Hospital
- Merthyr Renal Dialysis Unit
- Pinewood House.

The proposed Llantrisant Health Park is situated close to the Royal Glamorgan Hospital.

2.3.2 Cardiff and Vale University Health Board

CAVUHB is one of the largest NHS organisations in Europe, employing approximately 17,000 staff and spending around £1.4 bn every year on providing health and wellbeing services to a population of around 472,400 people living in Cardiff and the Vale of Glamorgan. The UHB also serves a wider population across South and Mid Wales for a range of specialities.

The UHB is structured and designed into eight Clinical Boards, which cover the four main service areas. The eight Clinical Boards were created in June 2013 and have focussed on providing strong leadership in clinical areas, resulting in the acceleration of operational decision-making, greatly enhancing the outcomes for patients in their care. The Boards are held to account via the Executive Directors, and a process of scrutiny is ensured through monthly performance boards and a robust authorisation process.

Hospital sites include

- University Hospital Wales
- University Hospital Llandough
- Noah's Ark Children's Hospital for Wales
- Barry Hospital
- St David's Hospital
- Hafan y Coed Mental Health Unit
- Cardiff Royal Infirmary
- University Dental Hospital.

CAVUHB's "Shaping Our Future Wellbeing" strategy outlines a long-term vision to improve population health, reduce inequalities, and deliver outstanding care by 2035. Building on the principles of prevention, person-centred care, and integrated services, the strategy sets four strategic objectives: Putting People First; Providing Outstanding Quality; Acting for the Future; and Delivering in the Right Places.

The Health Board aims to shift more services into community settings, enhance digital maturity, and develop modern, flexible facilities that support recovery and sustainability. It emphasises reducing health inequities, improving life expectancy, and ensuring care is accessible, timely, and safe. The strategy also prioritises workforce wellbeing, inclusivity, and the expansion of research and innovation in collaboration with academic and industry partners.

Collaborative regional working aligns directly with this vision, supporting the delivery of high-quality, efficient, and equitable care closer to home. Regional facilities enable the Health Board to help meet rising demand, reducing pressure on its acute hospitals, and contribute to the Health Board's goals of sustainability, digital transformation, and improved patient outcomes.

2.3.3 Aneurin Bevan University Health Board

ABUHB was established in October 2009 and serves the areas of Blaenau Gwent, Caerphilly, Monmouthshire, Newport, Torfaen and South Powys.

The UHB employs over 14,000 staff, two thirds of whom are involved in direct patient care and has an annual budget of approximately £1.7bn. There are more than 250 consultants in a total of over 1000 hospital and general practice doctors, 6,000 nurses, midwives, allied professionals and community workers. Hospital sites include acute sites:

- Grange University Hospital
- Royal Gwent Hospital
- Nevill Hall Hospital
- Ysbyty Ystrad Fawr

and a number of community hospitals and facilities, including:

- Rhymney Integrated Health and Social Care Centre
- County Hospital
- St Woolos Hospital
- Chepstow Community Hospital
- Monnow Vale Integrated Health and Social Care Centre.

2.4 National and regional strategies

2.4.1 Strategic fit with national priorities

The proposed LHP orthopaedic arthroplasty hub supports the strategic objectives of NHS Wales by:

- **Reducing waiting times** for elective arthroscopic procedures, thereby improving patient experience and outcomes.
- **Enhancing clinical productivity** through dedicated theatre capacity, streamlined pathways, and standardised protocols.
- **Supporting workforce sustainability** by enabling sub-specialist practice, training opportunities, and improved staff retention.
- **Improving system resilience** by decoupling elective care from emergency pressures and winter surges.

This initiative also complements the *Getting It Right First Time (GIRFT)* programme by embedding evidence-based practice and reducing variation in surgical technique, rehabilitation, and follow-up care.

2.4.2 Population health and value-based care

LHP will contribute to improved population health by addressing unmet need in orthopaedic care, particularly among working-age adults and older populations experiencing functional impairment due to joint pathology. By focusing on value-based outcomes—such as return to function, reduced pain, and patient-reported experience—LHP will support the shift towards prudent healthcare and optimise resource utilisation across the system.

LHP will ideally be underpinned by a robust digital infrastructure, enabling real-time data capture, remote pre-operative assessment, and virtual follow-up pathways. Integration with the Welsh Clinical Portal and national PROMs datasets will support continuous improvement and benchmarking. LHP will also act as a testbed for innovation in surgical technique, anaesthesia, and rehabilitation, in partnership with academic and industry stakeholders.

2.4.3 South East Wales Regional Orthopaedic Plan

This sets out a collaborative plan for the South-East Wales (SEW) region to deliver high quality, sustainable orthopaedic services for the population. The plan has been developed through the regional Orthopaedic programme working closely with the LHP programme, national Orthopaedics leads and the NHS Wales Performance and Improvement Unit. It presents a comprehensive assessment for planned orthopaedic services over the next four years, emphasising the optimal use of existing resources and setting out both immediate and long-term strategies. The plan will continue to develop in line with the LHP programme timelines.

The SEW regional orthopaedic plan outlines the region's collective plans to delivering sustainable, high-quality orthopaedic services over the next four years. The plan in this initial phase, focuses on the acute phase of the Orthopaedic pathway and the demand and capacity modelling for the region.

A key component of the long-term vision is the development of a regional primary orthopaedic arthroplasty service at LHP. The plan aims to support the planning for this facility, specifically supporting the requirement for additional capacity to inform this OBC. The key elements / scope of the plan are as follows: -

- Examination and analysis of baseline health board positions of demand and capacity, covering case-mix, complexity, projected demand, waiting list growth and trends

- A focus on theatre and outpatient demand and capacity. Further work to be undertaken throughout the pathway including diagnostics, therapies, pre-operative and post-operative services
- Efficiency measures to optimise existing resource, including gaps, bottlenecks and unwarranted variation, and informed by benchmarked examples of best practice
- Short term health board plans to address capacity gaps
- Longer term regional plans, incorporating LHP capacity and future clinical model
- Benefits and risks
- Planning assumptions, including workforce / finance / diagnostics / digital
- Programme governance and delivery including next steps and timescales
- Conclusions, and recommendations.

There are several areas of the plan which will further develop over the next six months to include areas such as detailed pathway, workforce and financial planning. It is anticipated that an updated version of the regional plan will be completed and submitted alongside the regional FBC for Phase 2. The latest version of this document can be found in Appendix 2.

2.5 Alignment with other local and national strategies

Optimisation Frameworks have been developed by the Strategic Programme for Planned Care, as a tool for all UHBs to be able to:

- review planned care specialities that are provided to patients
- identify areas of good practice
- identify areas for improvement across all Clinical Implementation Networks.

The framework is a result of collaboration between the Welsh NHS Executive, UHBs, and the **Getting It Right First Time (GIRFT)** guidance. They have been fully endorsed by Judith Paget, previous Director General of Health and Social Services and NHS Wales Chief Executive, as a comprehensive guide to help UHBs meet the challenges faced within the system.

The framework has been developed in two parts:

- A matrix designed to allow UHB's to score themselves based on maturity (0 – Nothing planned, 1 – Planned, 2 – Early progress, 3 – Results, 4 – Fully mature)
- A handbook that integrates advice, guidance, standard operating procedures, outpatient dashboard data, clinic guides and established pathways.

Both documents were developed by the NHS Executive with guidance from the Clinical Lead of each network and discussed with the wider network group for further feedback and input.

Results produced when using the matrix/handbook will subsequently provide actionable strategies, condition-specific interventions and evidence-based practices, to address the challenges identified. They will also help drive priorities and areas of focus UHBs need to target in future plans, whilst working closely with the Clinical Implementation Network.

Orthopaedics is one of the highest volume specialties and has one of the longest waiting lists. It is one of the first specialties to which GIRFT was applied to help drive efficiency, throughput and cost effectiveness. GIRFT first shone the light on areas for focus and improvement in Orthopaedics in March 2015.

GIRFT identified three key steps to improve quality and productivity for high volume, low complexity (HVLC) surgery, these are:

- separating elective and non-elective surgery
- increasing day case surgery rates
- improving the utilisation of asset such as operating theatres, x-ray equipment and other complex equipment, increasing theatre productivity and creating more efficient care pathways.

The NHS Elective Recovery Plan also includes surgical hubs as a key measure for focusing on high-volume routine surgery to enable a rapid increase in the number of patients can get seen more quickly, ensuring that emergency cases do not disrupt operations and cause cancellations or delays. Surgical hubs will reduce waiting lists; improve patient outcomes create a centre of excellence for clinical excellence and level up patient access and performance.

Despite an independent review by the GiRFT programme in 2014, key recommendations, particularly around increasing and safeguarding elective capacity have not been implemented to date, contributing to ongoing instability across the services in Southeast Wales. Pressures have been further exacerbated since this time by growing demands for urgent / unscheduled orthopaedic care and the impact of the COVID-19 pandemic.

The GIRFT report called for a shift from individual health board planning to a more integrated, regional model, based on common pathways and sharing of best practice. This now forms a key priority for Welsh Government, as reflected within the National Clinical Framework for NHS Wales. A letter from the Cabinet Secretary was received by Health Board Chairs in April 2025, indicating a wish to see accelerated progress in the planning and delivery of healthcare services on a regional level to maintain safety, quality, and sustainability.

2.5.1 National Blueprint for Orthopaedic Surgery Delivery in Wales

A further key informing document for the orthopaedic programme is the National Blueprint for Orthopaedic Surgical Delivery in Wales report that was developed as part of the National Clinical Strategy for Orthopaedic Surgery (NCSOS) in 2022. The report acknowledges that delays in elective orthopaedic care have been a persistent issue for decades, with temporary fixes like waiting list initiatives and private outsourcing masking deeper systemic problems. It concludes that if the current model of orthopaedic service delivery remains unchanged, the national elective orthopaedic backlog is projected to increase by up to 300% over the next five years.

Even with the implementation of mitigation strategies, such as efficiency improvements and service redesign, the backlog is still expected to grow by approximately 59%. This continued growth is attributed to critical systemic constraints, including:

- Inadequate estate infrastructure
- Insufficient ring-fenced elective beds
- Persistent workforce shortages.

These projections underscore the urgent need for a transformational shift in service configuration, capacity planning, and investment to prevent further deterioration in access and outcomes for orthopaedic patients across Wales.

2.5.2 Ministerial Advisory Group on NHS Wales Performance and Productivity

In addition, the report by the external Ministerial Advisory Group (MAG) on NHS Wales Performance and Productivity in April 2025 recommends that all health boards and trusts should take action to improve waiting list management. Prioritisation of available capacity for the longest-wait patients should become a pre-condition for receipt of additional funding from Welsh

Government for elective recovery. The report identified the following key factors driving long waiting times:

- Growth in outpatient referrals
- Uneven adoption of best practice in referral management
- Unwarranted variation in outpatient management
- Poor waiting list management
- Sub-optimal theatre and surgical productivity
- The absence of protected high volume elective surgical capacity
- Sub-optimal use of the independent sector
- Bottle necks, capacity and management issues in diagnostics
- Very high numbers waiting in a few providers.

The MAG report also identified that the individual preparation of IMTPs overlooks opportunities for shared service models even in underperforming areas. An example given is complex arthroplasty, where fragmented planning has contributed to inefficiencies, variability in access, and challenges in maintaining high-quality, sustainable care. A more integrated, regionally coordinated planning process has developed over the past 2-3 years and is essential to address these systemic issues and to ensure equitable, high performing orthopaedic services across Southeast Wales. The MAG report includes greater regional collaboration within its recommendations, and the **regional orthopaedic plan and the LHP Programme are** intended to be a key first step towards addressing this need.

The review furthermore identified workforce productivity and leadership as critical levers for improving NHS Wales performance, as well as the need to align workforce planning with performance goals.

Within the broader strategic People context The National Workforce Implementation Plan for Wales (building on the Welsh Government 'A Healthier Wales: Our Workforce Strategy for Health and Social Care) sets the strategic direction for training, retention, new roles and regional workforce planning with stronger regional workforce levers. The LHP plans to will aim to work to these principles with agile, regional workforce models and better use of digital support to increase workforce capacity and productivity. It is noted that there remains workforce risks due to skills shortages in key areas which requires robust workforce planning

2.5.3 A Healthier Wales: Our Workforce Strategy for Health and Social Care (National Implementation Plan for Wales)

The workforce plan will be underpinned by A Healthier Wales: Our Workforce Strategy for Health and Social Care, which sets out a 10-year vision to create a motivated, engaged, and sustainable workforce, capable of meeting the evolving needs of the population.

The strategy emphasises seven core themes:

- An engaged, motivated and healthy workforce
- Attraction and recruitment
- Seamless workforce models
- Building a digitally ready workforce
- Excellent education and learning
- Leadership and succession
- Workforce supply and shape

The National Implementation Plan translates these ambitions into actionable steps, focusing on filling workforce gaps, improving recruitment and retention, and embedding digital innovation to support service transformation. By aligning with these principles, the initiative contributes directly to the delivery of a flexible and resilient workforce that can adapt to future challenges, including demographic change and increasing service demand.

The approach also reflects wider UK and Welsh Government priorities, including the Well-being of Future Generations (Wales) Act 2015 and the NHS Wales National Workforce Implementation Plan. These frameworks support long-term sustainability, integrated health and social care models, and investment in education and training to address chronic workforce shortages. The Parliamentary Review of Health and Social Care and subsequent A Healthier Wales plan reinforce the need for a seamless system designed around individuals, supported by a skilled workforce prepared for digital transformation and new models of care.

Within the broader strategic People context, The National Workforce Implementation Plan for Wales, sets the strategic direction for training, retention, new roles and regional workforce planning with stronger regional workforce levers. The LHP plans to will aim to work to these principles with agile, regional workforce models and better use of digital support to increase workforce capacity and productivity.

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3 Case For Change

3.1 Introduction

This section of the business case establishes the case for change for the development of LHP by providing a clear understanding of:

- The spending objectives (what the proposals seek to achieve)
- Existing arrangements (what is currently happening)
- Business needs (what is required to close the gap between existing arrangements and what is required in the future).

3.2 Spending objectives

The main aim of the project is to deliver a Regional Health Park that is right-sized, to meet the current and future needs of the local population, supports the integration of primary, community and social care services, complies with regulatory standards and is suitable for the delivery of twenty first century healthcare.

The spending objectives listed in the table below were agreed by members at LHP Programme Board in September 2024.

Table 2 - Spending objectives

Ref	Theme	Spending objective	Benefit
SO1	Meet population needs	The delivery of an elective high volume low acuity model of care for the South East Wales Region on a phased basis. This second phase to focus on the delivery of elective orthopaedic arthroplasty, to be operational by the end of the 2028/29 financial year.	• Right-sized to meet current and future demand • Improves access to range of services • Centre of Excellence with efficient service delivery models and improved patient outcomes and increased throughput • Able to flex for the future
SO2	Maximise capacity	To maximise clinical capacity on the LHP site. To ensure that the maximum amount of available space is directed towards direct service delivery with supporting services managed from the neighbouring Royal Glamorgan site.	• Creates opportunities for centralisation of skillsets; centre of excellence • Enables greater collaboration regionally
SO3	Innovation and standardisation	To facilitate and support the use of innovative design and delivery solutions in both clinical and non-clinical services. To implement standardised protocols and practices to promote efficient service delivery offering improved value for money, reported via comprehensive patient level costing, over the English tariff.	• Standardisation of consumables, with financial savings • Standardisation of best practice/policies; efficiencies, increased throughput, reduction of wait lists

Ref	Theme	Spending objective	Benefit
SO4	Enable training / development of future workforce	To enable increased training and development of secondary care staff including accommodating more medical trainees and students.	- Accommodates placements for students (allowing role development and succession planning) - Improved workforce retention and recruitment
SO5	LHP Models of Care and Workforce Models	To develop a new model of care and workforce models to support the delivery of the core services, the models will support efficient delivery of services	- Environment / ways of working that support staff welfare and wellbeing - Improved skills and job satisfaction - Improved patient outcomes - Multi-disciplinary working
SO6	Sustainable estate	To deliver a sustainable infrastructure on the site maximising decarbonisation and net zero opportunities.	- Complies with relevant standards; NZC, BREEAM excellent and energy performance - Opportunities for future additional service provision for South East Wales. - Opportunities for further regional reconfiguration and enabling of service and or estate rationalisation.

3.3 Business need

The vision is to create a standalone site for high volume low complexity arthroplasty surgery that guarantees uninterrupted, effective, efficient services, which address both current capacity shortfalls and offers opportunity to meet future demand growth.

The need to significantly increase treatment capacity in Wales was set out in the Welsh Government Programme for Transforming and Modernising Planned Care and Reducing Waiting Lists in Wales which was published in April 2022.

The plan set a clear direction for UHBs to recover the backlog of elective activity that has developed during the COVID-19 pandemic as well as responding to the increasing demand for surgical services due to demographic change and the challenge of health inequalities evident in many parts of Wales.

The plan has five main goals, which are underpinned by seven priorities to support and influence recovery planning and investment decisions as set out below.

Figure 1 - Welsh Government programme for Transforming and Modernising Planned Care Goals and Priorities



The seven priorities are:

- 1 Transformation of outpatients
- 2 Prioritisation of diagnostic services
- 3 Focus on early diagnosis and treatment of suspected cancer patients
- 4 Implementing a fair and equitable approach to patient prioritisation to minimise health inequalities
- 5 Elimination of long waits at all stages of the pathway
- 6 Building sustainable planned care capacity across the care pathway
- 7 Provision of appropriate information and support to people

The LHP programme aligns with planned care recovery programmes across with the region in the development of long-term additional capacity to support the delivery of efficient and effective solutions to support all three UHBs to eliminate long waits and reduce overall waits within the patient pathway, both in terms of access to orthopaedic services as well as in diagnostics.

The ability to create bespoke capacity, to maximise patient flow and increase efficiency and innovation in service delivery, offers additional benefits to the region from investment in the programme, including:

- standardisation of patient pathways and clinical practices which should increase efficiency and improve patient outcomes
- consolidation of services on LHP which will release space on existing sites and act as a key enabler for future regional reconfiguration and transformation
- an opportunity to standardise procurements thus achieving greater revenue savings on high volume items.

3.4 Clinical evidence and policies underpinning LHP, including Getting it Right First Time

The vision is for LHP to be an exemplar regional facility providing an elective orthopaedic primary arthroplasty hub (EAH),.

Surgical hubs are an important part of plans to increase surgical capacity and to offer hundreds of thousands more patients' quicker access to some of the most common procedures. Hubs focus mainly on providing 'high volume low complexity' (HVLC) surgery with particular emphasis on ophthalmology, general surgery, trauma and orthopaedics, gynaecology, ear nose and throat, and urology.

They bring together skills and expertise of staff under one roof – reducing waiting times for some of the most common procedures such as day surgeries and hip replacements. These operations can be performed quickly and effectively in one place.

3.4.1 What defines a HVLC hub?

- Exclusively perform elective surgery, avoiding emergency disruptions
- Operate with ring-fenced theatres, beds, and staff, ensuring continuity and infection control
- Has embedded – or is working towards – the principles of 6-day operating, 48 weeks per year, 2.5 session days and 85% theatre utilisation
- By separating elective care from emergency services, hubs reduce cancellations, improve patient flow, and support faster recovery.

3.4.2 Benefits of this approach

Improving quality and efficiency will mean patients have shorter waits for surgery, will be more likely to go home on the same day, and will be less likely to need additional treatment after surgery. As the hubs are separated from emergency services, surgical beds are kept free for patients waiting for planned operations, reducing the risk of short-notice cancellations due to other emergency admissions taking priority.

GiRFT identifies the **key benefits** as:

- More efficient use of theatre capacity and increased throughput
- Increased resilience against winter pressures
- Streamlined pathways and shorter length of stay
- Application of innovative, more sustainable workforce
- Reduced pressure on staff and improving morale, recruitment and retention.

The model being developed for LHP is consistent with the model recommended by GiRFT and the British Orthopaedic Association (BOA) and in Line with and Royal College of Surgeons (RSC) practices adopted widely across England.

The intention is to create a centre of excellence for planned HVLC elective primary arthroplasty surgery, delivering productivity and quality of care for patients that consistently meets best practice and delivers optimum value.

LHP will build on the learning from the South West London Elective Orthopaedic Centre (SWLEOC), Exeter, Colchester and Oswestry elective orthopaedic centres (EOC) and Elective surgical hubs in Kidderminster and Emerson Green. The design has been focused on ensuring good flow in a timely manner to reduce wasted time and improve patient experience.

LHP will be fit for the future. It is designed using evidence from a range of sources from GIRFT and the BOA to the National Joint Registry, and other professional bodies. There will be sufficient capacity to meet current and future demand resulting in timely access to services for patients.

Following an assessment of various models, the chosen approach will support the region in meeting the collaboration's goals, addressing the capacity gap, and ensuring all facilities meet GIRFT standards and are accredited for HVLC surgery. The proposed clinical model includes a dedicated building, fully separate from any acute care facilities. The Arthroplasty unit will be completely ring-fenced to meet GIRFT and BOA requirements for an orthopaedic hub.

The potential benefits for patients include:

- Faster access (due to sufficient capacity)
- Equitable access
- Consistent and best practice care in a centre of excellence
- Better clinical outcomes
- Improved preoperative care
- Shorter length of inpatient stay
- Dedicated facilities and reduced likelihood of cancellation
- Dedicated, specialist post-operative care and service
- Increased investment due to potential savings from repatriation from out of sector.

3.4.3 Evidence supporting best practice

The GIRFT vision is for 'cold' elective surgical hubs, offering ring-fenced beds and ultra clean air theatres for orthopaedics, thus delivering evidence-based best practice in relation to protection against infection. Standardisation of care ensures the highest levels of productivity and value for money. This proposal is compatible with best practice recommendations from GIRFT, as shown, and is supported by the National Director of Clinical Improvement for the NHS and the Planned Care programme.

Since July 2023, GIRFT has been working with a group of 25 NHS trusts in England on a 'Further Faster' pilot, bringing together teams of highly engaged clinicians and operational colleagues with the challenge of collectively going further and faster to reduce 52-week waits. The specialties supported by this programme align with all those that are to be delivered within LHP. GIRFT have evidenced that HVLC in stand-alone, dedicated units deliver many benefits and transformation of day case pathways.

Data from the pilot shows that from October to mid-November 2023 the total 52-week backlog for all participating trusts reduced from 93.2% to 84.4% (by 9.8%), in comparison with a reduction among all other trusts from 105.5% to 103.9% (1.6%). This equates to a 19.5% difference in total backlog reductions between the pilot group and all other trusts since the Further Faster programme began. LHP will allow the adoption of the HVLC pathways for surgical hubs.

Table 3 - GIRFT best practice recommendations for elective orthopaedics

Theme	GIRFT comment	Meets best practice?
Ring-fenced beds	Best practice is rigidly to enforce ring-fencing of elective orthopaedics minimises infection.	✓
Hot and cold sites	By separating “hot” unplanned emergency work from their “cold” elective work, NHS organisations have seen reductions in average length of stay, reductions in cancellations of surgery and increased elective activity during winter pressures.	✓
Minimum volumes	Surgeons should perform 35 or more total hip replacements per year to avoid increased complication rates. LHP will support surgeons delivering high volume arthroplasty.	✓
Choice of implant	Surgeons should follow the evidence that choice of implant should be tailored to the patient need. Best practice is that 80% of patients over 70 should receive a cemented hip.	✓
Surgical site infection (SSI)	Variation in SSI rates were found when GIRFT started their visits. Ring-fencing, hot/cold sites and laminar flow are key factors in reducing infections.	✓
Rehabilitation services	Particularly relating to increased physiotherapy service for elective patients.	✓
Procurement	Variable implant costs and use of loan kits has been tackled through improved visibility and price negotiations.	✓

To support Wales in establishing an elective optimisation programme, Health Boards are required to focus on improving theatre efficiency and adopting HVLC and GIRFT pathways. It is vital that UHBs achieve 85% theatre utilisation, meet productivity measures, and maximise day case opportunities. Key objectives include reducing inpatient admissions, minimising cancellations, and ensuring patients are fit for surgery before scheduling. LHP is a driver to supporting these changes. The dedicated surgical Hubs in England have driven improvements and standardisation into the secondary care facilities. The case for change has been widely accepted and is in line with the drivers for change identified as:

- Growing demand and increasing waiting times
- Population health challenges, including large health inequalities
- Underperformance against key quality indicators, wide variations in quality and disruption to planned care caused by surges in unplanned care
- Insufficiently joined-up care across primary, community and acute services and care that is not sufficiently focused on the needs of the patient
- Unwarranted variations in theatre utilisation and downtime
- Staff recruitment and retention challenges.

As part of the strategic ambition, GIRFT Surgical Hub Accreditation will be sought for LHP shortly after opening. Securing this accreditation would not only affirm the quality and consistency of the elective care services but also develop LHP’s reputation as a high-performing surgical hub within the national landscape.

Throughout the development and implementation phases of the LHP programme, the LHP team has have proactively engaged with the GIRFT Surgical Hub Accreditation team. This collaboration has informed the approach to service design, ensuring that the LHP infrastructure, workforce model, clinical pathways, and operating model are aligned with the standards required to achieve accreditation. This approach ensures maximum preparation for future assessment and recognition under the GIRFT framework.

Collaborative working regionally and nationally will continue to be vital as the team work towards delivery of the LHP alongside other priorities in our South East Wales Regional Portfolio.

All the progress on the primary arthroplasty pathway to date has been developed across the region with good clinical engagement. This has been informed by best practice and learning from other exemplar facilities, both positive and negative experiences.

One of the main actions from the Trauma and Orthopaedic Surgery Ministerial Summit December 2024 was that the Regional Orthopaedic Programmes reconfigure into Operational Delivery Networks/Groups (NW, SEW, SWW) working within the overarching WON, underpinned by the National Clinical Strategy for Orthopaedic Surgery. This aligns with the National Clinical Framework. The ODGs will establish processes to ensure implementation of regional working.

The establishment of surgical hubs delivering HVLC activity is not only endorsed by GiRFT, but it also forms an integral part of the orthopaedic strategic outline plan for Wales and the Orthopaedic Improvement Network (CIN). The Orthopaedic CIN is working towards ensuring adequate ring-fenced ward capacity for delivering elective arthroplasty surgery, as this is seen as essential to the delivery to reduce waiting times. Surgical hubs bring benefits to all day surgery specialties as well as orthopaedic arthroplasty.

British Orthopaedic Association (BOA) guidance: Delivering a Safe Elective Orthopaedic Environment

The British Orthopaedic Association (BOA) has published clear standards for providing a continuous, safe elective orthopaedic environment, particularly in the context of increasing demand and system pressures. These standards are designed to ensure consistent, high-quality care for patients undergoing planned orthopaedic procedures, including joint replacements.

Central to BOA guidance is the principle of ring-fencing both the physical and operational separation of elective orthopaedic services from emergency care. This includes dedicated beds, theatres, and staff exclusively for clean orthopaedic procedures. BOA also recommends:

- Defined facilities that exclusively accept appropriate orthopaedic patients
- Standard Operating Procedures (SOPs) for screening, decolonisation, and infection control
- Individual rooms for patients with infection risks
- Governance protocols to maintain the integrity of the ring-fenced environment, including escalation policies and executive oversight.

The proposed elective surgical hub at LHP has been designed in full alignment with BOA guidance. By embedding BOA principles into its design and operations, LHP will provide a resilient, high-quality environment for elective orthopaedic surgery.

Development of the LHP Clinical Model – external studies to inform best practice

The LHP Arthroplasty Unit has been developed through a comprehensive, evidence-based process that draws on best practice from across the United Kingdom and Internationally. The ambition has been to create a clinical and operational model that delivers high-quality, efficient, and patient-centred care, supported by infrastructure that enables and enhances patient experience and clinical excellence. To achieve this, the LHP team have undertaken a wide-ranging programme of research and engagement, including:

- Site visits to exemplar units such as South West London Elective Orthopaedic Centre (SWLEOC), University Hospital Dorset NHS Foundation Trust (UHD), One Welbeck, East Suffolk and Essex Elective Orthopaedic Centre (ESEOC), and South West Ambulatory Orthopaedic Centre (SWAOC), each offering valuable insights into different aspects of orthopaedic service delivery, innovation and best practice

- Participation in regional and national networks, including the South East Wales Regional Orthopaedic Programme, Orthopaedic and Anaesthetic Clinical Implementation Networks (CINs), and the National Planned Care Programme, which helped ensure alignment with local and national programmes
- Multidisciplinary workshops and workstreams, which enabled collaborative design of pathways, protocols, and infrastructure specifications for LHP
- Targeted consultations on key operational and clinical components, such as theatre and anaesthetic room design, staggered admissions and preoperative health screening questionnaires.

Each of these engagements has contributed to shaping a model that is both innovative and evidence based. For example, the visit to SWLEOC highlighted the benefits of staggered admissions and ring-fenced elective capacity, which has been incorporated into the LHP model. At UHD, the team explored their infrastructure, including barn theatres, ultimately deciding against this model in favour of a more traditional layout that better supports clinical workflows, patient privacy standards and resilience. One Welbeck highlighted the need for standardisation of room space and importance of smart use of space and materials.

These insights, along with many others, have directly influenced the design and delivery of the unit at LHP. The infrastructure has been purposefully developed to support the clinical model, ensuring optimal patient flow, efficient use of resources, and optimal outcomes

Table 4 - Engagement undertaken so far

Visits	Meetings	Workshops	Regional workstreams	Consultations
• Poole • SWLEOC • SWAOC • One Welbeck • ESEOC.	• SEW Regional Orthopaedic Board • Orthopaedic CIN • Anaesthetic CIN • National Planned Care Program.	• SEW Regional Orthopaedic programme workshops. • LHP Arthroplasty Pathway Development Workshop.	• Arthroplasty • Anaesthetic • Therapies.	• Staggered admission • Regional Health Screening questionnaire. • Arthroplasty development.

One Welbeck

In the initial phases of the LHP development, a team of senior clinicians, infrastructure, operational, digital and programme management representatives visited One Welbeck, one of the UK's largest and most advanced specialist outpatient healthcare centres. Located in central London, One Welbeck is an excellent example of modern, patient-centred approach to diagnostics, treatment, and day case surgery. The centre was built in an existing building, in-line with our initial plan to repurpose the existing British Airways buildings on the LHP site.

The facility is purpose built to deliver high quality, consultant led care across more than 14 specialties, including cardiology, gastroenterology, orthopaedics, ENT and dermatology.

Key features of One Welbeck that informed the development of model include:

- Co-location of outpatient and diagnostic facilities whereby patients can receive consultation, diagnostics, and results within the same day, streamlining the care journey and reducing delays
- Use of advanced digital infrastructure for imaging, diagnostics, and patient engagement, supporting both clinical and operational efficiency

- The environment is designed to be welcoming, with a strong emphasis on comfort, privacy and efficiency
- Outpatient spaces are standardised which supports efficiency, reducing variation, and enabling flexible use across specialties
- While the facility is highly efficient, the visit highlighted the operational challenges posed by insufficient clinical storage. This highlighted the importance of incorporating adequate, accessible storage solutions in our own infrastructure planning.

The visit provided valuable insights into how infrastructure, clinical design, and operational processes can be aligned to deliver efficient, high-quality care. The learning has directly influenced the LHP model, particularly in the areas of pathway integration, digital enablement, and infrastructure design.

University Hospitals Dorset NHS Foundation Trust

University Hospitals Dorset NHS Foundation Trust (UHD) was established in October 2020 following the merger of Poole Hospital, the Royal Bournemouth Hospital, and Christchurch Hospital. Located on the south coast of England, the Trust serves a diverse population of over 800,000 people across Bournemouth, Poole, Christchurch, east Dorset, Purbeck, and parts of the New Forest and South Wiltshire. With more than 9,000 staff, UHD provides a wide range of acute and specialist services, including cancer care, cardiology, trauma, and orthopaedics.

Poole Hospital, one of the Trust's three main sites, is a long established acute general hospital and the designated trauma unit for east Dorset, serving a population of approximately 500,000 people.

As part of UHD's strategic transformation programme, Poole Hospital is being developed into the region's major planned care hospital, focusing on elective procedures, and protected from emergency pressures. A key component of this transformation is the recent opening of a surgical hub, which includes five-storey extension housing eight new operating theatres. Among these is an open plan 'barn' theatre, designed to improve surgical efficiency, enhance teamwork, and reduce waiting times for elective orthopaedic procedures.

A team comprising clinicians, infrastructure programme leads, architects, and estates colleagues attended Poole Hospital to explore this new facility and gain insights into its design, functionality, and potential impact on elective care delivery.

The primary aim of the visit was to explore their implementation of barn theatres and understand the practical implications of operating in an open plan surgical environment. Key focus was on how the team maintained patient dignity despite the lack of physical barriers between operating spaces. Through thoughtful design and workflow management, they ensured privacy and comfort for patients throughout their surgical journey.

The LHP team gained valuable insight into how infection control risks were managed between patients in a shared space. The hosts demonstrated clear protocols and practices that mitigated cross-contamination. Similarly, radiation safety precautions specific to barn operating theatres were taken when X-ray imaging was used, ensuring both patient and staff safety.

Theatre etiquette was another area of learning, particularly around managing noise levels and the use of music. The team had established norms that balanced a positive working atmosphere with professionalism and respect for individual choice around the provision of music or not, with the default position being no music.

The barn theatre layout also offered significant benefits in terms of supervision and training. Trainees across all disciplines were more easily observed and supported, enhancing the learning environment. Working in an open-plan space also enabled teams to support one another more readily, improving communication and responsiveness.

However, the visit also highlighted several operational challenges. Servicing individual ventilation units was complex, and any maintenance work had the potential to disrupt multiple theatres. Accessing a specific theatre for maintenance during operating hours was particularly difficult, and the environmental impact was notable since all four ventilation units had to run continuously to maintain airflow, unlike traditional theatres which can be set back when not in use.

These insights were instrumental in informing the options appraisal for theatre architecture. While the LHP Programme ultimately chose to pursue a traditional theatre design, this decision making was significantly strengthened by the lived experience and practical knowledge shared by the Poole team.

Beyond the barn theatre insights, the visit highlighted the importance of adequate storage. Clear corridors free from clutter were essential for safety and efficiency, and this observation directly influenced the storage space allocation strategy across LHP.

South West Ambulatory Orthopaedic Centre (SWAOC)

SWAOC is a specialist elective surgical hub located at the NHS Nightingale Hospital Exeter, part of the Royal Devon University Healthcare NHS Foundation Trust. Originally established in 2020 as part of the national response to the COVID-19 pandemic, the Nightingale Exeter was one of several temporary hospitals designed to provide additional capacity for treating patients with coronavirus. Following its decommissioning as a COVID-19 facility, the site was repurposed into an elective care centre to help address the growing backlog of planned procedures across the South West. SWAOC officially opened in March 2022 and has since become a GIRFT-accredited surgical hub, recognised nationally for its innovative clinical pathways, excellent outcomes and patient satisfaction.

The centre features two operating theatres dedicated to day case and short stay orthopaedic procedures, including hip, knee, foot, ankle, and spinal surgery. It serves patients from across Devon, Cornwall, Somerset, and the wider South West region, supporting multiple NHS Trusts including Royal Devon, Torbay and South Devon, and Somerset Foundation Trusts.

The transformation of the Nightingale Exeter into SWAOC was a collaborative effort involving clinicians, infrastructure programme leads, architects, and estates teams. The redesign focused on delivering high-volume, efficient, elective orthopaedic care, with a strong emphasis on same day discharge and enhanced recovery protocols. The centre has achieved excellent outcomes, including same day discharge for almost all joint replacements, and has been instrumental in reducing waiting times for patients with musculoskeletal conditions.

Visits were arranged based on a personal recommendation from Professor Tim Briggs. Teams comprising of Health Board Executives, clinicians, operational managers infrastructure programme leads, architects, and estates colleagues attended the site to observe the facility and understand its operational model and design principles. The history of the site and its development, along with the key principles, made this directly comparable to the development of LHP.

Key elements of learning included:

- Centralising elective orthopaedic procedures for patients with lower clinical complexity in a dedicated hub to protect planned care from emergency pressures.
- Designing facilities around patient flow and surgical efficiency.
 - ◆ Admissions area where patients remain in their own clothes until 15 minutes before theatre.
 - ◆ Anaesthetic and prep rooms to improve theatre turnaround times.
 - ◆ Plain film X-ray room between recovery and the ward area.
 - ◆ Patient trolleys, suitable for an overnight stay, to reinforce the ambulatory model.
 - ◆ Colocation of therapies space to maximise the physiotherapy time spent with each patient.

- ♦ Limited provision of television and radio and visiting to allow patients to concentrate on their recovery.
- Innovative staffing models.
 - ♦ Float anaesthetist
 - ♦ Nurse competencies
- Catering
 - ♦ Food available 24hrs a day.
 - ♦ Patients given a drink in recovery and encouraged to eat as soon as they return to the ward.
 - ♦ All members of staff take responsibility to offer and prepare food- this could be the nurse, physiotherapist, surgeon or anaesthetist.
- Standardised clinical pathways.
- Regional collaboration
 - ♦ Spread of improvement from SWAOC back to base hospitals.
- Patient experience
 - ♦ Willingness to travel to access high quality, timely care.
 - ♦ Acceptance of limited visiting, allowing patients to focus on recovery and discharge.
 - ♦ Patients prepared for same day discharge.
 - ♦ Competition and encouragement between patients to recover and go home.
 - ♦ Patients supported to be discharged home as soon as they are safe and ready to do so.
 - ♦ No cut-off time for discharge if is safe and supported.
- Home alone protocol to support patients, who may not have anybody else at home, to be discharged on the day of surgery.

The visits to SWAOC provided valuable insights that have directly shaped both the clinical model and physical infrastructure of the LHP elective orthopaedic hub. Central to their approach was the focus on HVLC patients in a dedicated surgical environment, effectively shielding planned care from emergency pressures. Much of this model has been adopted at LHP.

Facilities have been purposefully designed to support patient flow and surgical efficiency. For example, the LHP admissions area is close to theatre and allows patients to remain in their own clothes until shortly before surgery, promoting comfort, helping maintain body temperature and reducing anxiety. Anaesthetic and preparation rooms have been included to improve theatre turnaround times, and a plain film X-ray room has been positioned between recovery and the ward to streamline the postoperative check x-ray process. Patient trolleys suitable for overnight stays reinforce the ambulatory care model, and therapies spaces have been co-located to maximise the efficiency of the physiotherapy input. There is also a limited entertainment and visiting provision to help patients focus on recovery during a shortened length of stay.

Staffing models have been influenced by SWAOC's innovations, including the use of a float anaesthetist and enhanced nurse competencies to support flexible, efficient care. Catering has been designed to be available 24/7, with all staff empowered to offer and prepare food, encouraging a shared responsibility for patient wellbeing.

Standardised clinical pathways and regional collaboration are embedded in the LHP approach, ensuring consistency and enabling the spread of best practice. Patient experience remains central, with clear preparation for same-day discharge, flexible discharge times, and protocols such as "home alone" to support patients without immediate home support. These elements, drawn from SWAOC's successful model, have helped build a service at LHP that is both clinically robust and patient centred.

South West London Elective Orthopaedic Centre (SWLEOC)

Located on the Epsom General Hospital campus is one of the UK's most high-performing centres for planned orthopaedic surgery. Established in 2004 as part of a government initiative to reduce waiting times, SWLEOC operates as a standalone, ring-fenced surgical hub, in partnership with four NHS trusts: Epsom and St Helier, St George's, Croydon, and Kingston. SWLEOC is recognised as the largest joint replacement centre in the UK, and among the largest in Europe, performing over 6,300 procedures annually, including approximately 4,300 joint replacements. The centre comprises of 6 dedicated operating theatres and 72 inpatient beds. A multidisciplinary workforce including 43 consultant orthopaedic surgeons, nurses, physiotherapists, anaesthetists, and administrative staff.

The visiting clinical and operational team engaged with SWLEOC to understand the principles and practices that underpin its success, informing the development of a regional elective hub at LHP.

SWLEOC has a robust clinical and operational model focused on HVLC surgery supported by efficient scheduling and digital solutions. In contrast to many other stand-alone elective orthopaedic units, SWLEOC exclusion criteria is limited to patients requiring renal dialysis (a medical treatment that removes waste, toxins, and excess fluid from the blood when the kidneys are no longer able to do so effectively). The team is capable of managing patients with higher clinical needs, such as advanced airway management, cardiovascular support, or post-operative monitoring beyond standard ward care. To support this, the immediate post-operative ward is staffed by nurses with critical care experience, and 24/7 medical cover is provided by intensive care consultant doctors. On the surface, this approach may seem resource heavy, however, the team at SWLEOC have found that care delivered directly by senior doctors has reduced the time taken to make decisions and begin treatment which reduces recovery time and length of stay which ultimately reduces cost over a traditional staffing model.

SWLEOC's reputation for clinical excellence, patient outcomes, and operational efficiency has made it a national exemplar. In collaboration with the GIRFT programme, SWLEOC developed the Elective Hub Toolkit, a comprehensive online resource that distils two decades of learning into practical guidance for NHS teams. The toolkit covers every aspect of hub design and delivery, including patient pathways, staffing models, estate planning, IT systems, and governance structures. The key elements of the toolkit have been used to inform and guide the development of the clinical and operational model for LHP.

Essex and Suffolk Elective Orthopaedic Centre (ESEOC)

ESEOC is one of the UK's largest modular-built elective orthopaedic centres, spanning approximately 11,000 square metres. It serves patients across Suffolk and North East Essex, with capacity to treat around 10,000 patients per year. Completed in November 2024, it is one of the largest elective arthroplasty units in Europe. The centre includes 8 operating theatres with 72 inpatient beds. The unit has a focus on planned elective orthopaedic surgery, however, there is some provision for planned trauma.

ESEOC serves a broadly similar regional population and geographical footprint to LHP, with both being designed to support elective care pathways for combined populations of multiple NHS organisations, making it directly comparable.

Key learning points include:

- The modular build enabled rapid deployment and scalability
- Clear strategic separation of elective and emergency care ("cold" vs "hot" sites) was essential to protect capacity
- Ringfencing elective beds with strong executive support helped maintain throughput
- Standardised pathways were embedded across all specialties (hip, knee, shoulder), with visual displays in public and staff areas to reinforce consistency

- Transparent use of data (e.g., dashboards on theatre utilisation and case throughput) supported performance improvement and accountability
- Governance structures included system wide MDTs and robust clinical oversight
- ESEOC achieved low length of stay (THR – 2.0 days; TKR – 1.9 days)
- Pre-assessment capacity was highlighted as critical, with a recommendation to operate at 115% of theatre capacity (GIRFT guidance)
- Challenges included delays in opening extended recovery areas and standardising processes across trusts
- A strong emphasis on building a unified team culture across clinical and operational staff
- High staff retention was supported by wellbeing initiatives and rest facilities
- The centre functioned as a high-volume training hub, addressing post-COVID training gaps
- All patients were treated without exclusion, with provision for enhanced care beds to support more complex cases
- The model promoted equity of access and reduced variation in care delivery.

The visit to ESEOC validated many of the principles already embedded within the LHP model. From this visit the team has established peer-to-peer links, enabling frontline teams to engage directly with ESEOC to learn from their experience. The concept of an enhanced care area, as demonstrated by ESEOC, has been instrumental in shaping infrastructure planning, allowing the accommodation of a broader cohort of patients safely and efficiently.

The LHP team were particularly interested in ESEOC's approach to displaying the clinical pathway throughout both clinical and public spaces. This has now been adopted as part of the LHP model implementation at Princess of Wales Hospital, making the pathway accessible to all clinical teams and encouraging patient engagement.

Together, these insights have strengthened confidence in the LHP model at the same time as validating many of the infrastructure decisions made to date. It clearly highlighted the benefits of a standardised approach to elective arthroplasty care, MDT engagement and regional collaboration. Patients within a directly comparable population have demonstrated a clear willingness to travel reasonable distances to access high quality elective care, particularly when the environment is purpose-built, efficient, and designed around their needs.

The following concepts for orthopaedics development are based on the learning from the research, visits and conversations with the GIRFT assessors, in collaboration with regional clinical colleagues:

- Arthroplasty moves to a day surgery model and pathway. There will be the facility for patients stay overnight by exception
- The design of the facility will challenge today's practice and people's traditional way of working. This will be achieved through the new unit and would be transformational for the region on changing how HVLC services are delivered
- Standardised approach and agreed principles for the unit to be followed by all.

Alongside this, there are several key supporting principles, embedded in the process around the surgical hub, to challenge performance and ensure efficiency and throughput is maximised. LHP will be different from existing models under these principles:

- Clinical pathways and supporting infrastructure will be designed to meet GIRFT Surgical Hub accreditation, including flexibility to support future innovation
- Supporting physical infrastructure is comfortable but will not encourage unnecessary overnight stays

- Planning for zero-day length of stay as default
- All aspects of clinical pathways will be standardised
- Productivity to meet or exceed GiRFT guidelines
- Ring-fenced unit and staff.
- Regular, job-planned, consultant sessions delivered at LHP
- Whole MDT team approach, competency frameworks to support staff working across traditional role boundaries
- Stand-alone unit- satellite site of the Royal Glamorgan for logistics only.

The delivery of these principles will be driven by focused clinical groups. These will be attended and led by clinical staff with a clinical project team in place to support. The architect and design team will be embedded within this clinical team and regional engagement will also be secured on an ongoing basis.

It is critical that throughout the design process the teams continue to engage with and learn from exemplar units from across the UK and further afield to support the development of forward thinking and innovative clinical pathways feeding into the physical infrastructure. The protocols developed alongside this will be clinically developed and support standardisation, innovation and patient safety with senior clinical MDT sign off throughout.

3.5 Growing demand for services and existing arrangements

Current service provision for the region is delivered for each of the health boards' populations within each health board's geographic footprint. Alongside this, patients from each health board currently access services delivered by other health boards as part of agreed patient flows for specific service pathways. Additional capacity is delivered through a range of means including internal additional capacity using NHS clinicians (commonly referred to as waiting list initiatives or backfill) and in-sourcing.

All regional partners are seeing shortfalls in capacity year on year with demand growth. The situation has been described as comprising "persistent orthopaedic backlogs projected to grow by up to 300% without intervention".

Considering these demand levels, the three health boards committed to developing a collaborative regional orthopaedic plan to deliver high quality and sustainable orthopaedic services for the region. The plan will develop sub speciality wide demand and capacity modelling and specifically consider the position in relation to regional primary arthroplasty services.

LHP is a key component of the long-term regional vision for orthopaedics. One of the aims of the plan is to support the planning for the LHP hub, specifically around supporting the requirement for additional capacity contained in later sections of the business case. The full text of the plan is included as Appendix 2 to this case. The first phase of the plan was presented to regional Boards in September 2025.

The plan recognises that lower limb primary arthroplasty is the most pressured orthopaedic sub speciality accounting for 50% of activity with annual demand exceeding available capacity. The following table sets out projected demand growth over the next few years. This is modelled on both 1% and 4% growth which reflects the range of growth observed in the region over the past 2-3 years.

Table 5 – Projected Orthopaedic demand growth (by UHB and region)

Sub specs	Aneurin Bevan			Cardiff and Vale		
	Recurrent demand IP24/25	Demand in 28/29·		Recurrent demand IP24/25	Demand in 28/29·	
		1% growth	4% growth		1% growth	4% growth
FA	1,057	1,099	1,226	368	383	427
Paeds		0	0	324	337	376
Upper Limb	700	728	812	321	334	372
Hands	1,150	1,196	1,334	1,172	1,219	1,360
Lower Limb	1,397	1,453	1,621	1,615	1,680	1,873
Spine	947	985	1,099	529	550	614
Other		0	0	0	0	0
Total	5,251	5,461	6,091	4,329	4,502	5,022
Arthroplasty	922	959	1,070	1,244	1,293	1,443

Sub specs	Cwm Taf Morganwg			South-east Wales		
	Recurrent demand IP24/25	Demand in 28/29·		Recurrent demand IP24/25	Demand in 28/29·	
		1% growth	4% growth		1% growth	4% growth
FA	205	213	238	1,630	1,695	1,891
Paeds	34	35	39	358	372	415
Upper Limb	479	498	556	1,500	1,560	1,740
Hands	548	570	636	2,870	2,985	3,329
Lower Limb	1,883	1,958	2,184	4,895	5,091	5,678
Spine		0	0	1,476	1,535	1,712
Other	274	285	318	274	285	318
Total	3,423	3,560	3,971	13,003	13,523	15,083
Arthroplasty	1,412	1,469	1,638	3,578	3,721	4,150

Recurrent demand for IP/DC without conversion from OP non-recurrent demand

The table illustrates that recurrent demand for orthopaedic treatments remains high, with lower limb arthroplasty driving demand. The conversion of new outpatients further increases the challenge. With additional outpatient activity being delivered in year, levels of treatment demand will also increase. Should growth be closer to the upper limit then treatment requirements will rise sharply in lower limb which risks RTT compliance and achievement of targets without structural capacity expansion.

3.6 Proposed patient pathways and clinical engagement

3.6.1 Inpatient Elective Orthopaedics at LHP

The South East Wales Regional Orthopaedic Programme had been leading on the development of the clinical model and clinical specification for the elective inpatient orthopaedic unit. More recently, this aspect is being taken forward by the LHP Programme with review and discussion via the regional group.

The current plans include the theatres will be on the first floor, with arthroplasty wards on the ground floor. They will be split into two wards; one will be recovery containing trolleys for patients to be discharged on the day of surgery or within 24 hours. Any patient needing to stay more than one night will be transferred to the single ensuite rooms on Ward 2.

The bed modelling assumes 20% patients to be discharged on the day of their surgery. For those not discharged on the day the 80% will be discharged after only one-night stay. It is proposed that the maximum stay will be three days. Through the preparatory work on the pathway, it is expected that the number of patients being discharged on *day zero* will improve by the opening of LHP. As a comparator the current CTM performance is just short of three-day ALOS. However recently the perfect month initiative was undertaken which put in place a range of support for post operative surgery such as co located physiotherapy, standard discharge drugs packages. This reduced the average length of stay to just 1.5 days giving confidence in this delivery model which is the same as that proposed for LHP based on learning from sites such as Exeter Nightingale Hospital.

This layout and design builds on much of the learning from both Exeter and SWELEOC (South West London elective orthopaedic Centre). CTMUHB have recently reorganised the delivery of arthroplasty to be primarily at Princess of Wales, where an arthroplasty hub on a single site has been developed as a pre cursor to the opening of LHP. The clinical model developed for LHP is being utilised at this arthroplasty hub. Three theatres will be ringfenced to provide this activity and this ringfenced activity has been incorporated into the LHP theatre modelling. The resource and activity will transfer directly into LHP on opening. There are elements of the LHP pathway that are related to the design and infrastructure and can't easily be achieved in existing buildings. The delivery of the clinical model is under regular review and amendments made if required. On the opening of LHP, the staff transferring will be very familiar with the LHP clinical model.

The bed base of 54 has been modelled on the expected length of stay and number of operating theatres. To ensure the facility does not have an excess of beds the exemplar sites visited have a very similar proportion of beds per theatre, this has supported the number for LHP.

3.7 Demand and capacity modelling for SEW

3.7.1 Demand and capacity background

As mentioned in earlier sections, to support decision making around clinical capacity and delivery of operational services the regional demand and capacity modelling of orthopaedics has been analysed to support planning for future services. Within this the planning, a focus on arthroplasty services has been prioritised to support the right sizing of LHP and ensure it can meet both current and future demand.

The work has been led by the Regional Orthopaedic Plan Project board working alongside Andrew Sallows from Welsh Government to produce the first phase of the regional orthopaedic plan for South East Wales. The outputs from the final plan will focus on the overall orthopaedics position in South East Wales, however to date the focus has been on the arthroplasty position, to support the development of the LHP business cases. The current version of the plan is included as Appendix 2 to this business case.

The current plan has been expressed as the first version only, with a further iteration to be developed in line with the FBC plan over the next six months. Further development on the detailed pathway, finance and workforce planning continues at pace. The second iteration of the plan will be developed for production to Boards in the Spring 2026 in line with the Phase 2 FBC.

For the purposes of this business case, arthroplasty will be the main focus and some of the key findings from the D&C assessment include:

- Lower limb arthroplasty is the most pressured subspecialty, accounting for ~50% of activity. Recurrent outpatient demand exceeds capacity by ~2,000 patients annually

- Significant gaps particularly in lower limb arthroplasty and other subspecialties, with projections showing demand growth of 1–4% annually through 2028/29
- Efficiency improvements alone are insufficient to close these gaps without additional capacity investment. Even with efficiency gains, the region cannot meet 26-week outpatient targets by March 2026 and projected treatment gaps could reach 5,334 cases by 2029.

There are several key assumptions within the regional orthopaedics plan, including recognition that existing services must demonstrate efficient and effective service delivery before the submission of a full business case for additional capacity. Benchmarking against national efficiency standards and metrics therefore forms a key element of the plan over the next four years.

Health Boards were asked to identify local opportunities to increase capacity and address remaining gaps in the interim period prior to the programmed LHP operational date in late autumn 2028. Each Health Board needed to identify their efficiency and productivity plans and ensure these are included in the modelling of future demand and capacity. Several options have been considered which include increasing core in house capacity, outsourcing and temporary additional session.

These plans are included in the later scenario planning and represent the scale of opportunity that could be delivered by each health board against current activity delivered to achieve optimum output. They reflect current practice and do not consider standardised utilisation of theatres i.e. 47 weeks a year across the region or an increase in clinical session allocation or additional clinicians for Orthopaedics. These plans are explored in detail for each organisation in Appendix 2.

3.7.2 Capacity scenarios modelled

The modelling looked at both outpatient and treatment demand and capacity. For the purposes of this case only the treatment position will be discussed, but the outpatient impact can be seen in the appendix. Outpatient capacity plans are to be determined locally by each Health Board and are outside the scope of this case.

Four capacity scenarios have been considered in the modelling (1) current core capacity, (2a) core plus local efficiency practices, (2b) core plus local efficiency and best practice standards, and (3) including the additional Welsh Government-commissioned activity. All scenarios considered the activity required to meet **recurrent demand** and additional data was collected to ensure the following maximum waiting time scenarios were considered: -

- Recurrent demand and backlog to 104 weeks
- Recurrent demand and backlog to 78 weeks
- Recurrent demand and backlog to 52 weeks.

Some of the key assumptions in modelling works are as set out below:

- Recurrent demand has been calculated using derived demand, which was agreed by all regional boards and is based on financial year to financial year (24/25 to 25/26: 1 April 24 to 31 March 26).
- Each Health board has calculated the split between Lower Limb and Arthroplasty. Arthroplasty refers to Primary Arthroplasty only; revisions appear in the Lower Limb NOT arthroplasty numbers.
- Conversion rates from New Outpatients to IPDC Treatments were modelled using local data and reflect the current position in each health board independently. Any conversions from activity within this year will not be observed in the demand on IP/DC Treatments in this Financial Year (realised in FY 26/27 and beyond).

- Welsh Government commissioned activity in FY2025/26 has been included in scenario 3 and has been apportioned by subspecialty based on local plans.
- Assumptions and data consistency reflect the best possible position at the current time.

3.7.3 The net capacity and demand position

The overarching orthopaedics demand and capacity position is as set out in the table below to give an overview of the total regional challenge facing orthopaedics.

Table 6 - Future demand / capacity gaps for orthopaedics across the South East Wales region

Type	Current gap / surplus (2025/26)			Projected 2028/29 -position				
	New OP	Treatment	Tx w new OP conversion (40% assm)	Treatment / surplus gap if		Efficiency opportunity	Recurrent net treatment gap / surplus (Mar 29) if	
				Demand @ 1% to 29	Demand @ 4% to 29		Demand @ 1%	Demand @ 4%
Foot / ankle	-422	-83	-252	-371	-728	98	-273	-630
Paeds	-211	-17	-101	-140	-255	16	-124	-239
Upper limb	487	81	81	-21	-326	125	104	-201
Hands	-394	-616	-774	-965	-1,538	209	-756	1,329
Lower limb	-2,278	-250	-1,161	-1,544	-2,691	1,148	-396	-1,543
Spine	1,074	-595	-595	-708	-1,047	44	-664	-1,003
Other	-198	-254	-333	-347	-390	0	-347	-390

The left-hand (blue) side of the table above considers the current capacity gap position and applies a standard 40% conversion to treatment rate for the outpatient gap, to ensure the treatment position reflects the recurrent requirement, not just the current demand profile.

The right-hand (pink) side of the table factors in the projected demand growth (at both 1% and 4%) as well as subtracting the treatment efficiency opportunity identified by Health Boards as scenario B discussed above. The table assumes that all opportunities are delivered to provide a range in treatment gap, as at March 2029.

The table does not consider the additional backlog activity required to deliver improved waiting time targets. Therefore, this would just support the current waiting time position with an improvement in performance.

This table shows that all subspecialties are facing pressure with the most significant shortfall in treatment capacity within lower limb arthroplasty. This, alongside the GiRFT guidance, Orthopaedic CIN works and evidence from practice in England provides compelling evidence for LHP to create additional capacity in regional arthroplasty to bridge these gaps and provide an opportunity for further regional orthopaedic reconfiguration for other specialities.

The net position can be further broken down by region, the following table includes information for the orthopaedic lower limb speciality alone. This further illustrates the pressures that all organisations are or will be facing in treatment times by 2029.

Table 7 – Regional orthopaedic lower limb activity

Organisation	Gap / surplus (2025/26)			Treatment gap / surplus if		Efficiency opportunity	Recurrent net treatment gap / surplus (Mar 29) if	
	New OP	Treatment	Tx w new OP conversion (40% assm)	Demand @ 1% to 29	Demand @ 4% to 29		Demand @ 1%	Demand @ 4%
ABUHB	-1,032	128	-285	-414	-800	261	-153	-539
CAVUHB	-247	166	67	-52	-409	294	242	-115
CTMUHB	-1,000	-544	-944	-1,079	-1,482	593	-486	-889
SEW region	-2,278	-250	-1,161	-1,544	-2,691	1,148	-396	-1,543

In essence the recurrent arthroplasty gap assuming 100% of all efficiency opportunities are released sits between 396 and 1,543 cases per year. On a five-year trajectory, looking at the first five years of LHP operation demand could increase to the following range:

Table 8 – Orthopaedic lower limb forecast increase in activity (to 2034)

Organisation	Recurrent net treatment gap / surplus @ Mar 2029		Recurrent net treatment gap from 2030 for five years based on differing demand (%) growth									
			2030		2031		2032		2033		2034	
	@ 1% demand	@ 4% demand	@ 1%	@ 4%	@ 1%	@ 4%	@ 1%	@ 4%	@ 1%	@ 4%	@ 1%	@ 4%
ABUHB	-153	-539	-155	-561	-156	-583	-158	-606	-159	-631	-161	-656
CAVUHB	242	-115	244	-120	247	-124	249	-129	252	-135	254	-140
CTMUHB	-486	-889	-491	-925	-496	-962	-501	-1,000	-506	-1,040	-511	-1,082
SEW region	-396	-1,543	-400	-1,605	-404	-1,669	-408	-1,736	-412	-1,805	-416	-1,877

By 2034 it is possible that capacity shortfalls could exceed 1,800 cases. It is difficult to accurately reflect exact demand levels. Alongside this is the assumption that delivery of all efficiency and performance improvements will be achieved. If only 50% of these improvements are delivered this will add a further 500+ treatments to the existing gap per annum.

The proposal for LHP would be the building of six theatres to support regional primary arthroplasty cases. The plan is that three theatres would represent a transfer of activity of CTM arthroplasty into LHP. The balance of three theatres would be available capacity to meet regional demand.

LHP theatre productivity is based on GiRFT guidelines and utilisation, reflecting four joints per day over 5 days in a 48-week year. Initially the hub is proposed to operate five days per week giving the following additional capacity in terms of cases over a single, three and all six theatres.

Table 9 - LHP theatre capacity

No. theatres	Joints per day	Days per week	Week per year	Total capacity
1	4	5	48	9,60
3	12	5	48	2,880
6	24	5	48	5,760

Currently all the modelling is predicated on a five-days week. Should additional capacity be required it would be possible to consider weekend working, which could offer a further annual additional 384 cases per theatre (2,304 for all six theatres). However, length of stay improvements would need to be delivered to ensure that bed capacity could support additional weekend working. The streamlined and efficient workflow and standardisation of practice from LHP is expected to deliver performance efficiencies, and this could be an option in future years.

In considering how LHP will provide additional capacity to support the regional position in the future, the 4% growth position has been forecast forward in all modelling scenarios. In addition, only an 80% efficiency opportunity is recognised, reflecting the current pressures on performance faced by all organisations across the region. It is likely that with the standardisation and practices at LHP these efficiencies could be improved in the future.

The table below models the first five years of LHP opening, offering three theatres of additional capacity for the region based on current performance levels.

Table 10 - 5 Year demand and capacity modelling and impact of LHP capacity on net gap

Organisation	Recurrent net gap based on average demand growth at 4%				
	March 2029	March 2030	March 2031	March 2032	March 2033
ABUHB	-346	-355	-364	-373	-382
CAVUHB	64	65	67	68	70
CTMUHB	-688	-705	-722	-740	-759
SEW Region	-970	-994	-1,019	-1,044	-1,070
20% efficiency gap	-230	-230	-230	-230	-230
Forecast Capacity Gap	-1,199	-1,223	-1,248	-1,274	-1,300
LHP Capacity	2,880	2,880	2,880	2,880	2,880
Net Capacity Gain	1,681	1,657	1,632	1,606	1,580

As modelled above, the LHP capacity will provide the additional capacity to support the region to bridge the recurrent treatment gap for primary arthroplasty and offer additional capacity of over 1000 cases in the first five years. This additional capacity can be directed to address any residual waiting patients and offer an opportunity to begin to improve performance over and above the current baseline levels.

Should growth be less than the 4% modelled additional capacity could offer further performance improvements and likewise should all performance efficiencies be realised this could provide additional primary arthroplasty capacity to the region to improve the performance position further.

Alongside the additional capacity created by LHP, the transfer of primary arthroplasty activity from CTM theatres to LHP will enable the further development of sustainable orthopaedic services within the South East Wales Region. As mentioned in previous sections, since the roof works completed at POWH, CTM arthroplasty activity has transferred to POWH where it is being used as an early implementer site for the LHP pathway. The transfer of this activity to LHP will not only support the delivery of improved efficiencies within the service but will also offer up three theatres capacity to the overarching orthopaedic programme.

The focus on this OBC has been the development of additional capacity for the arthroplasty pathway through the creation of infrastructure to support HVLC primary arthroplasty surgery at LHP. However, the regional orthopaedic plan identifies additional orthopaedic specialities that are also under pressure. In looking at the numbers in table 5 above it is clear that further capacity is required to support treatment pathways for arthroplasty revisions, upper limb, hand and foot and ankle surgery.

From an overall systems viewpoint the capacity released at POWH has the ability to meet this, however it is recognised that a whole systems approach will need to be adopted as to how capacity should be managed and services provided across the region.

How the CTM capacity released through the transfer of arthroplasty to LHP can support further regional reconfiguration for other orthopaedic specialities will be explored in the second phase of the regional orthopaedic plan.

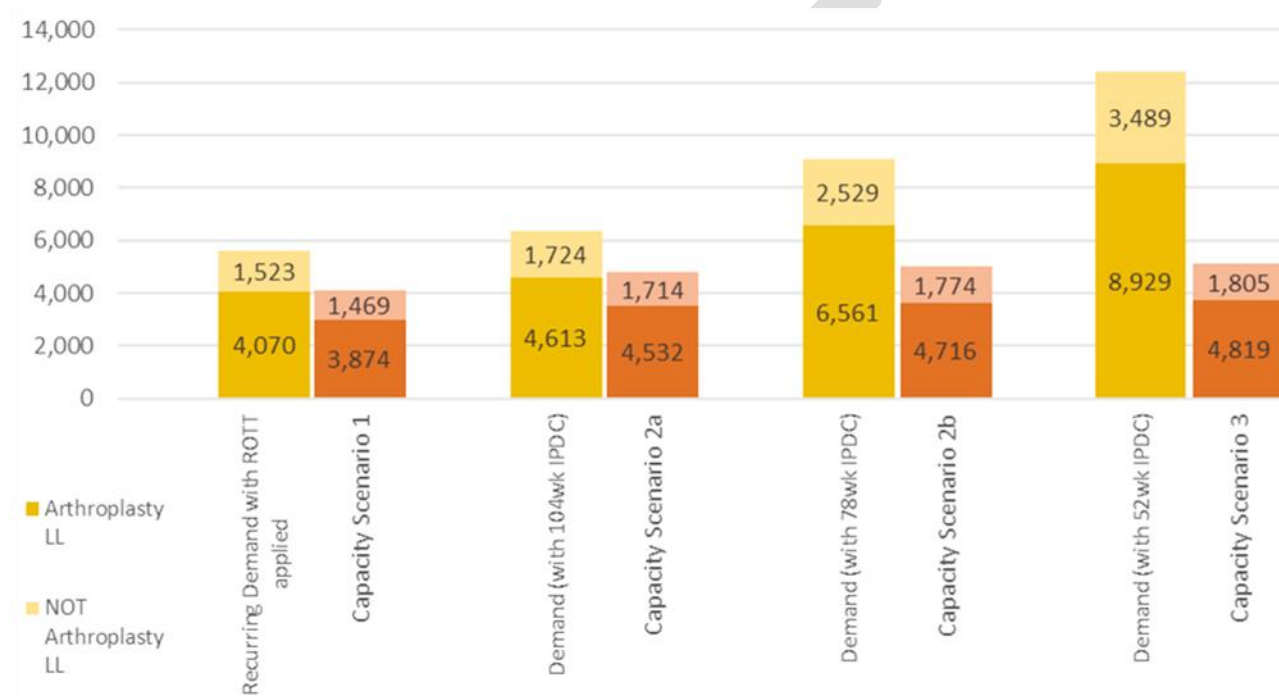
However, it is clear that this is a further beneficial opportunity from the LHP Hub and the centralisation of primary arthroplasty at LHP. The outputs and resources associated with the use of this capacity sit outside the scope of this OBC but will be part of the regional orthopaedics plan.

3.7.4 Lower limb / arthroplasty demand and capacity required to deliver performance improvements

The orthopaedic plan workings have considered the level of capacity required to deliver reduced backlog scenarios (52-week, 36-week, 26-week) which further increase the challenge.

The following charts illustrate the additional demand and capacity required to meet further reduced backlog scenarios. Arthroplasty activity is seen using the darker shading on the chart below

Figure 2 - SEW lower limb IPDC treatment, demand v capacity



Baseline treatment demand for lower limb arthroplasty 5,593 cases (1,523 non-arthroplasty and 4,070 arthroplasty). This shows that to improve performance to deliver 52 weeks would increase annual demand to 8,929 cases per annum. Assuming organisations can deliver all efficiency improvements within existing infrastructure this still gives a 4,110-case shortfall. LHP can support in addressing that shortfall, but more than 3 theatres would be required to fully meet unless weekend working is employed. Factoring in growth could see this increasing further.

LHP core capacity as outlined above will increase capacity further to meet enable the delivery of improvement performance. At 2029 demand levels LHP capacity could see backlog reductions to close to 78 weeks

Further capacity realised through increased efficiency gains at LHP and weekend working could further improve the backlog position by enabling more realisation of capacity for arthroplasty procedures.

3.7.5 Summary

The demand and capacity analysis clearly demonstrate shortfalls in capacity across the region. In order to address capacity challenges, it is essential that existing facilities are maximised before consideration of investment in additional assets.

The regional demand and capacity modelling identify capacity shortfalls across the region with lower limb primary arthroplasty demonstrating the most pressure and the highest contributor to the overall numbers. Once growth is factored in this gap intensifies despite plans to introduce local performance increases and improvements.

There is a net capacity gap that requires additional infrastructure to support the creation of a 6-theatre unit at LHP. This will provide a sustainable response to the pressures facing arthroplasty in the South East Wales Region, enabling the capacity gap to begin to be closed and deliver performance improvements and increased backlog reduction.

The demand and capacity modelling supports the proposal for a 6-theatre unit at LHP offering both an opportunity to create a unit which can fully deliver on efficiencies to offer improved performance and throughputs. The combination of transferred CTM capacity and wider regional additionality gives a chance for a fully established unit to deliver primary arthroplasty in line with accepted best practice and evidenced good practice in other units.

The infrastructure offers the opportunity of further increased capacity through extended days and working weekends to address further future growth.

Whilst LHP is designed to address regional primary arthroplasty activity only, the move of activity from CTM theatres can facilitate and support further orthopaedic speciality reconfiguration and offer increased capacity to enable improved delivery across the region. The resource implications of these further regional reconfigurations and moves are not covered in this OBC but will be addressed in the second phase of the orthopaedic plan.

4 Potential scope of services

This section of the business case identifies the potential scope of the project in terms of the key service requirements that should be considered in designing the future service model and developing options.

4.1 Key principles of the clinical model

(See Appendix 3 for Arthroplasty pathway and Appendix 4 for the LHP Operational and Clinical Model)

Patient pathways and length of stay

- Target day-case arthroplasty where clinically appropriate, with a maximum expected stay of three nights.
- Initial planning assumes a modest 20% day-case rate, with ongoing efforts to increase this in line with GIRFT standards.
- Clear inclusion criteria to guide patient selection, including plans for patient with a higher acuity through the provision enhanced care.
- Patient education embedded pre-operatively to set expectations, including digital “Joint School” programmes.
- Ring fenced elective capacity with dedicated theatres and beds

Staffing and workforce model

Staff operating at the top of their license, including side-skilling and blended roles (e.g., Band 4 staff supporting ward and recovery functions).

- Multi-professional team approach incorporating nursing, physiotherapy, and allied health professionals (AHPs) in clinical care.
- Consultants sharing care responsibilities to avoid extended on-site presence, with structured review of X-rays and post-operative follow-up by colleagues.
- Out of hours cover provision will require a medical model if enhanced care is provided.

Pre-operative and admission processes

- National standardisation of pre-assessment processes, including health questionnaires and virtual reviews.
- Staggered admission times to manage patient flow within the six admission rooms.
- Digital check-in supported by administrative staff for patient registration and discharge coordination.
- Consent clinics scheduled at least two weeks pre-operatively, ideally with digital consent solutions.

Theatre and recovery model

- Theatre scheduling in line with GIRFT case numbers, four joints per theatre per day, based on two hours per procedure. The theatres will operate Monday to Friday (Future capacity is available through extended days and weekend working)

- Assumption: three of the theatres will be CTM activity moved from Princess of Wales, and three theatres will be additional activity
- Six laminar-flow theatres with supporting infrastructure.
- Recovery staffing designed for efficiency: Stage 1 (post-anaesthesia monitoring) and Stage 2 (patients ready for ward transfer).
- Upskilled Band 4 staff in theatre to facilitate rapid turnover and first assistant roles.
- Senior anaesthetists providing list cover, utilising standardised protocols.
- Duty anaesthetist providing cross cover for breaks, relieving anaesthetists to review next patients, and supporting post-operative care.

Ward and post-operative care

- Two ward areas.
- Integrated plain film X-ray room adjacent to recovery for immediate post-operative imaging.
- Standardised discharge protocols including medications, Venous thromboembolism (VTE) prophylaxis, follow-up pathways, and 24-hour helpline support.
- Planned operating hours: Monday–Friday, 08:00–17:00, with scope to extend as required.
- Staff working across wards and admission areas and recovery, building in flexibility to meet operational requirements.
- Workflow optimised for throughput and minimal delays, ensuring separation from unplanned acute care.
- Enhanced competency framework to support early mobilisation outside of therapies working hours.

Future flexibility has been built in, having taken the lessons from other centres, where to fulfil capacity in the longer term, pathways for patients with a higher acuity have been incorporated into the facility. For LHP, the infrastructure of the 30 bedded ward has 8 beds that can manage those patients needing a higher level of care and can facilitate a post-operative care unit (POCU). Acceptance criteria will be enhanced to allow several the higher acuity patients to be treated at LHP in the future as required. The ward staff being skilled in all aspects of post-operative care and management will ensure there are the skills through a competency framework to deliver this

Standardisation and quality

- Alignment with GIRFT recommendations for case numbers per list, throughput, and enhanced recovery protocols.
- Standardised protocols for post-operative care, including early mobilisation and therapy-led discharge.
- Regional engagement ensures consistency of care pathways, patient education, and data collection (e.g., National Joint Registry compliance).
- Continuous learning from exemplar units incorporated into staffing models, patient flow, and operational efficiency.

As detailed in section 3.7, the arthroplasty unit at LHP will be utilised to undertake both core and additional capacity for CTMUHB and additional capacity for CAVUHB and ABUHB. This reconfiguration is not just about capacity however, but the opportunity to introduce greater standardisation and efficiency into clinical practices and develop a centre of excellence in Wales.

4.2 The Non Clinical and Clinical support models

4.2.1 Therapies support at LHP

Therapy services will play a pivotal role in supporting the regional arthroplasty surgical hub. The intention is to ensure those patients requiring occupational therapy input, receive this prior to admission to LHP. Early engagement enables timely provision of equipment, education on post-surgical expectations, and goal-setting that supports enhanced recovery pathways, reducing length of stay and minimising readmission risk.

This pre-admission discharge planning enables early action, optimisation, equipment provision and highlights the potential need for post-discharge social care input and multidisciplinary problem solving to minimise any potential barrier or delay in discharge. This ensures the patient is admitted to the right facility as not all patients will be suitable to have their treatment at. This service will aim to deliver a modernised approach to elective orthopaedic recovery and evidence-based care, with service provision being individualised based on patient need

Physiotherapy will be an integral component of the ward team within the orthopaedic surgical hub. The service will be delivered through a structured, patient-centred model. Post-operatively, physiotherapists will be embedded within the ward team to provide early mobilisation, functional assessments, and discharge planning, ensuring patients meet recovery milestones efficiently. Being integrated with surgical and nursing teams has proven benefits and supports enhanced recovery pathways, reduced length of stay, and minimises variation in outcomes, thereby contributing to improved patient experience and operational efficiency across the region.

The rostered hours for Physiotherapy will be aligned with the ward nursing team. This enables a joint multidisciplinary handover in the morning and maximises the ability to discharge patients who are ready to go home, in the evening. Another benefit is that it promotes integrated, multi-professional team working. The hours staff members spend on tasks varies based on service need and non-clinical time which will be built within their role.

4.2.2 HSDU

To accommodate the proposed increase in surgical activity, a review of current HSDU infrastructure and capacity has been undertaken. The RGH site presents limitations due to spatial constraints, with no scope to install additional washers or sterilisers under the current configuration. Furthermore, the existing washer units are scheduled for replacement in March 2028. PCH will be non-operational until approximately Q1 2028 due to major capital works, placing additional pressure on RGH, which will be required to absorb PCH's workload during this period.

In contrast, the POW site is undergoing an AHU upgrade and will soon operate with seven washers and four steam sterilisers—significantly more than the three sterilisers currently available at both RGH and PCH. This enhanced capacity at POW presents a viable opportunity to support the increased demand, subject to appropriate transport logistics and the deployment of delegated drivers. Collaborative working with POW staff is already in place, as evidenced by the AHU relocation project at RGH, and has proven effective. From a service resilience perspective, preliminary work has commenced on an Operational Continuity Plan (OCP), making this expansion both timely and strategically aligned.

In terms of workforce requirements, to support 12 arthroplasty procedures per day across three theatres, the HSDU would require a minimum of three full-time equivalent (FTE) Technical Assistants to manage end-to-end processing, with an additional supervisory FTE to cover out-of-hours activity. A more detailed staffing model would be developed in line with theatre scheduling, including consideration of twilight shifts to support evening operating lists.

Outsourcing options have been explored with ABUHB to mitigate the overlap between PCH and POW, but they are unable to provide a thorough assessment of risks relating to equipment damage, turnaround times, traceability, decontamination standards, and accreditation implications,

as well as financial impact. At this point this has been excluded as the HSDU within CTMUHB with the planned improvements will have the capacity, subject to investment in workforce and surgical trays /instruments to provide the requirements for the additional three operating theatres. These projections are based on the current service delivery model and remain flexible to accommodate any future changes in theatre planning.

4.2.3 Pharmacy

Pharmacy services at CTMUHB are undergoing a series of targeted developments to ensure readiness for the elective arthroplasty unit opening in late 2028. A hub and spoke model will be adopted for medication supply, with a DGH site (yet to be decided) acting as the central supply point for wards, theatre, and recovery areas. This is part of a wider transformation piece already underway for pharmacy services across CTMUHB, and as such, will be tried and tested prior to commissioning of LHP. LHP will, in essence, become an additional spoke site of the CTMUHB hub and spoke model.

The introduction of a new robotic dispensing system at RGH will streamline stock distribution to LHP, while automated dispensing cabinets (ADCs) linked to the pharmacy system will support automatic top-up ordering, reduce manual workload and improve stock availability. The procurement of the new robotic dispensing unit is well underway and will be installed and operational ahead of the commissioning of LHP.

To support efficient patient flow and safe medicines management, a Pharmacy Hub will be established at LHP for near patient dispensing of discharge medications. This will enable pre-dispensing of standardised discharge regimens using pre-packed medicines and controlled drugs, ensuring timely availability postoperatively. The implementation of electronic prescribing and medicines administration (ePMA) will allow for regular and discharge medications to be prescribed in advance of admission, facilitating early discharge planning and reducing delays. Again, the ePMA programme within CTMUHB is underway and will have matured by LHP go-live.

Clinical service enhancements will further support seamless care. Pharmacy technicians will conduct pre-operative reviews for patients with complex medication needs, such as compliance aids or care packages, reducing the risk of cancellations and or delayed discharges. Pharmacist prescribers will review patients in pre-operative assessment and pre-authorise medication regimens, including discharge prescriptions. A business case (CTMUHB) is also in development for a pharmacist-led anticoagulation bridging service for complex patients, ensuring continuity of care and reducing reliance on acute services.

4.3 Infrastructure design influenced by clinical model

The development of the clinical model for the new elective orthopaedic unit at LHP builds upon national best practice, including GIRFT standards, exemplar UK orthopaedic units, and Enhanced Recovery After Surgery (ERAS) protocols. The approach has focused on learning from leading units such as Essex and Suffolk Elective Orthopaedic Centre (ESEOC), Exeter South West Elective Orthopaedic Centre (SWEOC), One Welbeck, South West London Elective Orthopaedic Centre (SWLEOC), and others. Taking the best elements and adapting their proven models to the to meet the operational requirements of LHP and the regional population needs. The infrastructure has then been developed to deliver the clinical model ensuring compliance with National standards.

The infrastructure development for LHP has been purposefully designed to support the clinical model for HVLC elective orthopaedic surgery, ensuring alignment with GIRFT productivity benchmarks and delivering a safe, efficient, and patient-centred experience. A dedicated entrance for the surgical hub enables streamlined patient flow and ring-fenced nature of the service.

Upon arrival, patients use a digital self-check-in system, which reduces administrative delays and provides real-time updates to the admissions team, enhancing operational efficiency and patient experience.

Patient preparation rooms are located directly adjacent to six ultra-clean air theatres, each equipped with dedicated anaesthetic and prep rooms. This proximity supports continuous forward movement through the pathway, minimises inter-case times, and enables parallel processing of patients. The first stage recovery area has been innovatively designed to accommodate the initial wave of morning admissions, increasing capacity without expanding the estate footprint and improving turnaround times. A dedicated plain film X-ray suite positioned between recovery and the ward facilitates timely postoperative imaging, streamlining the pathway.

The ward infrastructure is designed for flexibility and infection control. Ward 1 includes 30 patient spaces split across male and female wings, with six individual rooms to support gender segregation in line with NHS England guidance and to accommodate patients requiring privacy or isolation. Ward 2 comprises 24 individual rooms, offering maximum protection in the event of a patient becoming infective. Both wards include dedicated physiotherapy spaces to maximise therapy input and support early mobilisation, a key enabler of same day discharge and a core component of the HVLC model.

Break-out and discharge areas encourage patients to mobilise and provide transitional space for those awaiting discharge, improving patient flow and creating capacity for incoming admissions. Interview rooms have been incorporated to ensure privacy for sensitive clinical conversations with patients and relatives, and double as staff training and development spaces when not in clinical use. Learning from site visits to exemplar centres, the team recognised the critical importance of adequate storage. Many high performing hubs reported challenges due to insufficient storage, resulting in equipment being stored in corridors, creating health, safety, fire, and infection control risks.

Anticipating future developments in orthopaedic practice, including the introduction of robotic surgery and other advanced technologies, LHP has incorporated HBN compliant storage capacity with an additional 20% buffer. This ensures that equipment can be safely and efficiently stored, supporting both current operations and future service expansion. In line with national guidance, separate left and right prosthesis stores have also been included to reduce the risk of error, improve inventory management, and support safe surgical practice.

Staff experience has been a central priority in the design of the unit at LHP, recognising that a well-supported workforce is essential to delivering high quality, efficient patient care. As part of a site wide strategy, infrastructure includes male, female, and individual changing rooms to offer staff choice, privacy, and dignity. This approach supports inclusivity and ensures that all staff feel comfortable and respected in their working environment, which is particularly important in a multidisciplinary and diverse workforce. To support infection control and operational efficiency, scrub suit dispensing machines have been installed. These machines ensure staff have access to the correct size garments, reduce waste, and improve stock control through automated inventory tracking. They also enhance hygiene by securely storing scrubs and preventing cross contamination.

Clog washers have also been included to support infection prevention. These specialist machines allow for the automated cleaning and thermal disinfection of surgical footwear, ensuring that clogs do not become a vector for hospital acquired infections. Autoclavable clogs processed through these washers meet the highest hygiene standards, reducing the risk of cross-contamination.

The unit features a dedicated staff entrance, which improves flow and security, allowing staff to access the facility efficiently without crossing patient pathways. This separation supports infection control and reinforces the ring-fenced nature of the elective hub. Staff rest areas have been designed with natural light, which has been shown to improve wellbeing.

To enable staff to focus fully on clinical work during operating sessions, meeting spaces have been intentionally excluded from the clinical zone. Instead, two-person work pods are available for completing mandatory training, confidential conversations, or supervision discussions. These pods offer quiet, private environments without disrupting clinical flow. Additional hot desking space is provided to support flexible working and documentation needs, and a dedicated office is available for the department manager to coordinate operations and support the team.

A surgeon's touchdown space is located between theatres, offering a quiet area for debriefing trainees or completing operation notes without needing to leave the immediate theatre area. This design choice improves efficiency, supports education, and ensures that clinical documentation is completed promptly and without distraction.

Overall, the staff support infrastructure has been designed to promote wellbeing, efficiency, and safety.

4.4 Digital Strategy

4.4.1 Digital by Design: A digital-first approach

Llantrisant Health Park will adopt a technology-enabled, Digital-First approach to the design, delivery, and operation of both clinical and non-clinical services and environment. This principle positions digital capability at the centre of service delivery, viewing technology as a core enabler of clinical excellence, operational efficiency, and patient experience, and a means to unlock the transformational potential of the Llantrisant Health Park development. The approach seeks to:

- **Optimise clinical safety** through consistent and repeatable hygiene standards, automated kit carts and smart rostering
- **Promote productivity and efficiency** by using analytical and smart systems and reducing manual and paper-based processes
- **Enhance patient experience** through improved access, digital communication channels, self-service tools, and data-driven scheduling
- **Enabling staff digitally**, in more appropriate working environments, with smarter tools to improve performance and outcomes
- **Support information flow** for patients and staff through interoperable systems and integrated data flows, improving data quality and integration to support decision-making and enabling remote access, flexible working, staff mobility, and multi-site collaboration
- **A smarter, safer healthcare environment managed to meet clinical needs and adapt to** service demands and occupant needs.

In practice, Digital First means that wherever a process can be effectively supported or automated by technology, it should be considered as the default method of delivery.

This includes areas such as diagnostic reporting, surgical planning and imaging review, clinical documentation, workforce coordination, patient engagement, remote monitoring and environmental management

The objective is to ensure that digital solutions enhance efficiency, accuracy, and care quality without introducing additional complexity or administrative burden.

4.4.2 Digital by Design: Building technology into the infrastructure

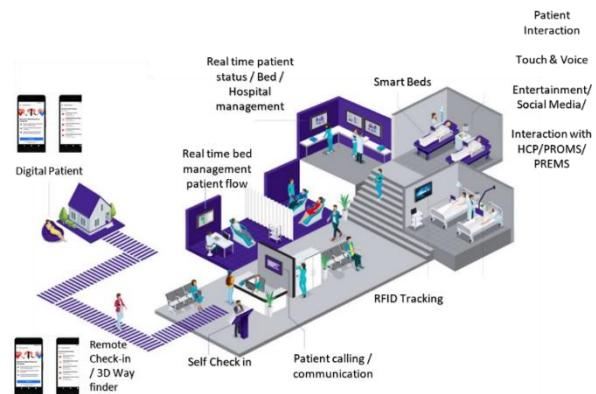
To operationalise a Digital First model, Llantrisant Health Park needs to be developed on Digital by Design principles thus ensuring that technology is embedded within the physical, technical, and operational fabric of the facility from the outset. This approach allows the building to function as an

interoperable, adaptive, and future-ready environment, capable of integrating emerging technologies throughout its lifecycle.

This must consider the three core aspects of digital enablement:

- Digital infrastructure
- Data flowing through the digital infrastructure
- Smart technologies utilising the infrastructure and data

“Adopting a ‘digital first’ and ‘digital by design’ philosophy in the design and delivery of new services, to promote mobile, flexible, patient and centred services & workforce models”



4.4.3 Digital by Design: Digital interplay with care delivery

Digital innovation, data-enabled decision-making, and new ways of accessing and delivering care are reshaping healthcare delivery. As systems move toward more proactive, coordinated, and patient-centred models, digital capability is a fundamental enabler of performance, experience, and sustainability.

At Llantrisant Health Park, digital is treated as a core design principle that underpins clinical operations, workforce models, patient pathways, and the built environment. It is important that the digital vision should be considered across three layers: Flow, Footprint and Fabric, which will ensure that information moves efficiently across pathways, that services are connected across organisations, and that smart-hospital capability is embedded into the estate from the outset.

These three layers form a coherent framework for how digital capability will operate:

Figure 3 - Digital framework

Flow		Examples				
Capabilities that support the flow of the information	Digital pathology	Enterprise wide EPR	Smart Beds	Clinical AI	Enterprise Digital Imaging	Voice recognition tools
	Smart Rostering	Smart Scheduling	Analytics system	Smart Triage	Automated dispensing cabinets	
Footprint		Examples				
Capabilities that connect the hospital to other care settings	Digital wayfinding	Digital front door	Integration gateways	Remote monitoring	Tele-medicine	Virtual assistant
Fabric		Examples				
Capabilities that are part of the hospital building	Digital twin	Asset and location tracking	IoT sensors	Facility security	Automated guided vehicles	

Llantrisant Health Park’s digital architecture should bring together clinical systems, smart-hospital capabilities, and regional care connections, guided by underlying key principles:

Figure 4 - Digital architecture framework

Effective governance	Seamless Integration	Focus on Integrity	Fit for purpose
- Strong data stewardship and ownership aligned to NHS Wales policies - Compliance with Welsh digital and IG standards - Ethical and transparent use of data and digital tools	- Interoperable systems across LHP and wider CTM sites - Standardised platforms and maximised reuse of digital assets - Agile, scalable and connected infrastructure to support regional pathways	- Secure-by-design environment - Future-ready, resilient architecture - Scalable and compliant design	- Clinically-led design - Trackable operational efficiency - Intuitive, user-centred interfaces

Benefits for patients, staff and system

Stakeholders	Community Diagnostic Hub	Orthopaedic and Surgical Hub
For Patients	- Faster access to tests and results, reducing waiting times - One-stop experience multiple diagnostics in a single visit - Reduced need to travel to acute hospitals - Digitally supported navigation and check-in - Improved experience through modern, comfortable, and sustainable design	- Timely access to planned surgery, reducing waiting lists and delays - Protected elective capacity, minimising cancellations and last-minute changes - Enhanced pre-operative preparation and post-operative support through digital pathways - Modern day-case and enhanced recovery facilities enabling quicker recovery and discharge - Remote physiotherapy, wound monitoring, and follow-up reducing need for repeat travel
For Staff	- Co-location improves workflow efficiency and collaboration - Optimised scheduling, throughput, and utilisation of equipment - Frees acute capacity for emergency and inpatient care - Data-driven insight for demand forecasting and performance - Alignment with national diagnostic transformation and sustainability targets	- Streamlined theatre scheduling and reduced administrative burden - Dedicated elective setting supports predictable operating lists and fewer interruptions - Digital surgical planning, EPR access, and intra-operative tools improve safety and accuracy - Enhanced multidisciplinary collaboration and MDT space - Training environment for innovation in surgery, pre-hab and rehab pathways

For System

- Reduces pressure on acute diagnostic services
- Improves system-wide flow by providing diagnostic capacity in the community
- Supports early diagnosis and prevention models
- Protects emergency theatre capacity in acute hospitals
- Increases elective surgery resilience and regional capacity
- Reduces length of stay and avoids unnecessary admissions through day-case model
- Enables regional elective recovery aligned to NHS Wales planned care priorities
- Creates scalable elective hub model for future regional rollout

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5 Benefits and Risks

5.1 Introduction

This section of the business case identifies the benefits, risks, constraints and dependencies in that have been considered when developing and assessing the options for the development of Llantrisant Health Park.

5.2 Benefits case

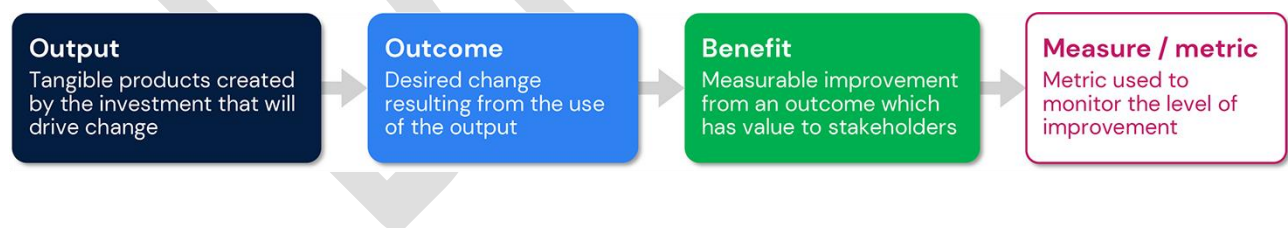
A systematic approach was undertaken to develop the benefits analysis as outlined in the diagram below.

Figure 5 - Benefit analysis process



A significant amount of work has been undertaken during the development of the programme to identify the benefits of LHP. This was consolidated within a series of workshops during April 2025 using the investment logic mapping approach outlined in the diagram below:

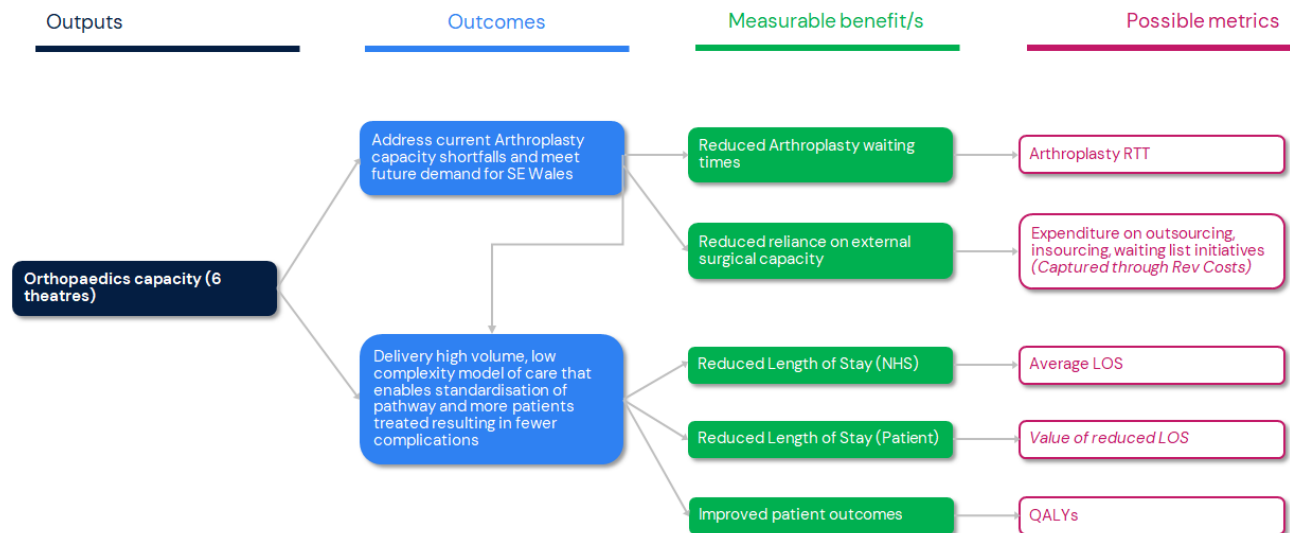
Figure 6 – Investment logic mapping approach



5.2.1 Creation of a Surgical Hub

Delivery of the surgical hub will allow LHP to provide additional surgical capacity to address current Arthroplasty capacity shortfalls and ensure future demand can be met. As well as reducing waiting times for patients, the delivery of high volume, low acuity model will enable the delivery of a standardised pathway. Earlier access to surgical interventions and reduced length of stay, which is known to reduce in fewer complications, will directly benefit patients, improving their quality of life. The additional capacity will also reduce reliance on expensive external Diagnostics capacity such as outsourcing, insourcing and waiting list initiatives.

Figure 7 – Benefits mapping: creation of **Surgical Hub**

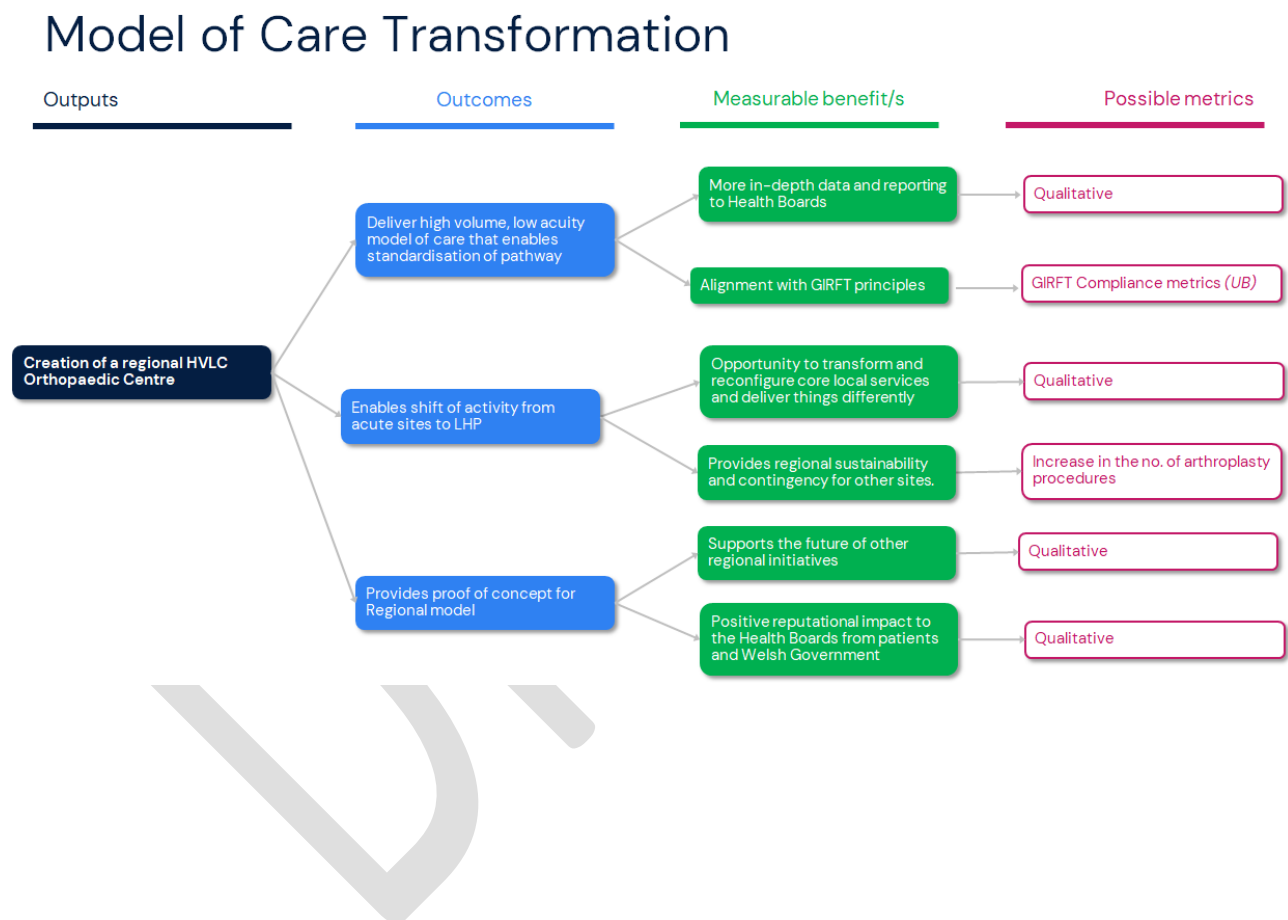


5.2.2 Model of care transformation

LHP will enable delivery of high volume, low acuity model of care that will enable the standardisation of patient pathways. This will result in better value for money due to increased throughput and better use of resources, reducing the average cost per procedure and providing opportunities for more efficient procurement. It will also ensure services align with GIRFT principles.

By providing capacity to shift activity from acute sites, the new surgical hub provides an opportunity to transform and reconfigure core local services and deliver things differently. For instance, the transfer of activity from CTM UHB to LHP provides opportunities to release space across the Estate in the future for other developments or to address risks around deteriorating facilities and reduce backlog maintenance. The successful delivery of a regional centre will also provide proof of concept as the basis for the development of any future regional pathways.

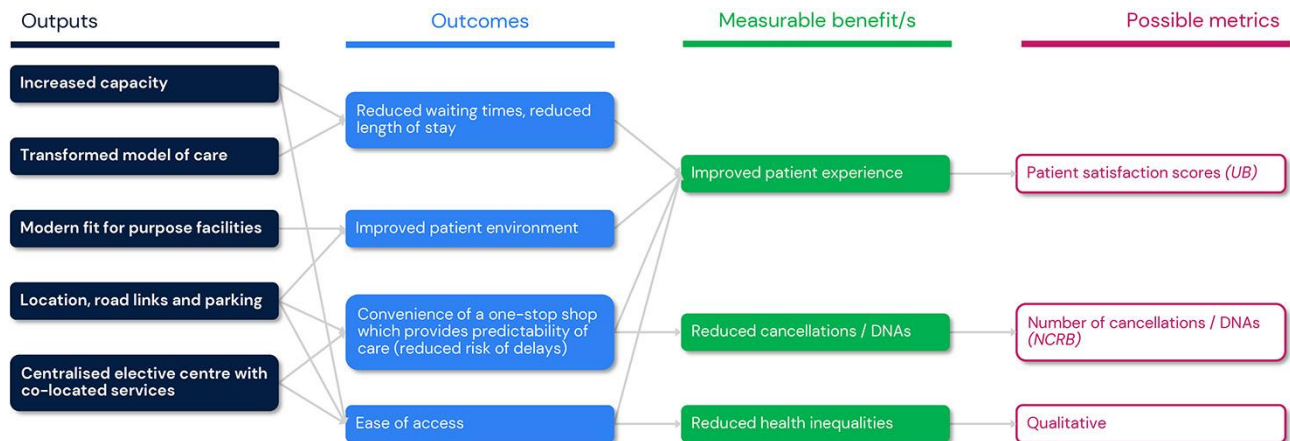
Figure 8 – Benefits mapping: model of care transformation



5.2.3 Improving patient experience

The outcomes presented above, such as reductions in waiting times and length of stay, will contribute to a significant improvement in patient experience. This is enhanced by the modern fit for purpose facilities and the ease of access the location of LHP offers, with its good road links and parking. Having a centralised elective centre with co-located services provides the convenience of a 'one-stop' shop clinic with greater predictability of care. This contributes to reducing the risk of cancellations and Did Not Attends (DNAs). In general, the improved access and reduced waiting times ensures a more equitable service is available within the region.

Figure 9 – Benefits mapping: **patient experience**



5.2.4 Delivering a sustainable workforce

The workforce vision set out in the South East Wales Regional Orthopaedic Plan is to:

- Ensure safe and sustainable staffing to reduce vacancies and mitigate the need for premium rate temporary staffing.
- Redesign the workforce to support new models of care and cross-functional roles.
- Maximize the use of new roles and introduce competency-based training where appropriate.
- Improve the health and wellbeing of all staff, fostering a culture of inclusion, openness, and compassion.
- Focus clearly on retention and staff development.
- Implement flexible working models aligned with service delivery.
- Integrate and enable digital solutions to reduce administrative burden.
- Promote collaborative working across the region.

Nursing workforce will be employed by CTMUHB. The Medical workforce has been calculated in both sessions and hours for Consultant Anaesthetists and Consultant Surgeons.

A detailed options plan has been drafted to scope the therapy requirement for LHP, that will be a CTMUHB resourced service key principles include:

- Integral to the LHP ward team.
- Extended hours to facilitate prompt discharge.
- A physiotherapy led solution.
- Role utilisation particularly in the band 4.

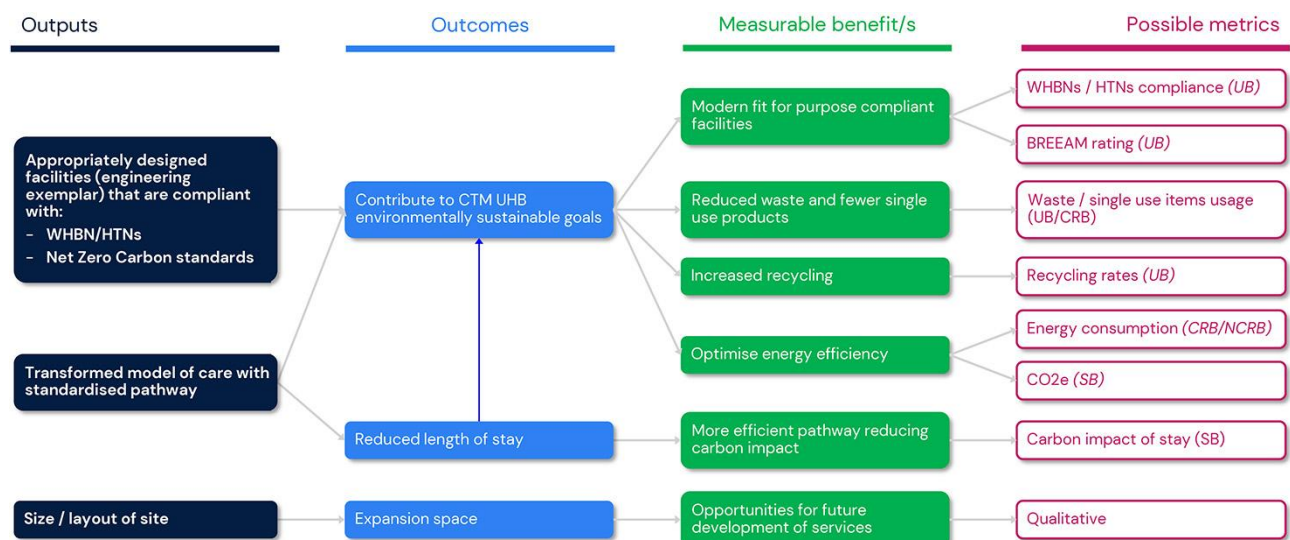
Additional service to support the operational delivery of LHP will be provided via a Hub and Spoke model (operational plans are in train through monthly workstream meetings) out of the Royal Glamorgan.

- Pharmacy
- HSDU
- Pathology
- Estates and Facilities.

5.2.5 Providing a sustainable estate

The delivery of appropriately designed compliant facilities provides opportunities to contribute to CTM UHB's environmentally sustainable goals and national strategies around decarbonisation, by ensuring they are compliant with WHBNs and HTNs, achieve BREEAM rating of Excellent and optimise energy efficiency. The transformed model of care with its standardised pathway is likely to make it easier to implement and maintain sustainability programmes that CTM UHB has instituted in other areas, such as reducing waste and single use products. The site also provides a level of future proofing by providing expansion space that offers opportunities for other future developments.

Figure 10 – Benefits mapping: sustainable estate



5.3 Main benefits

The investment logic outlined in section 5.2 resulted in the identification of the main benefits for each of the categories outlined in the figure below.

Figure 11 – Benefits categories



The main benefits are summarised in the table below.

Table 11 - Main benefits

Theme	Benefit	Beneficiary	Type	Possible Metrics
Creation of surgical hub	Reduced waiting times across arthroplasty	Patients	Quantifiable	Waiting times
	Reduced length of stay/improved patient recovery time	Patients/ Health Board	Non-cash releasing/ Societal	Average length of stay
	Improved patient outcomes from reduced arthroplasty wait times	Patients	Societal	QALYs
	Reduced reliance on external surgical capacity	Health Board	Cash Releasing	Expenditure on outsourcing, insourcing, waiting list initiatives
Model of Care Transformation	Increased throughput and better use of resources	Health Board	Quantifiable	Average cost per procedure compared to benchmarks
	More efficient procurement	Organisational	Cash Releasing	Reduced non-pay costs/reduced procurement costs
	Improved performance and cost reporting	Health Board	Qualitative	N/A
	Greater alignment with GIRFT principles	Health Board	Quantifiable	GIRFT principles
	Provides opportunities for the future reconfiguration of services of CTM UHB	Health Boards	Qualitative	N/A
	Supports the future of other regional initiatives	Region	Qualitative	N/A
Improved Patient Experience	Improved patient experience	Patient	Quantifiable	Patient satisfaction scores
	Reduced cancellations and DNAs	Patients/Health Board	Non-cash releasing	Cancellations/ DNAs rate
	Reduced health inequalities	Patient/Society	Qualitative	N/A
Delivering a Sustainable Workforce	Improved training pathway and increased training opportunities	Staff / Health Boards	Quantifiable	Number of training places
	Increased staff satisfaction	Staff	Quantifiable	Staff survey scores
	Improved recruitment and retention	Health Board	Quantifiable	Vacancy rates Staff turnover
	Reduced reliance on temporary staffing	Health Board	Cash Releasing	Locum, Agency and Bank expenditure
	Workforce efficiencies	Health Board	Non-cash releasing	Rota efficiencies
	Opportunities to share best workforce practices across the region	Region	Qualitative	N/A
Providing a Sustainable Estate	Modern fit for purpose compliant facility	Health Board	Quantifiable	WHBN/HTMS BREEAM rating Enhanced facilities
	Reduced waste and single use products	Health Board/Society	Quantifiable	Waste and single use products usage
	Improved recycling	Health Board/Society	Quantifiable	Recycling rates
	Contribute to decarbonisation targets with energy efficiency	Health Board / Society	Societal	Energy consumption CO2e

Theme	Benefit	Beneficiary	Type	Possible Metrics
	Contribute to decarbonisation targets with more efficient pathway	Health Board / Society	Societal	CO2e reductions
	Provides opportunity for future expansion	Health Boards	Qualitative	NA

The quantification of these benefits is explored within section 7.6 of the Economic Case and realisation plans outlined in section 10.6 of the Management Case.

5.4 Main risks

Risk is the possibility of a negative event occurring that adversely impacts on the success of the delivery of the project and its benefits. Identifying, mitigating and managing the key risks is crucial to successful delivery, since the key risks are likely to be that the project will not deliver its intended outcomes and benefits within the anticipated timescales and spend.

The full quantified capital programme risk register can be found in Appendix 6 and informs the planning contingency. An operational / revenue risk register is also developed to cover those risks that do not have capital implications.

The currently identified top programme and infrastructure risks are as set out in the table below:

Table 12 - Top risks

Risk Description	Consequence	Likelihood	Risk
Approval of SAB resubmission required to support the building phasing	4	3	12
Regional healthcare stakeholder engagement	4	3	12
Unable to progress RDS/Clinical reviews at the pace required due to lack of clinician availability	4	3	12
Regional engagement to facilitate development of clinically led model	5	2	10
Welsh Government approval of OBC	5	2	10

5.5 Constraints

Constraints relate to the parameters that the project is working within and any restrictions or factors that might impact on the delivery of a project. These typically include limits on resources and compliance issues.

The project is subject to the following constraints:

- Facilities must be fit for purpose and have future flexibility/adaptability
- Implementation must not negatively impact continuation of current service provision
- Technical feasibility of the proposed solution
- Digital solution needs to be able to support patient record transfer from base HB to LHP
- The project must be delivered within agreed capital funding
- Workforce will need to be secured to deliver the additional capacity which will involve working with HEIW and education providers alongside development of recruitment strategies which will be more fully explored at FBC

- .Revenue funding will need to be secured to deliver the increased capacity

The project must support regional integration and collaboration and be supported by all three Health Boards.

5.6 Dependencies

Dependencies include things that must be in place to enable the project or project phases and typically include links to other projects and funding requirements that are likely to be managed elsewhere. The project is subject to the following dependencies that will be carefully monitored and managed throughout the lifespan of the scheme:

- Availability of Welsh Government funding
- Approval from Welsh Government, IIB and other health boards
- Continued support for proposed service model
- Development of a full workforce model.
- Digital developments including changes to e-referral forms and information flows for reporting to ensure the proposed pathways for regional services are appropriately connected to health board systems. These interdependencies are identified and worked through by digital experts supporting the specification development and where changes are required to systems, these are highlighted to the Directors of Digital Services through the regional portfolio governance structure and support mechanisms.
- Workforce availability and planning - Recruitment and retention of skilled staff
- Transport and logistics - As this is a hub and spoke model reliant on RGH as the hub and the model will involve inter-site support (e.g., centralised decontamination pharmacy facilities, estates), robust transport logistics must be in place.
- Pathway coordination: Efficient patient movement through pre-op, intra-op, and post-op phases-ensuring standardisation of approach form all 3 health boards requiring system wider co ordination
- Clinical governance and accreditation - Cross-site working introduces complexity in maintaining consistent clinical governance, audit trails, and compliance with other regulatory standards.

Economic Case

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6 Options identification and appraisal

The purpose of the Options Analysis is to identify and appraise the options for the delivery of project and to recommend the option that is most likely to offer best value for money.

However, in this instance this section will not undertake a traditional options appraisal using the business case framework, which is an approach that has been agreed with colleagues in the Capital and Estates team in Welsh Government (WG).

The reasons for this centre on the fact that on purchase of the site a case for purchase was prepared and resulted in approval of capital funds to enable the same. The funding was made on the condition that CTM collaborated with other NHS organisations to develop the site as part of a regional approach to the delivery of services. Therefore, consideration of alternative site options is not relevant.

The services included at this business case stage are the same as those included in the original case for the purchase of the site, with some small changes to the numbers of the same, in line with demand and capacity modelling provided in Section 3 of this case. In addition, after purchase, regional partners were asked to nominate desired alternative or additional services to be included at LHP; no changes or additions to the scope of services were requested or proposed at this time.

As a result, this section will not consider alternative options for service change with the scope and scale having been proven in the sections above. In addition, following WG approvals, design work has already progressed beyond the traditional stage for an OBC, with WG approval to proceed to RIBA 3 given in December 2024. It should be noted that the current design leaves most of the site's *plateau area* un-developed which could support a further phase of expansion.

During RIBA 2 it became apparent that there were some significant limitations to the existing site buildings. This prompted a detailed infrastructure options appraisal at that stage of the process which was fully documented in the strategic overview document submitted to WG in September 2024 and discussed at the IIB in November. The preferred option was to demolish the on-site buildings and build new facilities in line with *modern methods of construction* to deliver in the shortest programme possible.

The RIBA 2 design work was subject to scrutiny by Shared Services Specialist Estates and considered only the **preferred new build infrastructure option**. Scrutiny on the RIBA 2 phase closed on 18 December and approval to proceed to RIBA 3 was given on that date.

In addition to above funding, WG approval was granted to proceed with the demolition of the existing buildings on 31 January 2025, with planning licence approval granted on 2 April 2025. These works have commenced under a separate contract to the main design works and are programmed to complete by 21 August 2025. As a result, there is no scope to further consider infrastructure and build options.

Finally, a main contractor for completion of the design phase was appointed on 28 March 2025. This appointment was made after a lengthy tender process utilising the Crown Commercial Services Framework under 2 lots to encourage bidders from both pure modular and other off site construction backgrounds to develop the more beneficial construction solution for LHP.

The tender process demonstrated a modular form of MMC was preferred and WG approval to enter into the design contract was received on 14 March 2025. As a result, the build methodology has also been fully determined. Therefore, the economic appraisal in following sections will focus on the preferred option against a business-as-usual comparator only.

7 Economic Appraisal

7.1 Introduction

The purpose of the economic appraisal is to evaluate the costs, benefits and risks of the shortlisted options to identify the option that is most likely to offer best public value for money. In line with current Welsh Government Better Business Case and HM Treasury Green Book project business case guidance, this involves:

- Estimating the capital and revenue costs for each option.
- Undertaking an assessment of benefits and risks for each option, wherever possible quantifying these in monetary-equivalent values.
- Using the DHSC's Comprehensive Investment Appraisal (CIA) Model to prepare discounted cash flows and estimate the Net Present Social Value (NPSV) and Benefit Cost Ratio (BCR) for each option.
- Presenting the results, including sensitivity analysis, to determine the preferred option.

For the purposes of this case, only the preferred way forward is considered against the counterfactual Business as Usual position. As outlined in section 6 and as agreed as part of the Strategic Overview there are no other viable options available for consideration.

7.2 Summary of Phase 2 Preferred Way Forward

Element	Option 1 – PWF
Summary	Provide a high-volume, low-complexity orthopaedic inpatient unit, providing capacity for up to six theatres to deliver arthroplasty (knees and hips) surgery for patients meeting the criteria for treatment without critical care support. An inpatient unit adjacent to the theatres will accommodate patients requiring an overnight stay.
Initial Capital Cost	£123.6m
No. of Theatres	A total of 6 theatres: • 3-4 Theatres for CTMUHB • 0.5 Theatres for CAVUHB • 1.5 Theatres ABUHB
Activity provided	Capacity to provide 5,760 arthroplasty surgeries at LHP: • CTMUHB = 3,840 surgeries • CAVUHB = 960 surgeries • ABUHB = 960 surgeries

7.3 Capital costs

Capital costs for Phase 2 of the LHP have been estimated for the shortlisted options by the Health Board's Cost Advisors, prepared by the CTMUHB's Cost Advisors, Mott Macdonald using the following assumptions:

- Agreed Schedules of Accommodation and RIBA3b design. Agreed scope of Phase 2 to cover the build of the Orthopaedic Surgical Hub plus supporting ward accommodation

- Proposed that construction will begin in 2026-27 and proposed completion date as the end of September 2028, with 3 months commissioning before going live date of January 2029.
- Works costs calculated using benchmarked rates suitable for South Wales (including Healthcare Premises Cost Guide) @ BCIS TPI updated 11/11/2025.
- Allowances for fees, equipment costs, planning contingency have been applied as appropriate.
- No allowance for optimism bias has been applied given the degree of certainty at this stage in terms of maturity of design, knowledge of the site, and publicly declared political support for the development. It is therefore superseded by the Costed Risk Register figure.

The resulting capital costs estimates are summarised in the table below and a copy of the detailed capital cost forms is provided in Appendix 7.

Table 13 – Capital Costs

Element	Option 0 - BAU £'000	Option 1 – PWF £'000
Works Costs	-	70,924
Fees	-	8,357
Non-Works Costs	-	185
Equipment Costs	-	9,805
Quantified Risk Contingency	-	9,800
Subtotal	-	99,071
Inflation Adjustment		5,104
VAT	-	19,454
Total capital costs (as per capital cost forms)	-	123,630
Exclude sunk costs	-	0
Inflation adjustment to rebase to base year	-	-5,104
Exclude VAT	-	-19,454
Total capital costs (for Economic Case)	-	99,071

It should be noted that, in accordance with HM Treasury Green Book guidance, these costs have been adjusted for the purposes of the economic appraisal as follows:

- Exclude sunk costs.
- Exclude VAT.
- Are restated at base year prices.

7.4 Lifecycle capital costs

Ongoing investment requirements reflect the whole life costs of replacing, refurbishing or upgrading of assets over the lifetime of the appraisal period.

Building lifecycle costs across the appraisal period have been estimated for Option 1 based on a similar profile Phase 1's lifecycle costs. Please note that it will be investigated at FBC whether there are any synergies between the lifecycle costs in Phase 1 and Phase 2 and as such whether Phase 2's lifecycle costs could be reduced. As well as this, more detailed calculations will be provided as part of the FBC based on predicted schedule of major lifecycle repairs and replacement works over the estimated life of the new facilities, including the refurbishment of systems such as heating, replacement due to obsolescence or performance issues, provision for unscheduled renewal works, and redecoration.

It is also expected that equipment will be replaced every seven years in Option 1 (PWF) in line with the assumed useful life of the equipment. Please note that BAU equipment replacement costs have been estimated as 25% of Option 1's in line with the proportion of theatres in BAU that are being substituted in the PWF and similarly are replaced every seven years.

A breakdown of the current estimation of lifecycle costs across the whole appraisal period is provided in the table below:

Table 14 - Lifecycle costs

Lifecycle Costs, £'000	Option 0 - BAU £'000	Option 1 – PWF £'000
Building lifecycle Costs	0	126,263
Equipment replacement costs	19,610	78,442
Total lifecycle costs - Full appraisal period	19,610	204,704

7.5 Recurring revenue costs

The recurrent revenue costs as a result of the creation of the high-volume, low-complexity Orthopaedics Inpatient Unit in the preferred way forward has been estimated using the following assumptions:

- Pay costs associated with the 220.33 WTE required to operate the unit including medical, nursing, clinical, admin and ancillary staffing.
- Non-pay costs including supplies and services for Theatres, Ward and supporting areas.
- Building running costs

The BAU option includes costs for existing services which will be substituted within the PWF. This includes:

- Ward costs £2.5m
- Theatre costs £1.3m
- Medical staff costs £1.7m
- Non-pay costs £1.7m

The annual impact on each option is summarised in the table below, with a larger summary provided in Appendix 9– CIA Model and full workings provided in Appendix 8 – LHP OBC Phase 2 Revenue Model. It is assumed that costs will be incurred on a pro-rata basis from the start of January 2029, following planned completion of the facilities in September 2028 and a commissioning period from October – December 2028.

Table 15 – Annual revenue costs

Element	Option 0 – BAU £'000	Option 1 – PWF £'000
Pay Costs	5,598	15,035
Non Pay Costs	1,700	18,770
Building running costs	0	2,976
Total HVLC Orthopaedic Inpatient unit costs	7,298	36,781
Incremental impact on annual revenue costs	0	29,483

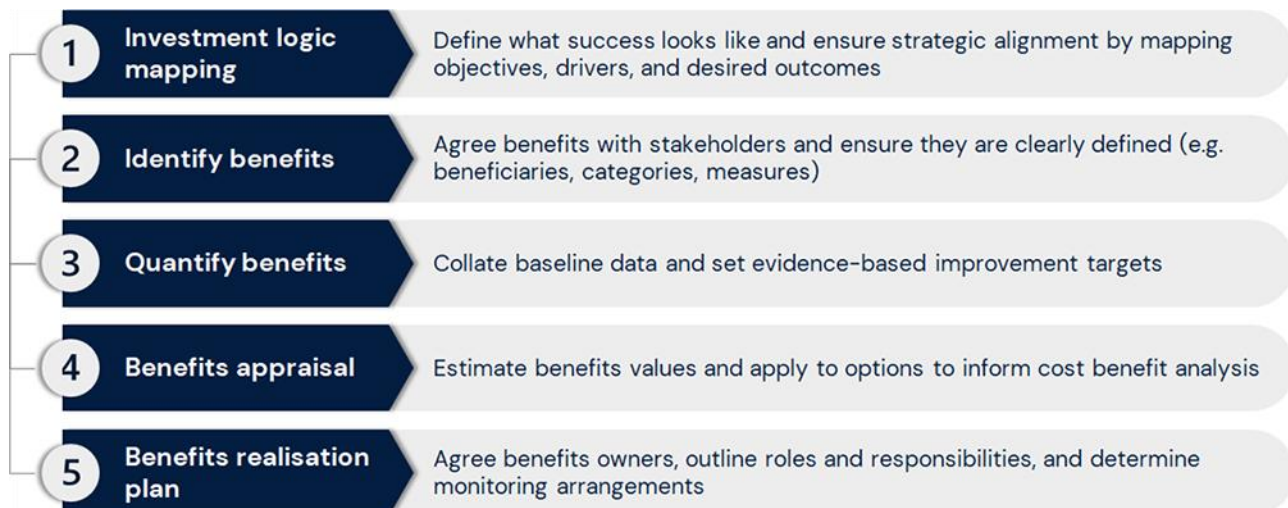
It should be noted that, in accordance with HM Treasury Green Book guidance, these costs exclude capital charges such as depreciation and therefore differ from the total figures in the Economic Case.

7.6 Benefits analysis

7.6.1 Benefits analysis approach

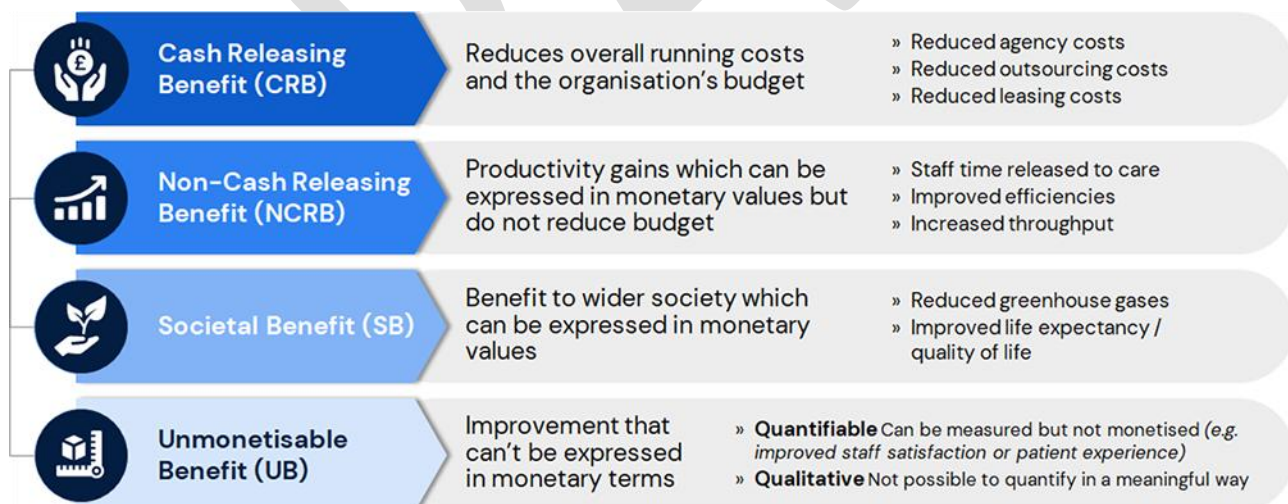
As outlined in sections 5.2-5.3 of the Strategic Case, a systematic approach has been undertaken to develop the benefits analysis, which involved establishing the benefits case and identifying measurable benefits, and metrics.

Figure 12 – Benefits approach



As part of the Economic Case, these benefits must be quantified to enable a robust value for money analysis to be undertaken, using the following categories.

Figure 13 – Benefits categories



An initial quantified benefits analysis has therefore been prepared based on the baseline and benchmarking data that is available at this stage. Every effort has been made to quantify the benefits for the OBC and, where possible, they have been stated in monetary equivalent values. Further work will continue into the FBC stage to validate assumptions, collate missing data and identify key baselines, as well as exploring benefits which have not yet been quantified.

7.6.2 Benefits assumptions

An overview of the main benefits that it is anticipated will be delivered as a result of the LHP, along with the key assumptions used to quantify them, is provided in the table overleaf. Detailed calculations are available in Appendix 5.

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Table 16 - Overview of Phase 2 (Orthopaedic) LHP benefits

Benefit	Measure	Baseline	Target Improvement	Value	Assumptions	Ref
Creation of surgical hub						
Reduced arthroplasty waiting times as a result of additional capacity provided by the surgical hub	Arthroplasty Referral to treatment times (RTT)	Average of 53 weeks (Based on average waiting times across the 3 UHBs from January 2024).	Preliminary target will be to achieve 36 weeks and then reduce to 26 weeks. (In line with NHS Wales Waiting time objectives that all patients whose care is too complex to be undertaken within 26 weeks or those who choose to wait longer receive their definitive treatment within maximum of 36 weeks)	Not monetisable	NHS Wales waiting time objectives taken from: Waiting times	UB1
Reduced length of stay: Delivery of a high volume, low acuity model of care allows standardisation of the pathway with more surgical procedures delivered as day cases	Average length of stay (ALOS) for arthroplasty	4.93 days (From September 2025 data for CTMUHB)	1.4 days (3.53 day improvement) (In line with perfect month ALOS that was achieved at CTMUHB)	£0.7m p.a. after confidence rating applied	The target average length of stay for Arthroplasty is based on the ALOS that was achieved at CTMUHB during a perfect month. It is expected that this would be achievable at LHP due to it providing elective high-volume, low complexity arthroplasty procedures in a Orthopaedic protected surgical unit. The methodology for calculating monetary value of this benefit is: • Apply 3.53 reduction in ALOS to 5,760 projected arthroplasty procedures p.a. equates to 20,321 fewer bed days p.a. • At a variable cost per bed day of £73, this equates to £1.5m p.a. (note only the variable cost per bed day has been applied instead of the full cost per bed day). • A 50% confidence rating has then been applied, noting that there is evidence from multiple sources suggesting this level of improvement is achievable. Further evidence to support this benefit includes: • The principles underlying the service to be provided at LHP have begun being implemented at the Princess of Wales Hospital, and this has seen ALOS for Arthroplasty reduce to 2.08 on a sustained	NCRB1

Benefit	Measure	Baseline	Target Improvement	Value	Assumptions	Ref
					basis. This shows that even at Princess of Wales Hospital which would likely have to deal with more complex procedures a low ALOS is achievable, as such it is expected that LHP would be able to achieve an even further improved ALOS. - The LOS at Essex and Suffolk Orthopaedic Elective Surgical Hub for total knee replacement was 1.9 days, suggesting 1.4 days is a reasonable target (especially after factoring in confidence rating). - At an Orthopaedic protected elective surgical unit (PESU), a single surgeon's hip replacements length of stay reduced by 38% compared to a pre-pandemic ward (4.8-day ALOS to 3.0 days). This is from a study¹ of 2022.	
Improved patient recovery time: Reduced length of stay allows patient to return home earlier and resume daily activities	Average length of stay (ALOS) for arthroplasty	N/A	Patients are discharged 3.53 days earlier on average (Based on achievement of ALOS outlined in outlined in NCRB1)	£0.8m p.a. after confidence rating applied	Methodology for calculating monetary value: Assume of the 20,321 reduction in bed days, 75% of these apply to patients in current employment Applying cost per day £109.25 per day (Source: Cost of an employed person sourced from Hidden costs of employee medical appointments and work (benenden.co.uk)) = £1.67m of societal benefit A 50% confidence rating has then been applied in line with NCRB1.	SB1

¹ 2022: Joseph, V, Boktor, J. GE, Roy, K. and Lewis, PM. (2022) '*Dedicated orthopaedic elective unit: our experience from a district general hospital*', Irish Journal of Medical Science (1971 -), <https://doi.org/10.1007/s11845-022-03174-9>

Benefit	Measure	Baseline	Target Improvement	Value	Assumptions	Ref
Improved patient outcomes: Earlier surgical interventions and reduced length of stay, reducing complications and improving recovery, reduce pain leading to an overall improvement on patients' quality of life	QALYs (Based on reduced waiting times)	N/A	1,708 QALYs p.a. (Based on 11,556 patients undergoing arthroplasty surgery 17 weeks earlier on average achievement of preliminary RTT targets outlined in UB4)	£35.9m p.a. after confidence rating applied	Value of a quality adjusted life year for a person with Movement disorder (proxy for someone requiring Arthroplasty) is 0.548 as per WHO's QALY health state ratings ² - Improvement in QALY from surgical procedure = $1 - 0.548 = 0.452$ Assumed preliminary improvement in wait times is 17 weeks (or 0.33 of a year) – so they receive the improvement in QALYs earlier. Apply reduced wait times to improvement in QALY across the 11,556 patients currently waiting for Arthroplasty Apply QALY value of £70,000 as per HM Treasury Green Book (uplifted to base year prices) A prudent 25% confidence rating is applied, noting there are significant assumptions used in the calculation (e.g. the current run rate of average wait times would continue without LHP and that the patient seeing full improvement in QALY, where there may be other factors that influence this.)	SB2
Reduced reliance on external surgical capacity: Reduced outsourcing, insourcing and waiting list initiatives as a result of additional capacity provided by the surgical hub	Expenditure on surgical outsourcing, insourcing and waiting list initiatives	N/A	N/A	Included in BAU costs	Included in the transfer of costs associated with substitution of services at CTM UHB.	N/A
Model of care transformation						
Increased throughput and better use of resources: High volume, low acuity model with a standardised pathway will optimise throughput allowing for better use of resources	Average cost per Arthroplasty procedure compared to benchmarks	N/A	£6,907 per arthroplasty procedure (vs NHS England £7,910)	N/A Inherent within revenue model	NHS England arthroplasty tariff based on 2025-26 prices with a 5% MFF for the following codes: Very Major Hip Procedures for Non-Trauma with CC Score 2-3 Very Major Knee Procedures for Non-Trauma with CC Score 2-3	UB2
More efficient procurement: Increased standardisation of the pathway will provide opportunities for more	Consumables and supplies expenditure	To be confirmed at FBC	To be confirmed at FBC	To be confirmed at FBC	FBC Actions – establish the level of opportunities there are to standardise procurement. To give an indication however, it is estimated that there could be potentially a 10% improvement on	CRB1

² see: WHO Health Systems Performance Assessment, Debates, Methods and Empiricism, 2003, table 32.9 <https://iris.who.int/handle/10665/42735>

Benefit	Measure	Baseline	Target Improvement	Value	Assumptions	Ref
standardised products and consolidation of stores					purchase prices from buying in bulk and standardisation. Based on estimated non-pay costs for Phase 2 of the LHP, would equate to a £1.9m reduction in costs per year. This level of savings does seem reasonable based on other evidence such as the Suffolk and Northeast Essex wide implant rationalisation project (clinically led) for Foot and Ankle, Hip, Knee, Shoulder and Sports Medicine which saw savings on contracts of £2m - £4m year.	
Learnings and good practices identified from CRB1 can be passed on to other acute sites across the region, leading to better procurement practices throughout the region.	Qualitative	N/A	N/A	N/A	Not possible to quantify in a meaningful way	UB3
Improved performance and cost reporting: A dedicated surgical unit with standardised pathway will provide opportunities to increase transparency, reporting and understanding of performance and costing metrics	Qualitative	N/A	N/A	N/A	Not possible to quantify in a meaningful way	UB4
Greater alignment with GIRFT principles	GIRFT principles	N/A	Alignment with GIRFT principles	Not monetisable	N/A	UB5
Provides opportunities for the future reconfiguration of services of CTM UHB The move of existing surgical and diagnostics activity to LHP will release capacity at CTM UHB which provides opportunities to consolidate or reconfigure services with the potential for future rationalisation of the estate	Qualitative	N/A	N/A	N/A	Not possible to quantify in a meaningful way at this stage, please note that this just applies to CTMUHB, as CTMUHB is the only one that is transferring existing capacity.	UB6

Benefit	Measure	Baseline	Target Improvement	Value	Assumptions	Ref
Supports the future of other regional initiatives Delivery of a successful regional model provides an evidence-base and acts as a potential exemplar, providing a catalyst for standardising other suitable pathways or centralising other suitable services in the future	Qualitative	N/A	N/A	Not monetisable	Not possible to quantify in a meaningful way at this stage	UB7
Providing regional sustainability and capacity to allow contingency at other sites.	Increase in the no. of Arthroplasty procedures provided	1,320	5,600	Not monetisable	As a result of the increased capacity at LHP it will provide regional sustainability and contingency at other acute sites.	UB8
Positive reputational impact to UHBs from patients and Welsh Government from positive outcomes of the initiative	Qualitative	N/A	N/A	Not Monetisable	It is assumed that the investment and service will be delivered in a productive and beneficial manner which will provide positive outcomes for patients, staff and the organisations. This will lead to a positive reputational impact from both patients and Welsh Government.	UB9
LHP will be a catalyst for change, improvement and employing best practice and collaboration across the region.	Qualitative	N/A	N/A	Not Monetisable	Not possible to quantify in a meaningful way at this stage	UB10
Reduced Healthcare Acquired Infections: Enhanced-recovery arthroplasty pathways with discharge on day 0–1 substantially reduce patients' exposure to hospital pathogens, minimise SSI and HAI rates, and lower cost of care.	Infection Incidence	2%	1%	£130k	Enhanced-recovery arthroplasty pathways with discharge on day 0–1 substantially reduce patients' exposure to hospital pathogens, minimise SSI and HAI rates, and lower cost of care. Adopting a short-stay model at Llantrisant Health Park is therefore expected decrease combined infection incidence from ~2% to ~1%. The methodology for calculating monetary value of this benefit is: - No. of procedures at LHP per year is 5,760 - A reduction from 2% to 1% of infection incidence applied to no. of procedures = 57.6 fewer infections	NCRB2

Benefit	Measure	Baseline	Target Improvement	Value	Assumptions	Ref
					- Assumed that each infection costs £3,000 in direct health care costs. - Monetisable value before confidence rating = £0.2m - Apply 75% confidence rating. At FBC stage a more robust value, including the value for the societal benefit of reduced HAI's will be investigated.	
Improving patient experience						
Improved patient experience as a result of reduced waiting times, ease of access, quality of care and reduced length of stay	Patient satisfaction scores	N/A (not possible to isolate existing patient scores from wider UHB)	95% (Based on current targets)	Not monetisable	N/A	UB11
Reduced cancellations and DNAs Centralised elective centre with co-location of equipment and clinical rooms making it a "one-stop" clinic provides predictability of care and reduces risk of delays and cancellations caused by winter pressures and other unplanned events.	Cancellations/ DNAs rate	To be confirmed at FBC	12.5% (In line with the PESU)	Potentially monetisable – to be explored at FBC	Orthopaedic protected elective surgical unit (PESU) cancellation rate: Only 12.5% of procedures were cancelled (24 out of 192). Compared to 52% in the Pre-pandemic ward. Based on a 2022 study ³	UB12
Reduced health inequalities Reduction in waiting times and ease of access supports equality of access	Qualitative	N/A	N/A		Not possible to quantify in a meaningful way at this stage	UB13
Delivering a sustainable workforce						
Improved training pathway and increased training opportunities: The new Skills Academy in partnership with HEIW and additional theatres at LHP will provide capacity to	Number of training places	Orthopaedic Trainees: 6 Anaesthetic WTE Stage 1: 20	Potential Orthopaedic Trainees: 12 Potential Anaesthetic WTE Stage 1: 40	Not monetisable	Delivery of these additional training places are dependent on: Additional funding over and above what is outlined in section 7.5 recurring revenue costs.	UB14

³ Joseph, V, Boktor, JGE, Roy, K and Lewis, PM (2022) 'Dedicated orthopaedic elective unit: our experience from a district general hospital', Irish Journal of Medical Science (1971 -), <https://doi.org/10.1007/s11845-022-03174-9>

Benefit	Measure	Baseline	Target Improvement	Value	Assumptions	Ref
increase the number of training places		Anaesthetic WTE Stage 2: 13	Potential Anaesthetic WTE Stage 2: 26		- Close engagement with HEIW and the Welsh School of Anaesthesia to formalise these training pathways. Calculation based on: - Baseline no. of trainees at CTM are provided in an assumed 1.5 theatres. - LHP will provide 6 theatres, of which 3-4 are utilised by CTM, and the other theatres utilised to accommodate regional demand. The target is set on the additionality of the theatres that CTM utilises (assumed as 3 theatres), though this assumption will be revisited at FBC stage. This represents an 100% increase in capacity to provide training places, which has been applied to the baseline no. of trainees.	
Increased staff satisfaction since LHP will create a modern attractive place to work which provides increased training and career development opportunities as a Centre for Excellence and including the new Training Academy/Centre for training in partnership with HEIW. A more standardised pathway is likely to reduce stress.	Staff survey scores	To be confirmed at FBC	To be confirmed at FBC	Not monetisable	To be confirmed at FBC	UB15
Improved recruitment and retention since LHP will create a modern attractive place to work which provides increased training and career development opportunities as a Centre for Excellence and including the new Training Academy/Centre for training in partnership with HEIW	Vacancy Rates Staff Turnover	To be confirmed at FBC	To be confirmed at FBC	Not monetisable	To be confirmed at FBC	UB16
Reduced reliance on temporary staffing: Improved recruitment and retention will	Locum, agency and bank expenditure	To be confirmed at FBC	To be confirmed at FBC	To be confirmed at FBC	To be confirmed at FBC	CRB2

Benefit	Measure	Baseline	Target Improvement	Value	Assumptions	Ref
reduce usage of locum, bank and agency staff						
Reduced sickness absence	Sickness absence	To be confirmed at FBC	To be confirmed at FBC	To be confirmed at FBC	To be confirmed at FBC	CRB3
More efficient ways of working: Consolidated service model leading to optimised workforce planning and a team that can operate in a more agile way is expected to result in productivity improvements and rota efficiencies.	Rota efficiencies	Captured in Revenue Model	Captured in Revenue Model	Captured in Revenue Model	Captured as part of the Revenue Model workforce figure.	For noting
Opportunities to share best workforce practices across the region	Qualitative	N/A	N/A		Not possible to quantify in a meaningful way at this stage	UB17
Providing a sustainable estate						
Modern fit for purpose compliant facility that aligns with current guidance and provides more robust, resilient and sustainable facilities	WHBNs HTNs	N/A	Complies with relevant WHBNs and HTNs	Not monetisable	N/A	UB18
	BREEAM rating	N/A	BREEAM rated as excellent	Not monetisable	N/A	UB19
	Enhanced facilities	N/A	Enhanced facilities enhanced provisions (i.e. 2 oxygen tanks, N+N generator etc.)	Not monetisable	N/A	UB20
Community Benefits (Social Value provided by the contractor))	Number of local direct full time equivalent (FTE) employees hired or retained.	N/A	10 FTE	Not monetisable	Target as per Social Value information provided as part of the Tender documents by MTX. – Note this is the same as Phase 1's value.	UB21 (a)
	Number of weeks of apprenticeships provided to local staff.	N/A	250 weeks	Not monetisable	Target as per Social Value information provided as part of the Tender documents by MTX. – Note this is the same as Phase 1's value.	UB21 (b)

Benefit	Measure	Baseline	Target Improvement	Value	Assumptions	Ref
	Equipment or resources donated to local third sector and civil society organisations	N/A	£25,000 donated	Potentially monetisable	Target as per Social Value information provided as part of the Tender documents by MTX. – Note this is the same as Phase 1's value.	UB21 (c)
	Directly funded number of hours volunteering time provided to support local community projects.	N/A	250 Hours of volunteering time	Not monetisable	Target as per Social Value information provided as part of the Tender documents by MTX. – Note this is the same as Phase 1's value.	UB21 (d)
	Direct support and investment provided for people to learn and use Welsh (e.g. interactions and signage).	N/A	£25,000	Potentially monetisable	Target as per Social Value information provided as part of the Tender documents by MTX. – Note this is the same as Phase 1's value. Allocate £25,000 to support the Welsh language on a construction project by offering free Welsh lessons for workers, tailored to industry vocabulary (£12k). Introduce bilingual site signage, safety instructions, and manuals (£7k). Host community engagement events, such as guided tours and Welsh-themed workshops, in partnership with local schools or organizations (£5k). Celebrate Welsh culture onsite with events and competitions like St. David's Day (£1.5k). Leave a legacy with bilingual plaques or contributions to local Welsh programs (£1.5k). Partner with Mentrau Iaith or Learn Welsh Cymru for effective delivery and long-term impact, promoting Welsh language use onsite and beyond.	UB21 (e)
	Total amount (£) spent in the local supply chain.	N/A	£20,000,000 spent locally	Not Monetisable	Target as per Social Value information provided as part of the Tender documents by MTX. – Note this is the same as Phase 1's value. Potential social value generated by value spent locally = £20,000,000*1.76 (Local Multiplier) = £35,200,000. Note will not be included as a monetisable value in the CIA Model.	UB21 (f)

Benefit	Measure	Baseline	Target Improvement	Value	Assumptions	Ref
Reduced waste and single use products: Contribute to CTM UHB environmentally sustainable goals by reducing waste and single use products	Qualitative	N/A	N/A	Not monetisable	Not possible to quantify in a meaningful way at this stage, but it is expected as a result of the standardisation of the site, more site wide reducing waste and single use product initiatives can be instituted and monitored.	UB22
Improved recycling: Contribute to CTM UHB environmentally sustainable goals by improved recycling and finding alternative ways of disposing of waste	Qualitative	N/A	N/A	Not monetisable	Not possible to quantify in a meaningful way at this stage, but it is expected as a result of the standardisation of the site, more site wide recycling initiatives can be instituted and monitored.	UB23
Contribute to decarbonisation targets with energy efficiency: Providing an energy efficient building which optimises energy consumption and associated CO2e	Qualitative	N/A	N/A	Not monetisable	The new building at LHP will be developed to comply with the net carbon zero strategy and principles. Gas will also not be used on site.	UB24
Contribute to decarbonisation targets with more efficient pathway: Reduced CO2e associated with reduced patient length of stay	Carbon impact of stay (Based on reduced length of stay)	N/A	Reduction of 770 tonnes of CO2e p.a. (Based on 20,321 fewer bed days p.a. based on ALOS reduction targets outlined in NCRB1)	£227k (average) after confidence rating applied	The average carbon impact of a stay on a low intensity ward is 37.9 kg CO2e i per bed day [Source: NHS England » Building on what we already do] Applying to 20,321 reduction in bed days = 770 tonnes p.a. At an average of £588.26 per tonne of CO2e [Source: DfT TAG Data book (Table A 3.4.1: Carbon Appraisal Values, £ per Tonne of CO2e)] this equates to an average economic value of £453k p.a. A 50% confidence rating has then been applied in line with NCRB1.	SB3
Preservation of biodiversity and wetland area due to choice and design of site.	Qualitative	N/A	N/A	Not monetisable	As a result of the choice of site for the development and that is recycling a previously developed industrial site instead of a greenfield site, there is preservation of biodiversity in the region. The choice of design and ensuring it stays within the already developed portions of the site, the wetland area is preserved and protected from all development in line with Local Council's recommendations.	UB25
Enables and provides meaningful and adequate	Qualitative	N/A	N/A	Not monetisable	Not possible to quantify in a meaningful way at this stage	UB26

Benefit	Measure	Baseline	Target Improvement	Value	Assumptions	Ref
spaces for future phases of work that are planned						
Provides opportunity for future expansion: As a result of the choice of site and design, it allows for expansion to capacity in current services as well as development of future services	Qualitative	N/A	N/A	Not monetisable	Existing design allows for future increase in capacity (i.e. has design has factored in space for further equipment and rooms to accommodate providing additional capacity in the future)	UB27

7.6.3 Monetisable benefits analysis

While work continues to validate assumptions and explore benefits that it has not yet been possible to quantify, initial analysis has identified circa £37.6m of monetisable benefits p.a. as summarised in the table below.

Table 17 – Monetisable benefits values after confidence rating (when benefits are fully realised)

Element	Option 0 – BAU £'000	Option 1 – PWF £'000
Cash releasing benefits	0	0
Non-cash releasing benefits	0	872
Societal benefits	0	36,711
Total annual recurring benefits values	0	37,583

These figures can be considered risk-adjusted since, as outlined in the summary table above, relatively prudent confidence ratings have been applied to the majority of them to reflect the degree of uncertainty at this stage in the process. Further work will be undertaken at FBC to firm up these assumptions and reduce the level of uncertainty.

7.6.4 Unmonetisable benefits analysis

In addition to the monetisable benefits there are several benefits which it is not possible to monetise at this stage, either because they cannot be meaningful quantified or because they cannot be stated in monetary terms. A summary is provided in the table below.

Table 18 – Unmonetisable benefits analysis

Ref		Option 0 - BAU	Option 1 - PWF
UB1	Reduced arthroplasty waiting times	-	Patient waiting time for arthroplasty will preliminarily reduce to 36 weeks and then further to 26 weeks.
UB2	Increased throughput and better use of resources	-	Average cost per arthroplasty procedure is £6,907 compared to £7,910 NHS England Tarriff rate
UB3	Learnings and good practices identified in procurement can be passed on to other acute sites across the region, leading to better procurement practices throughout the region.		Qualitative
UB4	Improved performance and cost reporting	-	Qualitative
UB5	Greater alignment with GIRFT principles	-	Alignment with GIRFT principles
UB6	Provides opportunities for the future reconfiguration of services of CTM UHB	-	Qualitative
UB7	Supports the future of other regional initiatives	-	Qualitative
UB8	Providing regional sustainability and capacity to allow contingency at other sites.	-	5,600 arthroplasty procedures provided at LHP.
UB9	Positive reputational impact to UHBs from patients and Welsh Government from positive outcomes of the initiative	-	Qualitative

Ref		Option 0 - BAU	Option 1 - PWF
UB10	LHP will be a catalyst for change, improvement and employing best practice and collaboration across the region.	-	Qualitative
UB11	Improved patient experience	-	95% patient satisfaction
UB12	Reduced cancellations and DNAs		12.5% cancellation/DNA rate
UB13	Reduced health inequalities	-	Qualitative
UB14	Improved training pathway and increased training opportunities	-	Capacity to potentially provide training to 12 Potential Orthopaedic Trainees, 40 Potential Anaesthetic WTE Stage 1s and 26 Potential Anaesthetic WTE Stage 2s.
UB15	Increased staff satisfaction	-	To be confirmed at FBC
UB16	Improved recruitment and retention	-	To be confirmed at FBC
UB17	Opportunities to share best workforce practices across the region	-	Qualitative
UB18-20	Modern fit for purpose compliant facility	-	Complies with WHBN/HTMs BREEAM rated as excellent Enhanced facilities with enhanced provisions (i.e. 2 oxygen tanks, N+N generator etc.)
UB21	Community Benefits (Social Value provided by the contractor)	-	10 local direct full time equivalent (FTE) employees hired or retained. 250 weeks of apprenticeships provided to local staff. £25,000 worth of equipment or resources donated to local third sector and civil society organisations 250 Hours of volunteering time provided to support local community projects. £25,000 direct support and investment provided for people to learn and use Welsh (e.g. interactions and signage). £20,000,000 spent in the local supply chain.
UB22	Reduced waste and single use products	-	Qualitative
UB23	Improved recycling	-	Qualitative
UB24	Contribute to decarbonisation targets with energy efficiency	-	Qualitative
UB25	Preservation of biodiversity and wetland area due to choice and design of site.	-	Qualitative
UB26	Enables and provides meaningful and adequate spaces for future phases of work that are planned	-	Qualitative
UB27	Provides opportunity for future expansion: As a result of the choice of site and design, it allows for expansion to capacity in current services as well as development of future services	-	Qualitative

7.7 Risk analysis

The risks for each option have been assessed and, as far as possible, quantified and expressed in monetary equivalent terms, including:

- Quantified risk in relation to planning contingency included in capital cost forms
- Key project risks which have not been accounted for within capital costs.

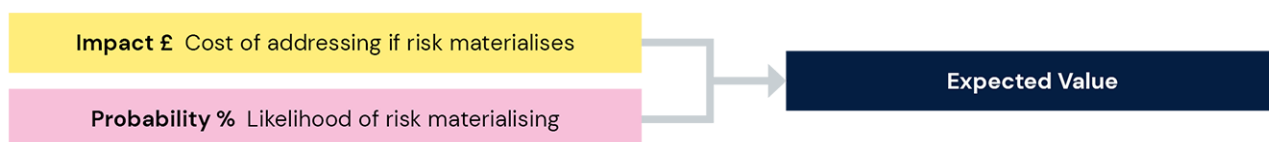
Key project risks have been identified which are not already accounted for within capital costs and these include the following:

- **Funding Risk - Unable to secure sufficient capital funding to deliver the project:** There is a risk that due to the significant amount of initial capital funding required to deliver the project it may take time to secure this funding which could lead to delays in the programme while alternative routes are explored.
- **Funding Risk - Unable to secure sufficient revenue funding to deliver the project:** There is a risk that due to the significant amount of ongoing revenue funding required to deliver the project it may take time to secure this funding which could lead to delays in the programme while alternative routes are explored.
- **Workforce Risks – Recruitment and Retention:** There is a risk that it would be difficult to recruit sufficient substantive staff, noting the increase staffing required, which could lead to a reliance on unplanned, expensive temporary and locum staff leading to increased staffing costs.

These risks have been quantified by calculating an 'expected value'. This provides a single value for the expected impact of all risks. It is calculated by multiplying the likelihood of the risk occurring (probability) by the cost of addressing the risk (impact) and summing the results for all risks and outcomes.

Please note these risks will be reviewed and refined at FBC stage to ensure they have been accurately captured.

Figure 14 - Risk quantification approach using single-point probability analysis



The assumptions included to assess the impact and probability of these risks are outlined in the table below.

Table 19 - Risk assumptions

Element	Option 0 - BAU	Preferred Option - Traditional capital build + ISP equip and deliver services via managed service contract
K1 – Funding Risk: Capital Funding		
Risk	Unable to secure sufficient capital funding to deliver the project	
Consequence	Programme extended to allow time to explore alternative routes	
Impact per year		Assume a 12-month extension at a run rate of £400k per week, which equals £20.8m
Probability		5%
Timescales		Year 0
Total Risk Value £'000	Does Not Apply	1,040

Element	Option 0 - BAU	Preferred Option - Traditional capital build + ISP equip and deliver services via managed service contract
K2 – Funding Risk: Revenue Funding		
Risk	Unable to secure sufficient revenue funding to deliver the project	
Consequence	Programme extended to allow time to explore alternative routes	
Impact per year		Assume a 12-month extension at a run rate of £400k per week, which equals £20.8m
Probability		10%
Timescales		Year 0
Total Risk Value £'000	Does Not Apply	2,080
K3 - Workforce Risk: Recruitment and Retention (long term)		
Risk	Unable to recruit sufficient staff to enable delivery of the model in the long term	
Consequence	Reliance on unplanned outsourcing of services leading to increased costs	
Impact per year		Pay costs re 10% higher than expected (£1.5m p.a.)
Probability		5%
Timescales		Years 4 – 63
Total Risk Value £'000	Does Not Apply	4,511

7.8 Economic appraisal

The Comprehensive Investment Appraisal (CIA) model has been populated with the assumptions outlined above to support the appraisal of overall value for money by producing a cost-benefit analysis of the shortlisted options.

The assumptions above have been incorporated into a discounted cash flow for each of the costs, benefits and risks are calculated over a 64-year appraisal period including Year 0 (base year) + ~ 3 years construction and commissioning + 60 years estimated useful life.

- Year 0 is 2025/26
- Costs and benefits use real base year prices – all costs are expressed at 2025/26 prices in line with the baseline costs.

The following costs are excluded from the economic appraisal:

- Exchequer **transfer** payments, such as VAT
- General inflation
- Sunk costs
- Non-cash items such as depreciation and impairments
- A discount rate of 3.5% is applied to years 1-30, 3.0% from year 31 onwards.

The economic summary is provided in the table below and a copy of the CIA model is provided in Appendix 9.

Table 20 - Economic summary

Element	Option 0 - BAU £'000	Option 1 - PWF £'000
Capital Expenditure (discounted)	-7,102	-166,999
Revenue Expenditure (discounted)	-195,276	-951,968
Operational Risks (discounted)	0	-4,848
Risk-adjusted Present Cost	-202,377	-1,123,816
Cash releasing benefits (discounted)	0	0
Non-cash releasing benefits (discounted)	0	19,929
Societal Benefits (discounted)	0	1,402,254
Total Benefits	0	1,422,183
Discounted Net Present Social Value (NPSV)	-202,377	298,367
Incremental costs - total	0	-921,439
Incremental benefits - total	0	1,422,183
Risk-adjusted Incremental Net Present Social Value (NPSV)	0	500,744
Benefit-cost ratio	0.00	1.54

The results of the economic modelling demonstrate that the preferred option will deliver an incremental Net Present Social Value (NPSV) of £500.7m when compared to the Business as Usual (BAU) position. This generates a Benefit Cost Ratio (BCR) of 1.54, which equates to £1.54 of incremental benefit delivered for every £1.00 of incremental whole life cost, which suggests LHP will deliver value for money.

It should be noted that this is based on an initial assessment of benefits and further work is required to quantify a number of the benefits as the scheme progresses to Full Business Case (FBC) stage. Where benefits have been quantified, values have been estimated based on current assumptions as outlined in section 7.6 of this case. Given further work is required at FBC to validate and refine these assumptions, a relatively low confidence rating has been attached to the majority of these to ensure a prudent approach is taken to claiming benefits until a more detailed analysis can be undertaken. It is therefore reasonable to assume that at FBC stage, the BCR is likely to increase and further strengthen the value for money case.

7.9 Sensitivity analysis

The results of the economic appraisal above have been subject to a sensitivity analysis to examine the impact of potential movements in capital and revenue costs.

The first part of this typically involves undertaking a switching values analysis to test the robustness of the ranking of options. This is applied to areas of material cash flows to identify the extent that costs and benefits of each of the alternative options must change in order for the Net Present Social Value (NPSV) to reflect that of the highest-ranking option (excluding BAU). Given that there are no alternative options to test in this case, this analysis is not required.

Instead, alternative scenarios have been calculated to consider how the value for money of the preferred option may be affected by future uncertainty as outlined in the table below.

Table 21 - Sensitivity analysis – scenarios

Scenario	Revised incremental costs	Revised incremental benefits	Revised NPSV	Revised BCR
Original Results	-921,439	1,422,183	500,744	1.54
1. Capital costs increase by 20%	-940,021	1,422,183	482,162	1.51
2. Revenue costs increase by 10%	-1,015,111	1,422,183	407,071	1.40
3a. Reduced length of stay benefits confidence rating reduced from 50% to 25%	-921,439	1,393,179	471,741	1.51
3b. Reduced length of stay benefits confidence rating increased from 50% to 75%	-921,439	1,451,186	529,747	1.57
4a. Improved patient outcomes because of shorter Arthroplasty waiting times and reduced LOS confidence rating increased from 25% to 12.5%	-921,439	755,071	-166,368	0.82
4b. Improved patient outcomes because of shorter Arthroplasty waiting times and reduced LOS confidence rating increased from 25% to 50%	-921,439	2,756,407	1,834,968	2.99

In summary:

- Scenario 1: Even if capital costs were to increase by 20% (c.£19.8m excluding VAT), this would have minimal impact on BCR, and the project would still deliver a positive NPSV.
- Scenario 2: A 10% increase in revenue costs (c. £4m p.a.) would result in a Net Present Social Cost, this would have minimal impact on BCR, and the project would still deliver a positive NPSV.
- Scenario 3: The monetised benefits directly associated with reduced length of stay (increased throughput, value of patient time saved) appear to have minimal impact on the value for money indicators. For instance, if the confidence rating was reduced from 50% to 25% this would only slightly reduce the BCR from 1.54 to 1.51. Similarly increasing it to 75% would only slightly improve the BCR from 1.54 to 1.57.
- Scenario 4: However, the value for money indicators do appear to be relatively sensitive to changes in assumptions about improved patient outcomes because of reduced waiting times and reduced length of stay for Arthroplasty patients. For instance, if the confidence rating was reduced from 25% to 12.5% this would almost halve the BCR from 1.54 to 0.82, while increasing it to 50% would almost double the BCR from 1.54 to 2.99. It should be noted that the baseline confidence rating of 25% is already relatively prudent to reflect the degree of uncertainty about the assumptions made within the calculation (for instance that the current run-rate of waiting times would continue without LHP but would be reduced by 17 weeks in line with targets as a result of LHP, and that, following recovery from surgery, each patient benefiting from this would see full improvement from 0.548 to 1 quality adjusted life year). It is assumed that any sensitivity in these assumptions are already accounted for within the prudent 25% confidence rating and, if these assumptions can be firmed up at FBC, the confidence rating would increase.

The results of the scenario analysis show that the BCR is relatively sensitive to some changes in assumptions, specifically patient outcomes associated with reducing surgical waiting times. However, it is believed that as the project progresses to FBC and assumptions can be firmed up, it will be possible to monetise further benefits and increase the confidence rating applied to those already quantified. This would likely increase the BCR overall.

7.10 Preferred option

The results of the economic appraisal demonstrate that the preferred way forward offers value for public money. This option is an NHS-funded capital build for the Orthopaedic Surgical Hub at Llantrisant Health Park, delivering theatres and ward accommodation for high-volume, low-complexity arthroplasty procedures.

Requiring capital investment of £123.6m (including VAT) and ongoing revenue costs of £36.8m p.a. (excluding depreciation), based on estimated costs and benefits, it is anticipated that phase 2 of the LHP will deliver an incremental Net Present Social Value (NPSV) of £500.7m and a Benefit Cost Ratio (BCR) of 1.54. This represents £1.54 of incremental benefit delivered for every £1.00 of incremental whole life cost, because of the quantifiable benefits that it has been possible to state in monetary values at this point in time, including:

- **High volume, low acuity model of care increasing throughput:** Delivery of the surgical hub will address current regional Arthroplasty capacity shortfalls and ensure future demand can be met. As well as reducing waiting times for patients, the delivery of high volume, low acuity model will enable the delivery of a standardised pathway, increasing throughput and making best use of resources.
- **Improved patient outcomes from earlier access to surgical intervention, reduced length of stay and less healthcare acquired infections:** Reduced length of stay is known to result in fewer complications and support speedier recovery times. This, combined with the reduced waiting times, lead directly to better patient outcomes, specifically improving quality of life for those requiring surgical interventions such as arthroplasties.

In addition to this, there are other quantifiable benefits which it has not yet been possible to state in monetary values given the information that is available at this time. These will be explored further at FBC-stage and, it is expected, will further strengthen the BCR. These include:

- **Productivity gains because of standardised pathways:** In addition to the reduced length of stay and increased throughput, the standardised pathway is likely to provide other opportunities to deliver productivity gains, such as delivering rota efficiencies and enabling more efficient procurement and reduced waste. Predictability of care also reduces the risk of cancellations and Did Not Attend (DNAs).
- **Impact of a more sustainable workforce:** The benefits identified in terms of improved recruitment and retention provide opportunities to reduce the impact of long-term vacancies reducing agency, locum and bank usage and, potentially, reducing recruitment time and costs.

LHP will also deliver various non-financial benefits which while they cannot be quantified in monetary terms are equally important to the delivery of local, regional and national policy. These include:

- **Improved patient experience:** As well as reduced waiting times and length of stay, patient experience is enhanced by the modern fit for purpose facilities and the ease of access the location of LHP offers, with its good road links and parking.
- **Increased staff satisfaction:** The improved training pathway and increased training opportunities, along with the modern fit for purpose facilities and a consolidated service model that enables more effective ways of working, contributes to staff satisfaction and creates an attractive place to work which will support recruitment and retention of highly trained health professionals.
- **Increased training opportunities:** The additional theatre capacity will provide significant opportunities to increase the number of training places available in the region.

- **Increased compliance:** Delivery of orthopaedic services in a hub will ensure alignment with GIRFT principles. Modern fit for purpose facilities that are compliant with WHBNs and HTNs, achieve BREEAM rating of Excellent.
- **Reduced health inequalities:** Reduction in waiting times and ease of access supports equality of access.
- **Community Benefits:** The contractor has agreed to implementing several community benefits, including hiring local, providing volunteering and donations to local organisations, investing in people learning and using Welsh and investing in the local supply chain.
- **Future proofing:** The site also provides a level of future proofing by providing expansion space that offers opportunities for other future developments.
- **Impact of a more sustainable estate:** The delivery of appropriately designed compliant facilities provides opportunities to contribute to CTM UHB's environmentally sustainable goals and national strategies around decarbonisation and optimising energy efficiency. The transformed model of care with its standardised pathway is likely to make it easier to implement and maintain sustainability programmes that CTM UHB has instituted in other areas, such as reducing waste and single use products.
- **Opportunities for future transformation:** The additional capacity offered by LHP provides opportunities to transform and reconfigure core local services and deliver things differently in the future. The successful delivery of a regional centre will also provide proof of concept as the basis for the development of any future regional pathways.

The results of the options appraisal are presented in the table below.

Table 22 - Results of options appraisal

Element	Option 0 - BAU	Option 1 - PWF
Initial capital investment (including VAT)	-	£123.6m
Incremental NPSV	-	£500.7m
Benefit Cost Ratio	-	1.54

It should be noted that this assessment is based on an initial assessment of benefits and further work is required to quantify these more fully. As outlined above, it is anticipated that this is likely to further strengthen the BCR and value for money case as the scheme progresses to FBC stage.

Commercial Case

8 Procurement strategy

8.1 Introduction

This section of the business case outlines the procurement strategy and proposed deal to deliver the preferred option develop a regional orthopaedic surgical hub, co-located with a regional diagnostics and endoscopy centre on the Llantrisant Health Park site, as discussed in the economic case.

The former British Airways Avionics Engineering (BAAE) site was acquired by CTMUHB in February 2023. The Llantrisant Health Park site will comprise a Community Diagnostics Hub, Orthopaedic Surgical Hub with associated ward accommodation, and other regional services, which may include Day Surgery. The Orthopaedic Surgical Hub will be delivered as the second phase of a multi-phase development.

The following section sets out the commercial arrangements for the capital LHP site.

To maintain momentum within the programme, a decision was made to proceed with demolitions under a separate contract. The main contractor was appointed in March 2025 during the original programme RIBA 3 stage to support continued development of the design and construction elements. This ensured that the contractor was involved in the more detailed design incorporating the latest technology and identifying programme opportunities. In addition, the contractor has been able to lead on the SAB and planning applications which are based on their design.

8.2 Demolition Contractor procurement

A detailed procurement tender was undertaken by CTMUHB procurement and NWSSP using the Crown Commercial Services Framework, Construction Works and Associated Services Lot 10 Demolition framework.

The procurement was prepared and completed by CTMUHB, the appointed design team and NWSSP procurement services. The procurement process was undertaken for a new contract, whereby an Expression of Interest was issued to 13 national demolition providers on 30 October 2024 and providers had until 31 October 2024 to respond. Following the deadline, only five providers responded to the Expression of Interest.

A Mini competition was undertaken, utilising *RM6088 Construction Works and Associated Services Framework lot 10 Demolition*, and was published via e-Tender Bravo portal, in which certain selection criteria was applied at the qualification, technical and commercial evaluation stages.

Tenders were published on 1 November with the deadline for submission on 25 November. At the end of the tender period, five submissions were received, however after review, two suppliers failed to meet the minimum criteria, leaving three for scoring. Detail of the scoring approach is included in the tender analysis submitted as part of the estates annex.

A preferred supplier was identified and appointed in January 2025 following WG approval of funding for demolition works to proceed.

The contract commenced and work began on site on 14 April 2025. This contract was originally programmed to conclude by 22 August 2025, however, there was a delay caused by contractor methodology in the earlier stages and plant failing in the latter phases. The contract completed with the contractor leaving site on the 3rd October. The delays were not at the cost of CTM therefore the demolition programme completed within the approved funding level.

8.2.1 Main Contractor procurement

The main contractor tender process completed in November 2024. The tender was issued via the Crown Commercial Services (CCS) framework. The Welsh NHS run Building for Wales (BfW) framework was not selected due to:

- Delays in the implementation of the new framework after the previous one ended in April 2024
- Delays associated with securing the funding information required to commence the tender
- Inclusion of high levels of modular development in the design, with no modular supplier on BfW this would not have provided value for money.

As a result, a framework was selected that enabled the Programme to test the appetite and ability of both modular and other modern methods of construction (MMC) contractors to respond and offer the most advantageous infrastructure solution to the programme. A two-stage design and build contract solution was selected with a fixed price for the professional services and a target cost model for the construction phase (similar to the contractual arrangements under BfW).

An expression of interest was issued in October 2024, and seven companies opted in to show an interest. The tender was published on 13 November 2024 and after two extensions, closed on 31 January 2025.

The process has been managed by Mott McDonald, acting as primary PM for tender and procurement exercise and at all stages support has been provided by NWSSP procurement services.

The tender period closed on 31 January 2025 with three responses received. There were some clarifications required from tendering parties, the detail of which is available if required. Legal advice was sought regarding the contractual terms and conditions.

By the end of the process, only one contractor confirmed full acceptance of the proposed terms and conditions for both design and build contracts. In addition, the same contractor offered the best overall score in the combined qualitative and quantitative analysis. This information can be found in the tender analysis report contained in the estates annex to the business case.

Following completion of the tender scoring, the outcome was presented to NWSSP-SES and a paper prepared for WG approval for CTMUHB to appoint MTX, the preferred contractor. This approval was granted by letter on 14 March and, following the mandatory 10-day standstill period, MTX were appointed as the successful contractor on 31 March 2025, under an NEC professional services contract, to deliver the design up to completion of RIBA 4 and development of target cost.

Tendering parties provided costs up to RIBA 4 completion, as per standard NEC professional services contract (PSC). This will enable generation of completed design, securing of planning and SAB approvals, with fully tendered build costs. As a design and build arrangement, and to proceed to construction, an ECC contract will be required to be entered into on FBC approval.

CTMUHB requested WG approval to enter into the full PSC contract, which would take the scheme up to RIBA 4, at a contractor design fee cost of £3.935m. This cost excludes VAT and the additional health board fees associated with both RIBA 3 and 4. Full costs are included in the finance section of this case.

It should be noted that the cost tendered by the contractor was based on a single business case process and start-on-site of a phased construction completion programme. The recent decision and instruction to split this work into phases, each with its own business case and development programme, has subsequently elongated the programme and increased the level of costs and fees incurred. A longer design period will mean further costs for all time-based consultants.

As mentioned in the strategic case, the split to a phase approach has increased the design fees over and above the original tendered sum. There are 3 reasons for this:

1. The redesign elements to ensure that Phase 1 can be fully stand alone and to change some of the supporting infrastructure to support a fully phased approach
2. The elongated programme as a result of the splitting of the programme into phases and confirmation of an OBC and FBC requirement for each separate phase, this has added circa 6 months to the PSC programme with Phase 2 FBC being completed by May 2026, previously October 2025 for the whole programme.
3. The decision made to reconfigure the former surgical hub area in the phased approach to focus phase 2 on the delivery of the regional orthopaedic hub and a future Phase 3 to be further scoped and possibly include day surgery.

The changes to the design on point 3 above have meant that there has had to be an architectural revisit of RIBA 2 which has been used as the basis for this OBC. RIBA 3 and 4 stages will take place during the FBC development works which explains the longer time between OBC and FBC for Phases 1 and 2 than for Phase 1.

As a result of the changes outlined above the amended PSC total fees for phases 1 and 2 are as set out in the table below

Table 23 - Comparison of phased PSC fees to original tendered fees

Cost element	Original Tender £000	Phase 1 PSC £000	Phase2 PSC £000	Revised Total PCSC Fees £000
RIBA 3	400	1,491	1,534	3,025
RIBA 4	3534	1,405	924	2,328
Total	3,934	2,896	2,457	5,353
Increase from Tendered Cost				1,419
% Uplift on Tendered Cost				36%

These costs only cover the MTX costs for each of the phases. The increase is within procurement and framework permitted allowances and has been fully scrutinised by the programme cost advisors, Mott MacDonald.

For this Phase 2 OBC, the above table sets out the main contractor fees from resumption of duties in September to FBC approval covering completion of RIBA stages 2, 3 and 4. The total costs are as set out in the table below and include internal HB and external consultant costs.

Table 24 – Total costs

Cost element	OBC £000	FBC £000	Total Phase 2 PSC £000
CTM Fees	228	340	568
MTX	1,534	924	2,457
External Consultant	125	227	352
Surveys & Planning	17	149	166
Risk	31	29	60
Total	1,934	1,669	3,603
Funded	-1,934	0	-1,934
Awaiting Funding	0	-1,669	-1,669

Total design stage fees amount to £3.6M with £1.9M fees to approval of OBC. The OBC fees have been approved that the balance of fees will be required on OBC approval to progress the programme to approval of FBC. These fees will be profiled over two financial years. If the OBC is approved in January 2026, a further £0.9M fees will be required to progress RIBA 4 design work to end March 2025. The balance of £0.77M will be required in the 2026/27 financial year.

8.3 Payment mechanism

As mentioned previously all tendering parties provided costs up to RIBA 4 completion, as per standard NEC professional services contract (PSC). This enables generation of completed design, securing of planning and SAB approvals, with fully tendered build costs. As a design and build arrangement and to proceed to construction, an ECC contract will be required to be entered into on FBC approval.

On contractor appointment CTMUHB requested WG approval to enter into the full PSC contract, which would have taken the original scheme up to RIBA 4, at a contractor design fee cost of £3.935m. As mentioned in the sections above this has now been uplifted to cover the additional phase associated with the phased approach and the changed focus for phase 2 of the development.

To date funding has been approved for the RIBA 2 and 3 design stage of £1.93M. This has enabled the revisit of RIBA Stage 2 for the amended design and work has commenced on RIBA 3 redesign and engineering elements.

8.4 Health Board contracting arrangements

As mentioned above, for the PSC design phase a single contract under NEC 4 has been entered into. The change to a phased construction approach will have an impact on the ECC contract for the construction phase. This will still be under NEC 4 Option C however will need to accommodate future option with differing approval and start on site timescales.

When a phased approach was confirmed, CTM conducted a detailed review of the contractual options for the programme considering the likely timeline in relation to the timing of WG approvals and funding release. Four potential contract structures were considered:

- a) Enter into full contract award for Phase 1 CDH approved works cost with a provisional sum allowance for phase 2.
- b) Enter into contract for phase 1 CDH with a later instructed compensation event for phase 2 (and possibly phase 3)
- c) Separate ECC Contracts for each Phase
- d) Contract for Phase 1 but include future phases using X22 Break Clause

The PM, CA and LHP technical team considered all 4 options and the risks and opportunities considered with each which are set out in the table below:

Table 25 – Opportunities and risks

Option	Opportunities	Risks
1	Early inclusion of Phase 2 allows for some planning continuity and contractor engagement.	- Possible claim against £60m Prov sum not being proceeded with (6% loss of profit) - Provisional sums are not well-defined in NEC contracts, which may lead to ambiguity and

Option	Opportunities	Risks
	• May simplify procurement and contract administration by keeping both phases under one contract. • Continuity of workforce or shared resources across phases. • Reduces risk of contractor re negotiation	- disputes (mitigated with comprehensive Z clauses) • Opportunity for MTX to increase Prelims, mitigated by negotiation reducing% back to original 6% • Lack of clarity on scope, pricing, and risk allocation for Phase 2 will reduce accuracy of Prov sum • Contractor may price risk conservatively, inflating the Phase 1 Target Cost. • Difficult to manage change control and performance incentives for Phase 2, mitigated through management of sectional completion • HB approval of a contract which exceeds approved capital funding- SFI breach
2	• Allows flexibility to define Phase 2 scope and cost later, based on Phase 1 outcomes. • Keeps Phase 2 within the same contract, maintaining continuity and reducing procurement overhead. • Can be used to quickly mobilise Phase 2 if timing is critical. • Contractually protects client as no commitment to Phase 2	• Opportunity for MTX to increase Prelims, mitigated by negotiation reducing% back to original 6% • Compensation events are reactive, not ideal for large, planned works like Phase 2, mitigation would be managed as 2nd stage tender • Risk of contractor pricing Phase 2 with limited competitive tension or transparency, mitigation would be managed as 2nd stage tender • Potential for misalignment with NEC principles of early warning and collaboration. • Framework and commercial acceptability of a compensation event ea 100% of awarded value • Due to above could not be used for Phase 3
3	• Clear commercial and legal separation between phases, reducing ambiguity. • Allows competitive tendering for Phase 2, potentially improving value for money. • Lessons learned from Phase 1 can inform Phase 2 scope, risk allocation, and pricing.	• Opportunity for MTX to increase Prelims • Loss of continuity in delivery team and supply chain. • Potential delays between phases due to contract negotiation • Risk of misalignment in programme, design standards, or stakeholder expectations • Possible duplication of resources between 2 contracts
4	• Clause X22 (Early Contractor Involvement) supports collaborative planning and progressive cost definition. • Break clause provides flexibility to exit or re-scope Phase 2 if needed. • Aligns well with NEC principles of collaboration and transparency.	• X22 currently not included within ECC contract at tender stage • Requires robust governance and clarity on break clause triggers. • Contractor may invest effort in Phase 2 planning without guarantee of delivery. • Potential for sunk costs or disputes if Phase 2 is not progressed. • May require careful drafting to ensure Phase 2 scope and pricing are appropriately managed. • Opportunity for MTX to increase Prelims, mitigated by negotiation reducing% back to original 6%

In reality Option 1 would be almost impossible to reconcile with CTMs standing financial instructions as it would require signing a contract with a value in excess of CTM approved capital sums. Whilst the provisional sum could be excluded from the contract in future it is included in the contract sum and could also give risk to a loss of profits claim from the contractor if they acted in reliance of the same and future phase were not approved. Further to this as any phase 3 is programmed behind phase 2 and does not yet have a fully confirmed scope. As a result any inclusion of a provisional sum for this phase would be highly forecast with a large number of caveats and risk allowances. The major risks of potential disputes and of HB financial noncompliance ruled this option out.

Similarly, the position in relation to Option 2 was considered too high risk for a similar reason in terms of the contract being for more than one phase therefore possibly also giving rise to a claim of loss of profit if the future phase(s) did not proceed. In addition, current procurement rules preclude contract sum increases over 50% of the original value awarded. Any sum would be well in excess of this and in excess of 100% therefore this was not recommended.

It was felt that despite specific protection in contractual clauses that option 4 would offer similar finance and procurement SFI risks around the contract values as well as use of largely untested contractual clauses. Drafting and agreement of the same could be timely and costly with specialist legal advisors.

In reality the differing approval timescales and associated funding release make separate contractual arrangements the lowest risk position for this programme. There is a risk of loss of administrative efficiency in terms of contract management as well as the risk that MTX may seek to vary contractual terms however this will need to be managed.

This was the preferred option proposed to MTX who agreed with the same as being the most logical way forward. Revised Phase 1 ECC contracts have been issued on the same contractual terms as the original single phase and to date no discussion re their variance has been received or included in their submitted construction costs.

As a result, it is proposed that each phase will require a separate ECC contract and this will be the proposed contracting solution for all approved phases.

8.5 Associated disposals

There are no known disposals associated with this development, which would generate income for the three UHBs.

8.6 Design and compliance with mandatory standards

8.6.1 NHS Net Zero compliance

In October 2020 the NHS published the ***Delivering a Net Zero National Health Service*** in response to the health emergency that climate change will bring. More intense storms and floods, more frequent heat waves and the spread of infectious diseases resulting from climate change threaten to undermine years of health gains.

Two clear and feasible targets emerge for the NHS net zero commitment, based on the scale of the challenge posed by climate change, current knowledge, and the interventions and assumptions that underpin this analysis:

- For the emissions the NHS controls directly (the NHS Carbon Footprint), net zero by 2040, with an ambition to reach an 80% reduction by 2028 to 2032;

- For the emissions that can be influenced (the NHS Carbon Footprint Plus), net zero by 2045, with an ambition to reach an 80% reduction by 2036 to 2039.

NHS Net Zero Building Standard

The NHS Net Zero Building Standard, published in February 2023, provides technical guidance to support the development of sustainable, resilient, and energy efficient buildings that meet the needs of patients now and in the future. 10% plus of the carbon emissions associated with operating the NHS estates are as a result of energy usage (operational carbon) alongside embodied carbon. The standard is a critical element in ensuring that the design and construction of new NHS buildings and the inevitable refurbishment / repurposing of the existing estate supports the “Delivering Net Zero” commitment to a zero-carbon estate by 2040.

The proposed LHP development design process will follow the guidance of the standard through RIBA stages 1-4.

The construction process for LHP will follow the guidance of the standard through RIBA stages 5-7. To facilitate this as required a Net Zero Carbon (NZC) Coordinator will be appointed who will be responsible for managing the process as well as being an advocate for Zero Carbon within the design team.

8.6.2 Modern Methods of Construction

NHS Wales and NHS Improvement with the Department of Health and Social Care, are working on progressing the approaches used to increase the use of Modern Methods of Construction (MMC) on all business cases requiring central NHS sign off. As part of this, an interim draft guidance has been developed for inclusion in the NHS Capital Business Case Fundamental Criteria Checklist.

Early consideration of the use of off-site manufacture, allows the process to be streamlined through the design and construction process, maximising the benefits this approach can bring. Agreement to an early BIM Execution Plan and sharing information in a project specific Common Data Environment (CDE) allows all parties to input in an integrated design, manufacturing, and assembly process.

LHP will be constructed using MMC and be entirely modular.

8.6.3 BREEAM

The Building Research Establishment Environmental Assessment Method (BREEAM) is the leading and most widely used environmental assessment method for buildings and communities. It sets the standard for best practice in sustainable design and has become the de facto measure used to describe a building's environmental performance.

As of 1 July 2008, all developments of new healthcare buildings in the UK seeking OBC approval must commit to achieving an EXCELLENT rating (assessed against BREEAM New Construction) and all refurbishments (assessed against BREEAM Non-Domestic refurbishment and fit-out) to commit to a VERY GOOD rating. Any project with a capital value exceeding the £2m threshold must include a BREEAM assessment.

BREEAM provides clients, developers, designers and others with:

- Market recognition for low environmental impact buildings
- Assurance that best environmental practice is incorporated into a building development
- Inspiration to find innovative solutions that minimise the environmental impact
- A benchmark that is higher than regulation
- A tool to help reduce running costs, improve working and living environments
- A standard that demonstrates progress towards corporate and organisational environmental objectives.

BREEAM addresses wide ranging environmental and sustainability issues and enables developers and designers to prove the environmental credentials of their buildings to planners and clients and:

- Uses a straightforward scoring system that is transparent, easy to understand and supported by evidence-based research
- Has a positive influence on the design, construction and management of buildings
- Sets and maintains a robust technical standard with rigorous quality assurance and certification.

BREEAM is a compulsory requirement for projects of this scale in Wales, as such work towards accreditation has been ongoing since RIBA Stage 1. The Design Stage Tracker set out the target ambition for the project to achieve BREEAM 'Excellent'. Moving forward, workshops are to be set up for RIBA 3B stage, ensuring that design adaptations do not compromise the project trajectory.

Infection control

The proposed development will be designed and configured in compliance with WHBN and WHTM guidance to provide clean, well-designed environments within which clinical services and procedures can be carried out safely. Infection prevention and control measures will be designed into the new building through zoning, with appropriate clinical adjacencies to facilitate clean to dirty flows and the provision of good access for cleaning and maintenance to take place.

As planned for the design development at OBC stage, the clinical leads will be fully engaged to ensure the needs of users are understood and clearly articulated in the design brief. Health Board Infection Prevention and Control Teams will also be continually engaged by the Project Team and Design Team to inform the detailed designs.

Sustainability

Efficient building services design can have a positive impact on future climate scenarios by reducing energy consumption and greenhouse gas emissions associated with buildings.

Climate change is primarily driven by the release of greenhouse gases such as carbon dioxide, methane, and nitrous oxide into the atmosphere, and buildings account for a significant portion of these emissions.

When designing LHP, the aim will be to ensure that the building will operate as efficiently and sustainably as possible.

8.7 VAT recovery

A VAT Advisor has not yet been engaged for OBC stage, however the approach mirrors the advice given for the Phase 1 FBC and assumes full recovery on professional fees but no recovery on the building costs.

8.8 Interface

The LHP finance representative has confirmed there is no interface between any NHS LIFT, PFI, PF2 or other PPP and there are no joint venture agreements/contracts already in place and therefore there are practical or contractual issues in the light of HM Government changes to the use of PFI in its various forms.

8.9 Summary and conclusion

Following a robust tender process, MTX have been appointed as the preferred contractor offering the most commercially advantageous tender, following both qualitative and financial appraisal.

Welsh Government approval for fees to FBC of £1.67M with £0.7M in 25/26 and the balance to be funded in 2026/27.

Financial Case

9 Financial Case

9.1 Introduction

The purpose of the Financial Case is to outline the financial implications of the preferred option and assess affordability. As such it sets out the capital requirements and revenue consequences of the proposed scheme, along with underpinning assumptions. It outlines anticipated funding arrangements and the impact on the overall financial statements.

As outlined in the Economic Case, the preferred option is an NHS-funded capital build for the Orthopaedic Surgical Hub at Llantrisant Health Park, delivering theatres and ward accommodation for high-volume, low-complexity arthroplasty procedures.

9.2 Capital costs and funding

9.2.1 Capital costs

Delivery of the preferred option requires capital investment of £123.6m in total. This is based on capital requirements prepared by the Health Board's Cost Advisors, Mott Macdonald using the following assumptions:

- Agreed Schedules of Accommodation and RIBA 2 Order of Cost estimate.
- Due to the pace at which design has proceeded a number of drawings and design strategy information has not been available when formulating the costs. This information will become available prior to WG OBC submission. Therefore the costs included are as cost not to be exceeded. The figure in the submitted OBC may differ from those in this business case but will not exceed it.
- Proposed start on site September 2026 and proposed completion date of September 2028, with it officially opening at the start of January 2029, following a 3 month commissioning phase.
- Works costs calculated using benchmarked rates suitable for South Wales (including Healthcare Premises Cost Guide) @ BCIS TPI updated 06/11/2025.
- Allowances for fees, equipment costs, planning contingency have been applied as appropriate.
- No allowance for optimism bias has been applied at this stage. Given the early design maturity, significant unknowns remain around planning, structural, and sustainability requirements. Instead of applying a generic optimism bias, the estimate incorporates a quantified risk allowance (currently 12%, including contractor risk) to reflect these uncertainties. This approach will be reviewed and refined as design progresses.
- VAT advisor advice will be sought on VAT recovery options before FBC. Currently all fees are forecast to be VAT recoverable.

The resulting capital costs estimates are summarised in the table below and a copy of the detailed capital cost forms are provided in Appendix 7.

Table 26 – Capital Costs

	Net £'000	VAT £'000	Total £'000
Construction Costs	70,924	14,185	85,109
Project Fees	8,357	1,671	10,028
Non-Works	185	37	222
Equipment Costs	9,805	1,961	11,766
Planning Contingency	9,800	1,960	11,760

	Net £'000	VAT £'000	Total £'000
Inflation	5,104	1,020	6,125
Subtotal	104,175	20,835	125,010
Less: Recoverable VAT	0	-1,381	-1,724
Total capital costs	104,175	19,454	123,629

9.2.2 Funding requirements

Funding of £1.934M has been received to date. Further Funding of £121.7m is requested from Welsh Government which includes:

- RIBA 4 fees - £1.67m
- Construction - £120m

Table 27 – Capital cashflow and funding sources

	2025/26 £'000	2026/27 £'000	2027/28 £'000	2028/29 £'000	Total £'000
Costs					
Construction costs	0	16,884	42,210	11,831	70,924
Project fees	2,463	3,074	1,879	940	8,357
Non-works costs	78	57	30	20	185
Equipment costs	0	1,000	6,305	2,500	9,805
Planning contingency	87	3,468	4,163	2,082	9,800
Inflation	0	2,041	2,041	1,021	5,104
Subtotal	2,628	26,525	56,929	18,394	104,175
VAT	17	4,795	11,055	3,587	19,454
Total capital costs	2,645	31,320	67,684	21,980	123,629
Funding					
To OBC	1,934	0	0	0	1,934
Funding Received to Date	1,934				1,934
Funding Still Required	711	31,320	67,684	21,980	121,695
Total funding requirement	2,645	31,320	67,684	21,980	123,629

9.3 Revenue affordability

9.3.1 Recurring revenue costs

It is anticipated that the creation of the new Orthopaedic Surgical Hub will incur additional recurring full-year revenue costs of £39.9m per annum. This covers pay and non-pay costs associated with delivering procedures across theatres and supporting wards. This estimate is based on:

- Pay costs of £15m, covering 220.33WTE medical, nursing, allied health professionals, administrative and estates staff.
- Non-pay costs of £18.8m including supplies and services for Theatres, Ward and supporting areas.
- Building running costs of £3m related to rates, utilities, and maintenance

- Depreciation as outlined in section 9.4.

It is expected that activity and revenue costs will begin post completion and commissioning of Phase 2 of the build. Whilst the main contractor build programme will complete at the end of September 2028 it is expected that the handover, equipping and commissioning could take up to three additional months, which is expected to be at the end of December 2028, which means the first year will incur three months of activity and revenue costs.

A summary of costs is provided below with more detailed calculations provided in Appendix 8.

Table 28 – Summary of revenue costs

Revenue element	WTE	2028/29 (Assume 3 months) £'000	2029/30 – Onwards £'000
Pay Costs	220.33	3,759	15,035
Non Pay Costs		4,693	18,770
Building running costs		744	2,976
Depreciation		790	3,160
Total annual revenue costs		9,985	39,941

To reduce the overall revenue impact, several existing services will transfer into the new orthopaedic unit. These include ward and theatre activity, along with associated staff and non-pay costs. Together, these transfers are expected to offset approximately £7.3 million of the new unit's annual cost. Welsh Government support for depreciation adds a further £3.1 million, bringing total anticipated funding to £10.4 million. Despite these measures, a regional affordability gap of £29.5 million remains, which will need to be addressed collectively by partner Health Boards and Welsh Government.

9.3.2 Commissioner funding requirements

Revenue funding requirements for the orthopaedic surgical unit have been estimated based on projected activity levels and associated capacity needs. The hub will deliver 5,760 procedures annually, providing additional lower limb arthroplasty capacity to address the regional demand and capacity gap. Activity assumptions by Health Board are as follows:

- CTM UHB: 3,840 procedures
- Cardiff & Vale UHB: 960 procedures
- Aneurin Bevan UHB: 960 procedures

Indicative recurring revenue costs for the hub total £39.9 million per annum, covering pay costs for approximately 220 WTE staff, non-pay costs for theatre and ward consumables, building running costs, and depreciation of £3.1 million.

To reduce the overall revenue impact, several existing services will transfer into the new orthopaedic unit. These include ward and theatre activity, along with associated staff and non-pay costs. Together, these transfers are expected to offset approximately £7.3 million of the new unit's annual cost. Welsh Government support for depreciation adds a further £3.1 million, bringing total anticipated funding to £10.4 million. Despite these measures, a regional affordability gap of £29.5 million remains, which will need to be addressed collectively by partner Health Boards and Welsh Government.

Table 29 – Sources of funding

Revenue element	WTE	£'000
Pay Costs	220.33	15,035
Non-Pay Costs		18,770
Building running costs		2,976
Depreciation		3,160
Total annual revenue costs		39,941
Anticipated Funding:		
Transfers – Substitution of existing services		7,298
Welsh Government Central funding for Depreciation		3,160
Anticipated Funding		10,458
Regional Funding Requirement		29,483

9.3.3 Value for Money

Analysis has been undertaken to compare the commissioner funding requirements as a result of LHP compared to benchmarks, specifically NHS England tariff and outsourcing to a private provider. The results of this analysis, which are summarised in the table below (with more detailed calculations provided in Appendix 8), suggest that the Orthopaedic Hub offers relatively good value for money since:

- Compared to NHS England tariff: Estimated costs for the hub are lower than NHS England rates, with tariff-based costs projected to be around £45.6 million per annum, compared to the hub's estimated £39.8 million. This represents a difference of approximately 14.5% higher under tariff, equating to an additional £5.8 million per year if activity were funded at tariff levels.
- Compared to private outsourcing: Outsourcing the same activity to the independent sector would be significantly more expensive, with costs estimated at £52.1 million per annum which is around 31% higher than the hub model. This would result in an additional £12.3 million per year, creating a substantial financial impact for commissioners.

Table 30 - Funding model

Funding Model	Annual Cost £'000	Impact vs Hub £'000	Difference %
Orthopaedic Hub	39,941	0	0
NHS England Tariff	45,563	5,621	12%
Private Outsourcing	52,072	12,130	23%

9.4 Accounting treatment and capital charges

9.4.1 Accounting treatment

The resulting asset will be held on CTM's balance sheet and therefore be treated in line with the Health Board's policy in relation to depreciation and impairments.

9.4.2 Capital charges

Capital charges have therefore been estimated based on the following assumptions:

- Asset additions of £123.6m
- Impairment is applied when the resulting asset comes into use. Based on recent schemes in the region, it has been assumed to be 25%, although this will need to be confirmed with the District Valuer and CTMUHB's Auditors during the development of the FBC stage. Full impairment is assumed on fees, 25% on non-works costs, contingency and inflation.
- Depreciation charges are applied based on straight line depreciation using the following standard useful life:
 - ♦ **Buildings** – 60 years for buildings and 35 for engineering works (using a typical 65:35 split)
 - ♦ **Equipment** – seven years as a proxy for a mixture of short life ICT equipment (five years) and longer life equipment (10 years).

It is anticipated that this will result in:

- Circa £84.5m non-recurring AME impairment on completion of the new build which will be funded as AME funding via Welsh Government
- £3.16m annual depreciation, which will be funded by Welsh Government.

9.4.3 IFRS16 implications

There are no IFRS16 implications anticipated for the orthopaedic unit, as the facility will be delivered through capital investment rather than lease arrangements. All costs associated with construction and equipment are included within the capital expenditure and will be accounted for in line with standard depreciation and impairment policies. Any future contractual arrangements for services will be reviewed at FBC stage, but based on the current model, IFRS16 does not apply.

9.5 Overall affordability

The financial analysis demonstrates that delivery of the preferred way forward is affordable providing that Welsh Government capital funding can be secured, and agreement reached with commissioners about revenue funding requirements.

9.5.1 Capital affordability

The cost plan prepared by CTM's Cost Advisors, based on RIBA1 design, estimates that delivery of LHP will result in capital investment requirements of £123.6m in total, including expenditure incurred to date. Funding to date of £1.934M has been received leaving a balance of £121.695M to be funded. It is anticipated that the funding balance will be required from Welsh Government as follows:

- RIBA 4 fees - £1.669m
- Construction - £120.024m

9.5.2 Revenue affordability

Work undertaken by the programme team and finance leads indicates that the orthopaedic unit will incur recurring revenue costs of £39.9 million per annum, including:

- Pay costs of £15.0 million for approximately 220 WTE staff

- Non-pay costs of £24.8 million, covering theatre and ward consumables, building running costs, and depreciation of £3.16 million.

These indicative costs are based on high level assumptions at this stage and will be firmed up at FBC stage once more detailed information, such as the workforce plan, is available.

£10.4m p.a. of funding has been identified which will partly cover these additional costs which include the following sources:

- £7.3m associated with the substitution of existing services at CTM including transfers of Ward, Theatres, Medical staff and non-pay costs
- Anticipated £3.16m of Welsh Government Central funding for depreciation

This leaves an affordability gap of £29.5 million across the region. Work is underway with partner Health Boards and Welsh Government to develop a sustainable solution that aligns with the regional service model and supports timely access to care. Engagement activity is being coordinated to ensure transparency and shared understanding, drawing on lessons from previous programmes and focusing on collaborative planning to address both financial and operational challenges.

Management Case

10 Management arrangements

10.1 Introduction

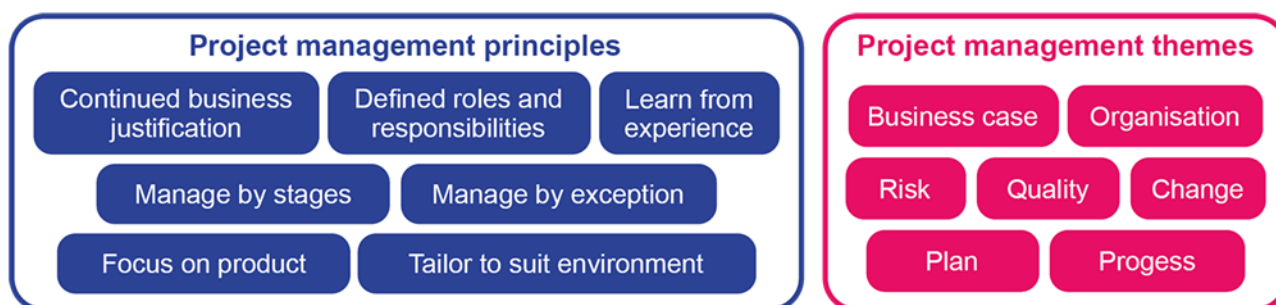
This section of the business case sets management arrangements that will successfully deliver Llantrisant Health Park Programme to time, cost and quality. The Management Case outlines the following arrangements:

- Project management arrangements
- Project assurance at different stages of the project
- Change management arrangements
- Benefits realisation and plans
- Risk management plans
- Contract management arrangements
- Post project evaluation plans
- Contingency plans.

10.2 Project management arrangements

The Project be delivered in line with PRINCE2 methodology. PRINCE2 is organised into seven principles and seven themes, which are deemed essential for any project to be deemed to be 'controlled'. This programme will apply these principles and themes throughout.

Figure 15 - Project management principles and themes



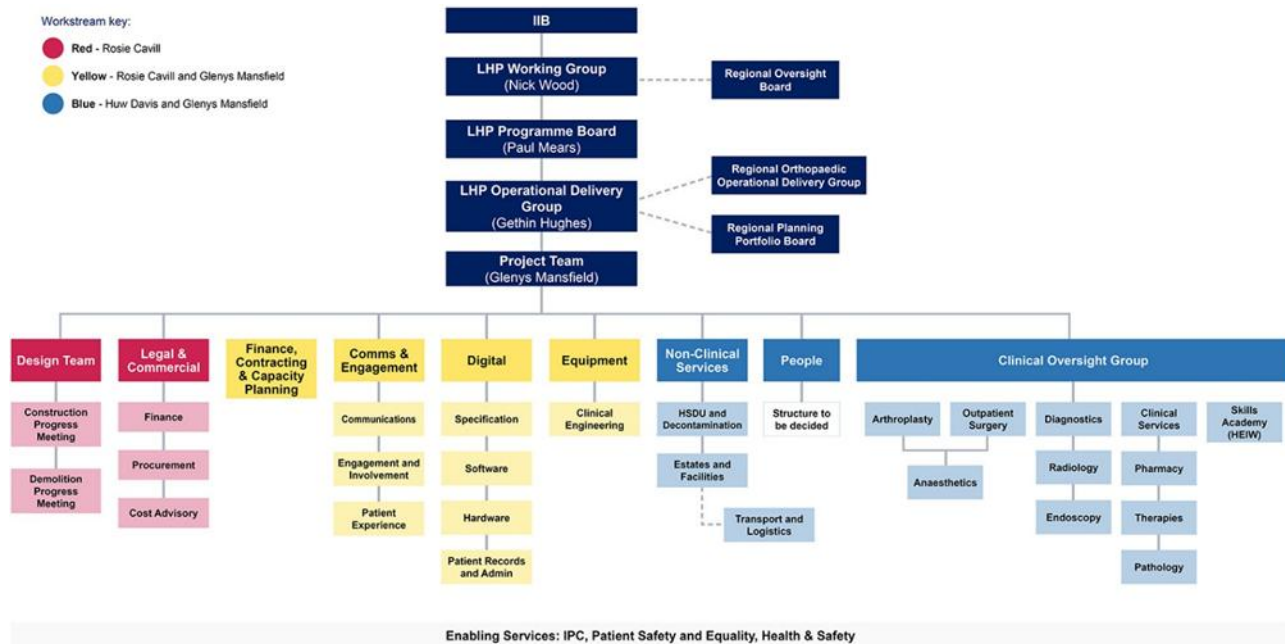
The key principles behind PRINCE2 are the identification of three main functional areas of the project governance structure, including governance, delivery and assurance functions.

10.2.1 Project reporting structure

The programme governance structure has been established to reflect the principles and themes of controlled project delivery. The workstreams will report into the Project Team and Steering Group, Steering Group then reports into Programme Board which then reports to the Regional Oversight Board and CTM UHB Governance.

The project governance arrangements are outlined below.

Figure 16 - Project governance arrangements



10.2.2 Governance pathway

There is a clear demarcation between those groups with a responsibility to produce outputs needed to deliver the project i.e. workstreams and delivery groups, and those forums with responsibility to scrutinise, challenge and approve the outputs ensuring that the programme is directed consistently across all subject matters i.e. governance committees.

The main governance routes for reporting include CTM UHB Main Board and the Regional Portfolio Oversight Board.

10.2.3 Programme Board

Chair: Paul Mears, Chief Executive Officer and SRO for the Project, CTM UHB

The Llantrisant Health Park Infrastructure Programme Board has responsibility for overseeing the management and delivery of all aspects of this programme including the design proposals and the associated business cases.

The duties of the Programme Board are as follows:

- Ensure the programme objectives and scope of all projects have been appropriately defined and that any material changes are formally approved and integrated
- Ensure a robust programme timetable has been produced and monitored and that each workstream lead is committed and remains committed to its delivery
- Oversee the delivery of all projects within the defined parameters of time, cost and to the required quality and specification
- Ensure the cost implications of the programme are fully set out within robust financial plans and that it remains within the health board's overall affordability envelope
- Ensure there is an effective system of cost control in place and receive regular reports on the current and planned expenditure relating to the delivery of the programme
- Ensure that the programme is sufficiently resourced to deliver within its agreed scope, time, cost, and quality parameters
- Ensure there is an effective risk management system in place and that regular reports on the risks and issues are effectively acted upon

- Ensure that all development proposals meet the highest possible standards of design in respect of clinical use, patient and staff environment and building quality
- Sign off key documents including the clinical services strategy, business case, prior to submission to the IIB/Welsh Government for approval, as well as other key programme documents as required.

10.2.4 Programme Management Office

The Programme Management Office (PMO) is responsible for the oversight of all workstream project management within the programme. The PMO maintains internal reports and PRINCE2 documents including risk registers, issues logs and an assumptions log for the redevelopment. The team provides assurance by maintaining a focus on governance and programme controls and through the regular review and mitigation of risks and issues.

The programme plan is regularly reviewed and revised by the PMO team to accurately reflect progress, identify potential delays and ensure lessons learned are applied to planning. The PMO support resource management within the programme and produce project artefacts and tools for workstreams.

The duties of the PMO are as follows:

- Establish and run an effective PMO to support the programme during the business case process
- Establish and implement a robust governance structure
- Collate and interrogate management reports, assessing the health of the programme delivery environment
- Assess the status of milestones and deliverables from each workstream
- Plan and schedule resources efficiently in order to meet objectives
- Streamline and automate processes and workflows, ensuring escalation routes to governance committees are robust and succinct
- Facilitate knowledge transfers between workstreams
- Support project management resource within workstreams, where appropriate
- Facilitate cross stream working and collaboration
- Develop progress and assurance reports for key groups and committees as required.

10.2.5 Specialist workstreams and task and finish group

Included in the structure above, are specialist task and finish groups to support the clinical and non-clinical aspects of the redevelopment. These groups are the key interface between the delivery functions and the 'front line' workforce who deliver clinical and operational (non-clinical) services. The groups provide feedback and knowledge on their departmental requirements to the programme technical delivery experts.

10.2.6 Design Team

A design team has been appointed to review the concept site assumptions made prior to the site acquisition and develop design proposals. The design team's work will be informed by the regional workstreams' clinical specification and proposed models of care.

The key deliverables from this work are:

- Review of the technical infrastructure report (completed)
- A high-level design (RIBA Stage 1) and master plan (completed)

- A concept design (RIBA Stage 2) for the agreed clinical pathways (completed)
- RIBA 3 design works developing on the agreed clinical pathways (underway)
- Undertaking of site surveys (completed)
- A specification of enabling works for the temporary diagnostics facility (completed)
- Preparation of a temporary planning application for the mobile diagnostics facility (completed)
- Appointment of modular partner (complete)
- Confirmation of planning strategy and development of planning applications as required during the timeframe.

Terms of reference for all key project groups i.e. Programme Board, Steering Group, Project Team or Design Team can be made available upon request.

10.2.7 Outline Project Roles and Responsibilities

Key Project delivery roles are described below:

Senior Responsible Officer (SRO)

The Chair/SRO role is held by **Paul Mears**, CEO of CTM UHB and responsibilities include:

- Keeping the Programme Board members informed of progress, escalating matters, as relevant
- Is responsible for providing leadership and the strategic activity of the Health Board, ensuring it is operating effectively and efficiently
- Being the ambassador within the local community and also at a regional and national level
- Ensuring that the programme aligns with the priorities of the wider Welsh Government plans
- Ensuring that the redevelopment programme fulfils its duties to exercise its functions effectively, efficiently and economically thus ensuring improvement in the quality of services and the health of the local population whilst maintaining value for money
- Sponsoring the project within CTM UHB and acts as the main point of contact with the Health Board and Executive Director
- Owning the vision for the project and the supporting business case
- Providing clear leadership and direction at an executive level throughout the programme
- Having full responsibility and accountability for the outcome of the project and realisation of the benefits
- Managing the interface with key senior stakeholders, keeping them engaged and informed
- Being the key link between the relationship between the programme, Regional Portfolio Oversight Board and Welsh Government;
- Maintaining the alignment of the project to the organisation's strategic direction
- Ensuring that the project remains affordable and will improve the quality of care to the target population
- Ensuring that the necessary resources are made available to deliver the scheme
- Chairing the Programme Board.

Infrastructure Programme Director

The Programme Director role is held by **Rosie Cavill**, LHP Programme Director and the main responsibilities include:

- Co-ordinating all workstreams to deliver the agreed objectives

- Monitoring progress, resolving issues, mitigating risks, and initiating corrective action as appropriate
- Providing an overall monitoring and assurance role across the project workstreams, ensuring that project risks and issues and any internal or external dependencies are defined, managed, and escalated where appropriate
- Ensuring appropriate risk, benefits and stakeholder management frameworks are in place for the project
- Acting as the day-to-day agent on behalf of the SRO for the infrastructure elements to ensure the successful delivery of the scheme
- Owning and reviewing the project plan, communicating the impact of any revisions in terms of milestones, timelines, and dependencies
- Ensuring the development of the business case and project documentation
- Ensuring that the initiatives and projects that support the infrastructure delivery of the Health Park are initiated on a consistent basis with governance arrangements that meet requirements
- Managing allocated outputs to the required quality within the agreed time and costs constraints
- Managing and providing assurance for the work of project team members
- Reporting regularly to all relevant individuals and groups using standard reporting processes and templates.

Clinical Operational Director

The Clinical Operations Director role is held by **Glenys Mansfield**, LHP Clinical Operations Director and the main responsibilities include:

- Clinical and operational pathway development to inform design and operational running of LHP
- Review of 1:200 and 1:50 designs
- Development of clinical governance structure
- Development of the workforce plan and delivery plan
- Development of the Digital infrastructure
- Establishing and managing task and finish groups
- Managing interdependencies of clinical model/pathways across workstreams
- Acting as the day-to-day agent on behalf of the SRO for the clinical pathway and operational elements to ensure the successful delivery of the scheme
- Ensuring that the initiatives and projects that support the delivery of the new hospital are initiated on a consistent basis with governance arrangements that meet requirements
- Ensuring appropriate risk, benefits and stakeholder management frameworks are in place for the project
- Reporting regularly to all relevant individuals and groups on clinical and operational pathway developments using standard reporting processes and templates.

Infrastructure Project Manager

The Infrastructure Project Manager role is held by **Alex Bowles**, Archus PM and the main responsibilities include:

- Ensure operational delivery of the project to time, quality, and budget
- Decision on matters for escalation and approval to Project Board and Health Board as required

- Management of risks and issues and escalation of appropriate matters for executive direction and/or approval
- Developing the format of the report, contents, and key requirements for consideration
- Planning and delivering stakeholder engagement and workshops
- Ensure the key milestones are agreed and communicated with all stakeholders.

Construction Partner

The role of Construction Partner Lead will be fulfilled by **MTX**. The role includes:

- Being point of contact for all infrastructure and estate related issues including arranging Isolations and issuing permits to work etc.
- Management of the construction programme
- Providing design/estates related input to OBC/FBC processes.

10.3 Special advisors – roles and responsibilities

Special Advisors have been used in a timely and cost-effective manner in accordance with the Treasury Guidance: Use of Special Advisors, to support the internal resources for this development. Special advisors and their roles on the project are shown below.

Business Case Support – Archus

- Manage the Business Case process including the facilitation of workshops, chasing of information etc.
- Stakeholder engagement
- Technical authoring of the OBC
- Support submission of OBC to WG
- Liaise with LHP Programme Lead on Business Case progress.

Technical Advisor (Architecture and Design) - Stride Treglown

- Providing design advice to the LHP Project Team on contractor lead design changes
- Liaise with appropriate stakeholders
- Preparing regular reports for the Project Manager.

Technical Advisor (Mechanical and Electrical Engineering) Stantec

- Providing technical advice and solutions to the Project/Design Team
- Liaise with appropriate stakeholders
- Assist with the design and construction teams where required
- Preparing regular reports for the Project Manager.

Cost Advisor – Mott MacDonald

- Full financial management and reporting of project costs together with payment recommendations for all expenditure incurred on the project
- Preparation of contract documents, procurement of contractors, payment of valuations and agreement of final accounts
- Budget estimating and cost modelling
- Cost planning
- Provision of cost advice
- Analysing and reporting on tenders received.

- Reporting and advising on all tendering and contractual arrangements
- Preparation of tender documents, including incorporation of client standard amendments and appropriate insurance provisions
- Preparing and issuing regular executive financial reports and cash flow summaries to the Project Manager.

Site Supervisor

This post will be appointed to after OBC approval, during the RIBA 4 design process.

10.4 PM and professional fees budget

The following table outlines the estimated project and professional fees budget for the project split by phase.

Table 31 – Professional fees for Phase 2

Company	Purpose	Total Fees	To OBC	To FBC	To RIBA 5 & Construction
Archus	Project Management	£1,530,000	£64,000	£132,000	£1,334,000
Archus	Business Case Support	£50,000	£18,450	£14,150	£17,400
Stride Treglown (ST)	TA Support	£25,000	£6,500	£8,500	£10,000
Mott Macdonald	Cost Advisor	£378,000	£29,125	£39,375	£309,500
TBA	NEC Supervisor	£520,000			£520,000
Stantec / ST	TA Support	£25,000	£6,500	£8,500	£10,000
NWSSP Audit	Capital Audit	£100,000		£25,000	£75,000
VAT and Legal Advice	Ernst & Young, NWSSP	£50,000			£50,000
CTMUHB	Client Fees	£1,800,000	£227,500	£340,362	£1,232,138
MTX	Construction (PSCP)	£3,878,798	£1,533,698	£923,514	£1,421,587
MTX	Planning	Incl. in MTX fees			
Stride Treglown (MTX)	Design Planning	Incl. in MTX fees			
MTX	Building Services; M&E and Surveys	Incl. in MTX fees			
TOTAL		£8,356,798	£1,885,773	£1,491,401	£4,979,624

10.5 Key milestones

A project programme has been developed to control and track the progress (attached at Appendix 10) and delivery of the project and resulting outcomes. Key milestones are summarised below.

Table 32 - Project timeline

Milestone	Start	Completion
SOC submission and approval	Sept 2024	Sept 2024
OBC submission and approval	Oct 2025	Jan 2026
FBC submission and approval	May 2026	June 2026
Demolition works start	Apr 2025	Oct 2025
PCSA design works:		
RIBA 3 Design	Sept 2025	Dec 2025

Milestone	Start	Completion
RIBA 4 Design	Dec 2025	April 2026
RIBA 5 Design Construction	June 2026	July 2028
Surgical hub construction	June 2026	July 2028
Operational Commissioning	Aug 2028	Oct 2028
Handover of fully commissioned buildings	Nov 2028	Dec 2028

10.6 Workforce Plans

10.6.1 Workforce Planning Overview

The purpose of the Llantrisant Health Park (LHP) workforce plan is to ensure the right workforce, in the right place, with the right skills, at the right time and cost to deliver improved regional access to diagnostics, endoscopy and orthopaedic surgery via regional collaboration (in accordance with Welsh Government and Ministerial Advisory Group (MAG) recommendations). This plan focuses specifically on the arthroplasty workforce as part of LHP Phase 2.

LHP, as a stand-alone facility, provides an exciting opportunity for workforce transformation. Through maximising skills and increasing workforce capacity the workforce plan will support the delivery of evidence-based, innovative practice, across multi-disciplinary teams, to reduce waiting lists and length of stay for high volume, low complexity, primary lower limb arthroplasty, across the South East Wales region.

The plan will deliver a workforce that is flexible, productive, efficient, cost effective and sustainable with multi-professional teams undertaking roles which are varied and transformational. It will be underpinned by digital and technological opportunities, to improve efficiency and capacity, delivering excellent patient outcomes, whilst also mitigating against some of the external workforce supply challenges. Collaborative working across the region aims to support improved training, cross boundary working, and workforce sustainability.

The plan will align to “A Healthier Wales: Our Workforce Strategy for Health and Social Care (National Implementation Plan for Wales)”, Welsh Language Standards, national programmes of work (e.g. Regional Orthopaedics, Regional Endoscopy, HEIW-led Theatres Workforce Transformation Project) and All Wales Strategic Workforce Plans (including Nursing, Pharmacy, Radiology, and Diagnostics).

The approach to delivering the workforce model and workforce plan will be underpinned by the People (& Culture) Plans across the three Health Boards, ensuring alignment and congruent with regional working and LHP. Essential to its delivery will be: Collaboration, Effective Leadership, Risk Management and Change Management.

Figure 17 - All Wales strategic workforce planning key requirements



Source: HEIW

To ensure standardisation and incorporation of best practice the plan will work in accordance with the National Blueprint for Orthopaedic Surgical Delivery in Wales, GIRFT recommendations and professional and national standards of clinical care.

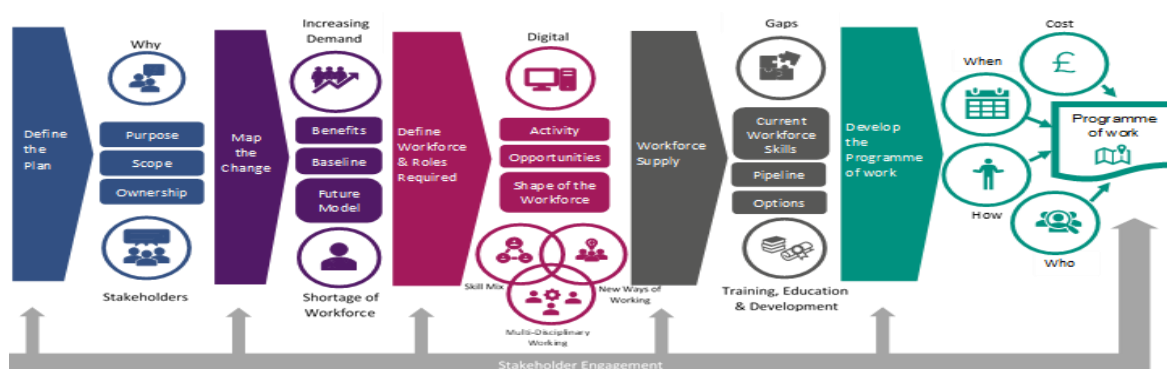
It is recognised that the transition to SEW regional collaboration at LHP is a critical step in the delivery of integrated, high-quality healthcare. The detail of this transformation depends heavily on the evolving design of the workforce model. Ensuring the right organisational design supported by organisational development to ensure effective leadership, cultural alignment, and clear communication across the system. The workforce plan for LHP will be dependent on the wider evolving work within the South East Wales regional Orthopaedics plan and the new Regional Joint Committee g (RJC), which will be essential enabling factors for its success.

Key next steps will be a continued focus on fostering collaboration, trust, and shared purpose among staff from the three Health Boards. Cultural readiness for change, combined with a tailored approach to organisational development (OD), will play a pivotal role in making this transition successful. The organisational development interventions outlined in the broader regional plan will be adapted and applied specifically to LHP to ensure seamless integration

10.6.2 Developing the Workforce Plan and Model

Our approach to workforce planning is underpinned by the All Wales Six Step Framework (and associated HEIW planning guidance & materials) and is aligned to and integrated across Service, Planning, Finance, and People:

Figure 18 - Fig – All Wales strategic workforce planning six step framework



Source: HEIW

LHP will be based on several key general workforce planning principles within the approach. These will need to be finalised, agreed and endorsed across the three Health Boards:

- Innovative service delivery models supported by transformational workforce approaches that embed flexibility, cross-skilling, and multidisciplinary team working.
- Strong and compassionate leadership, creating a shared vision and the right conditions for the workforce to thrive
- Teams brought together with shared values and a positive culture to support multi-disciplinary team working where equality, diversity, inclusion and wellbeing are at the heart of all we do
- Clear structures, roles, responsibilities and reporting lines
- A grounding in prudent health care principles with everyone working at the top of their competencies with the appropriate skill mix to reduce waste and variation for better patient outcomes
- Support for (if required and appropriate) cross boundary working, within agreed governance and training
- Improved patient experience across each stage of the pathway.
- A strong focus on designing infrastructure that supports workforce wellbeing and experience
- Digitally enabled transformation and solutions to deliver high quality elective care
- Consideration of national and professional standards of practice e.g. Nurse Staffing Act

The South East Wales regional orthopaedic plan will be used to support the development of the LHP workforce plan, with work already under way aiming to deliver sustainable, high-quality orthopaedic services, across the region, over the next four years. The plan in this initial phase, focuses on the acute phase of the Orthopaedic pathway and the Llantrisant Health Park (LHP). The plan will continue to develop in line with the LHP programme timelines.

Workforce planning has begun to identify skills shortages, especially in theatre staffing with critical medical roles, as a major constraint. The plan emphasises strategic workforce mapping, risk analyses, and the development of a regional workforce roadmap aligned with future clinical models to support recruitment, retention, and role standardisation. The SWOT analysis from the Regional Orthopaedic plan provides a baseline for workforce solutions to be developed on a regional basis to address the significant workforce risks that may not be easily resolved due to local and national shortages.

The workforce plan will be an iterative process and will design, develop and aim to deliver a sustainable workforce, taking account of the strategic drivers, context and challenges set out in the workforce section of the Regional Orthopaedic Plan, Appendix 2 to this document. Timelines are being developed to ensure a more detailed workforce plan is in place in readiness for the full business case.

Defining the workforce and roles required

The workforce required has been mapped against the proposed service activities for LHP, with indicative modelling and numbers for the potential workforce required to support the service model. These numbers are based on current “knowns” and workforce models which either exist or have been agreed e.g. via the Orthopaedic CIN, along with learning from GIRFT accredited units. Within the current proposal, three CTMUHB orthopaedic theatres will move across to LHP and the associated funded WTE ward and theatre posts will also transfer (under an Organisational Change Programme), with three additional theatres to support additional activity from across the SEW region.

The workforce model will need to continue to evolve alongside and congruent to the clinical, operational, and digital elements of the programme. It will also need to align to the regional orthopaedic workforce plan to consider the impact on regional demand modelling and LHP

capacity requirements. Translating the activities at each stage of the clinical pathways into workforce skills, competencies, roles, and numbers to deliver the model effectively and efficiently. Key to this will be exploration of potential employment models for the medical workforce, as the regional orthopaedic plan SWOT analysis identified critical challenges (e.g. around job planning).

Exploration of roles

A key next step within the programme of work is further exploration of the potential for new, alternative and expanded roles within the workforce model using benchmarking to support a model that is sustainable. The workforce model, plan and resourcing plan will all draw upon learning high performing, elective orthopaedic treatment centres, across the United Kingdom and explore alternative ways of working beyond traditional approaches to service delivery. The pre-implementation period offers the opportunity to pilot new models of care and test concepts - capturing lessons learnt and measuring the effectiveness of changes. An example of this would be the new ways of working already being piloted within Princess of Wales hospital elective orthopaedic unit

Examples of this include:

- Use of alternative roles, e.g. Surgical First Assistants, Assistant Peri-Operative Practitioners
- Broadening the scope of roles, e.g. HCSW to include portering duties
- Increased therapies input, e.g. to enable discharge, through extension of shift patterns/cover, & “side skilling” nursing staff in therapies competencies such as mobilisation
- Enhancing skills to promote flexibility and the potential for “float” roles, e.g. a multiskilled nursing workforce to work across admissions, recovery and the wards
- Technology as an enabler and driver of innovation, efficiency and productivity e.g. automation, AI, virtual interactions

The workforce numbers and skills will continue to be developed and refined, taking into account any lesson learnt from Princess of Wales (POW) where we are implementing and learning from elements of the LHP clinical model.

10.6.3 Workforce Supply

Dependent on decisions taken within clinical and operating models, the workforce plan will need to consider an assessment of current roles, skills, and competencies, against requirements across the three Health Boards. This would include age profile, skill mix, turnover, vacancy rates and retirement projections. This assessment will further confirm anticipated current and future workforce gaps and risks. It is proposed there will be a dedicated core LHP workforce, with a “Hub & Spoke” model for support services. This emphasises the need for a regional workforce plan to be developed to understand the wider impacts on demand trajectories including LHP.

The work of the regional Orthopaedic planning group has identified several workforce challenges. These include recruiting and retaining medical teams, ongoing and increasingly critical shortage of skilled theatre staff (particularly among Operating Department Practitioners and anaesthetic support staff) which are placing significant and persistent pressure on surgical services across the system.

It also reported, that for the first time in a significant period, the supply of Registered Nurses in Wales is beginning to outpace demand, presenting an opportunity for health boards to address vacancies in scrub practitioner roles. This trajectory is expected to remain favourable over the next three to five years.

Retention is also a key challenge with as the time to replace, train and to reach full competency can be in excess of nine months for some roles creating considerable vulnerability in maintaining

safe and effective theatre staffing. These workforce shortages and retention issues are significantly constraining the ability to deliver elective orthopaedic procedures at the required scale.

The impact of the recent changes to the Resident Doctor contract in Wales are not yet known but any identified risks will also need to factor into the plan with actions to mitigate these risks.

To maximise the opportunities to staff the LHP and to support regional Orthopaedics the workforce model will need to be as attractive as possible, offering roles and an environment that individuals will want to work or rotate too.

Recruitment and resourcing

Further refinement of the workforce plan and the gap analysis within in will allow for the development of a robust recruitment and retention strategy as part of the FBC. This will include proposals for both Agenda for Change and Medical staff. There will be a focus on resourcing the facility to ensure the workforce and patient benefits are realised, but with a key commitment across all three Health Board's to work collaboratively on this agenda, noting the need to avoid destabilising the Southeast Wales workforce position.

Potential resourcing options and considerations are as follows:

- Recruitment – either via an internal recruitment team or via a partner organisation (e.g. a recruitment agency, an industry partner).
- Targeted recruitment campaigns e.g. for critical roles or linked to local residents and education institutions
- Insourcing either on a permanent basis or temporarily if resourcing was to be a limiting factor to the “go live” date
- Rotational posts to enable staff to move between LHP and other sites, gaining a breadth of experience and sharing learning to support both the individual and the organisation
- The use of regional Employment Models - including Service Level Agreements (SLA), honorary contracts, and Memorandum of Understanding (MOU) –options appraisal of best approach will be required which support existing variability in contracts and supports Regional Services
- Capitalise on opportunity from anticipated local oversupply within certain healthcare professions (e.g. nurses, paramedics, Physicians Associates)
- Education & training pipelines as a key supply route - such as student streamlining, and numbers in the training pipelines as a result of the Integrated Medium-Term Plans (IMTP) / education and training commissioning numbers
- Use of Health Boards internal education teams to ensure that any anticipated role/training needs are factored into training plans
- Temporary staffing: establish need to expand pools of available temporary staff to support the substantive workforce

The workforce plan will evolve from early implementation into the medium to longer term to move with the changing environment and allow for the development of new roles/skills e.g registered nursing associate (RNA) Band 4 role and for the impact of technology to be fully understood .

Education and training

The development of LHP offers workforce education and training opportunities across all staff groups. There is also a unique opportunity for Medical Training Opportunities, to significantly expand the surgical, orthopaedics and anaesthetics training and for wider benefits to the region, aligned to GIRFT principles.

Alignment with Health Education and Improvement Wales (HEIW) and the Deanery will be key to support resident doctor training experience. In addition, links with NWSSP, as the Single Lead

Employer (SLE) around resident doctor placements to maximise opportunities to meet skills shortages and improve workforce supply.

10.6.4 Future organisational development plans

Once the workforce model is agreed, running alongside will be to focus on the design and implementation of a series of OD interventions aimed at unlocking the full potential of the LHP staff. These interventions will include:

Leadership development and alignment

Establishing strong, aligned leadership across the new organisation will be a priority. This will involve tailored leadership programmes that build shared practices, foster trust, and ensure the leadership team can drive the transformation effectively.

Communication and engagement strategies

Communication will be crucial at every stage of the journey. Working in close partnership with communication and engagement teams from the SEW region, we will implement a robust communication strategy that ensures staff are well-informed, actively engaged, and feel part of the transformation. This will include regular updates, feedback loops, and targeted engagement activities designed to bring staff along on the journey.

Culture and behavioural change

The LHP will only succeed if we can embed a shared vision and culture of collaboration across the three Health Boards. OD strategies will focus on developing the behaviours and relational conditions necessary for regional collaboration and will be designed to overcome the challenges inherent in merging diverse organisational cultures.

People potential at LHP

Recognising that the greatest asset in this transformation is the workforce itself, we will unlock the potential of LHP's people by aligning their development with the broader goals of integrated service delivery. Targeted interventions will aim to build capacity in areas such as systems thinking, change management, and inter-organisational collaboration.

By focusing on these areas, the Health Boards can ensure that the workforce is equipped to support the long-term success of Llantrisant Health Park, enabling it to achieve its vision of delivering equitable, sustainable, and high-quality healthcare to the communities it serves.

10.7 Stakeholder engagement

10.7.1 Engagement to date

Key staff stakeholders across all health boards have been involved in design so far. The original RIBA 3 design review meetings were held in April and May 2025 to confirm all key stakeholders were agreed with current designs. The redesign work has been shared with key stakeholders and further reviews will be held during the rework of RIBA 3 and development of RIBA 4 stages

An initial Arthroplasty workshop was successfully held in March 2025, to collaborate across the three health boards, confirming work to date, the vision for the health park and the importance of stakeholder input. The LHP programme also feeds into the Regional Orthopaedic Board on a monthly basis.

10.7.2 Future communications and engagement

The engagement and communication functions of the three southeast region health boards are working in partnership to develop and implement plans that reflect the requirements of the region and the localities.

The objective of this work is to

- inform and generate confidence among public and staff about the purpose, services, and benefits of Llantrisant Health Park.
- gather feedback, ideas, and concerns to shape the facility's development and service offering.
- build trust and foster a sense of ownership and partnership among stakeholders.
- identify potential engagement challenges and barriers to engagement early and collaboratively develop solutions.

In developing and delivering communications and engagement activities all Health Boards will:

- Foster and maintain stakeholder and public confidence in the LHP as a landmark development that will improve the provision of modern health care in south-east Wales
- Provide the public with a range of opportunities to inform the development of the LHP in ways that maximise access, clinical effectiveness and the experience of patients
- Take a collaborative approach, with NHS partners, to developing and disseminating messages and communications/engagement resources, that enable consistency, clarity and accuracy locally, across the region and nationally
- Use existing, trusted methods, platforms and forums to engage
- Respect and reflect local engagement needs, supporting differentiation of approaches based on local requirements whilst maintaining consistency and accuracy of messages
- Work alongside Llais to identify and deliver upon emerging opportunities to better engage and involve the public and patients throughout the lifetime of the programme
- Identify potential engagement challenges and barriers to engagement early and collaboratively develop solutions
- Promote opportunities to add social value within local communities
- Identify and celebrate programme milestones, alongside partners
- Involve local political partners and relevant third-sector organisations
- Provide assurance on the effectiveness of communications and engagement activities..

10.7.3 Working with Llais

The health boards are working with Llais at a regional and local level to enable it to influence and inform engagement plans. This includes working with Llais on LHP-specific briefing and planning sessions (next due on 14 November). To date Llais have made clear their expectations for regional engagement and that health boards should avoid duplication whilst learning from the outputs from previous engagement programmes.

10.7.4 Communication and engagement priorities

The engagement working group, comprising the three health boards (CTM, AB, CAV) are meeting weekly to develop and implement a shared programme of engagement across the region. The group's priorities include

- Creation and completion of assessment tool to:

- ♦ Enable structured and consistent interrogation of previous and live engagement activities across the SE Wales region, to identify shared learning about successful methods, collate learning, and provide a baseline a baseline of current public opinion on key issues relevant to the LHP programme
 - ♦ Map the impact of LHP at health board level to enable prioritisation of engagement activities and resources
 - ♦ Plot impact against Llais criteria for engagement/consultation
 - ♦ Provide a single set of core data
- Interrogation of local stakeholder data to identify and prioritise audiences at a local and regional level. Development of a shared stakeholder map that enables engagement to be undertaken as efficiently as possible, with minimal duplication
 - Through mapping, identify existing touchpoints/forums with patient, public, community and staff groups to maximise the efficiency and expediency of engagement
 - Routine – min monthly – LHP/regional engagement meetings (next due 14 Nov) with Llais to enable input into plans and identify opportunities for Llais to amplify and enhance engagement.
 - Creation of single channels for regional engagement to enable sharing and development of core programme content and learning
 - Development of a single engagement and communication plan, using good practice from other engagement programmes, with a phased delivery plan for pace and relevance. To include a digital engagement plan to generate engagement through local web and social platforms.
 - Development of an LHP patient panel to provide ongoing input into the programme on key elements affecting experience, including transport and travel, wayfinding, and patient information (concept being worked up with Llais)
 - A regularly updated library of content, that provides all partners with the data, messages and tools to engage efficiently and effectively. CTM to provide resources centrally, in collaboration with partners, to enable localised delivery that meets local requirements and makes effective use of local platforms.

Producing core content to widen profile and understanding of LHP amongst public audiences and enable localised delivery of engagement actions. Inc. key messages, content for web and socials, graphics, talking heads videos

10.7.5 Timing and phasing

The engagement and communications plan in development will set out the appropriate phasing and timetable for activity, taking into account local issues and current programmes of work; particularly those involving public engagement (where appropriate we will aim to integrate engagement opportunities relevant to LHP into these programmes but not to the detriment of existing timetables).

We will also be cognisant of national issues – including the 2026 Senedd elections – that will impact upon the delivery of engagement, working within the guidance set out for the period of pre-election sensitivity.

10.8 Project assurance

The current governance structure allows for a clear separation between governance functions and those that deliver or approve outputs. The assurance functions will confirm that the processes and procedures followed by the delivery groups have been sufficient and in accordance with sound management principles. The assurance function will also act as the coordination point between the delivery and governance functions.

Within the PRINCE 2 governance arrangements the PMO is classed as part of the Assurance function.

10.8.1 Programme

- Review of upcoming programme activity and milestones with LHP Technical PM and Project Director to determine outputs required by workstreams
- Create lookahead programme highlighting key programme deliverables over coming weeks/months for dissemination to workstreams
- Track workstream output and performance toward achieving programme deliverables and feed progress into monthly reporting – PMO drumbeat.

10.8.2 Risk

- Review of risk with LHP Technical PM and Project Director to review and update risk register based on workstream risks
- Track workstream risks and feed into project reporting – PMO drumbeat.

10.8.3 Key Performance Indicators (KPIs)

- Work with LHP Project Director to determine workstream KPIs
- Track workstream KPIs and feed into project reporting – PMO drumbeat.

In addition to the above NWSSP Audit services are developing an audit plan with CTM to provide independent oversight of the capital programme. A notional fee budget has been included at OBC stage as the plan is developed, and this will be shared with NWSSP – SES once it is developed.

10.9 Change management

The Health Boards are aware that the project is a major change for staff working in the area and across all three Health Boards, therefore its success is predicated on staff supporting the project. To date, key staff have been involved in workshops regarding clinical flows and design and it is envisaged that they will continue to play an instrumental role as the project moves into its next phase. Prior to the new facilities opening, detailed planning work will be undertaken to understand any changes to ways of working, and staff will be supported by the project team to prepare for this. Transition plans will be developed in collaboration with all relevant stakeholders, to ensure the new facilities run smoothly and that staff are prepared for any changes to their working model as a result.

There will be no change to organisational structures following completion of the development. There is potential for positive cultural changes following completion to enable staff to work more effectively and efficiently in a new fit-for-purpose building. This can help contribute to higher levels of staff retention over the coming years to improve the working culture for both staff and patients.

Within each stage there will be a series of decision points where major documents produced by workstreams will be ratified within the governance arrangements. For example, clinical advice leaflets pre/post day surgery. All documents will be subject to a robust and consistent version control methodology. The following documents are core to the project at this stage:

- Strategy documents, including the Clinical Services Strategy, Workforce Plan, Programme etc.;
- Clinical models of care and patient flow diagrams;
- Schedule of accommodation;
- Clinical advice documents.

All changes will be subject to a formal change control process. Change is not design development. Change can only occur when strategic, operational policies or functional content quantities are altered from those included in the current approved documents. Change management associated with the infrastructure aspects of this project will be managed by the LHP Project Team through Programme Board and Regional Oversight Board.

10.10 Contingency plans

Should the current scheme fail to proceed, the only contingency plan would be to continue with business as usual for services regionally, working with wait list initiatives or temporary diagnostic solutions such as mobile MRI when required to meet additional demand.

10.11 Benefits realisation

A Benefits Realisation Plan will be developed by the Programme Board to put in place the necessary arrangements to ensure that the project delivers its anticipated benefits. This includes setting out the arrangements for planning, modelling and tracking the identified benefits as well as a framework that assigns responsibility for the realisation of the benefits throughout key phases of the project. The Benefits Realisation Plan will be owned by the Health Board's Infrastructure and Clinical and Operational Programme Directors.

The main benefits for the preferred option are outlined in the benefits register included in Appendix 5 while the actions required to realise the benefits will be confirmed at FBC stage and included as a full benefits realisation plan.

The spending objectives and aligned benefits used in the selection of the preferred option will be used to measure the project success.

This evaluation process will be run in parallel with the Post Project Evaluation Plan as noted below and will be developed as part of the detailed design stage. The Benefits Realisation Plan will be regularly reviewed and updated. This will ensure that – should any strategic change take place, such as a legislative change – the service and project will be flexed accordingly to ensure that the facility delivers a fit for purpose service from the point of operational commencement.

The benefits realisation approach outlined above is a key output to provide assurance on investment delivery and performance and will be shared with the Health Boards and Welsh Government to facilitate shared learning at FBC stage.

10.12 Risk management

The complexity of the LHP programme necessitates an appropriate risk management process is put in place to identify, assess and mitigate the likelihood of risks materialising throughout the programme duration.

Workstream risks are those which are considered by each workstream as a risk to successful delivery of business outcomes and targets. They vary from seemingly insignificant risks to risks which are potentially very damaging. Where risks are deemed to be significant (residual rating >12) and occur across a number of workstreams these are considered as programme risks and dealt with accordingly.

Risk management is therefore dealt with in a two-tier system approach:

- Workstream risk management is an iterative process undertaken by workstream leads, with a monthly reporting cycle up to the LHP Steering Group. All workstreams will be issued a risk register template to log their risks and issues

- Programme risk management is an iterative document that is reviewed monthly in the Programme Board and Steering Group meetings and updated to reflect any changes that may impact programme scope, cost, timeliness, quality, or designs.

Should any risks be identified through the programme that have an impact on the Health Board service delivery and / or strategic direction then it should be escalated via the SRO to the Assistant Director of Governance and Risk for inclusion and scrutiny on the Organisational Risk Register.

10.12.1 Consequence and likelihood definitions

The below tables include the initial definitions relating to the consequence and likelihood of a risk occurring. These definitions are used for both workstream-level risks that are maintained in the dashboard report *and* the programme levels risks that are reflected in the programme risk register.

Table 33 - Risk consequence definitions

Score	Descriptor	Actual or potential impact on the individual/service or organisation
1	Negligible	Minimal injury requiring no/minimal intervention or treatment. Potential for public concern Insignificant cost increase/ schedule slippage Minimal or no impact on the environment
2	Minor	Minor injury or illness, requiring minor intervention. Local media coverage – short-term reduction in public confidence <5% over project budget, schedule slippage Minor impact on the environment
3	Moderate	Moderate injury requiring professional intervention. Local media coverage – long-term reduction in public confidence 5 – 10% over project budget, schedule slippage Moderate impact on the environment
4	Major	Major injury leading to long-term incapacity/disability National media coverage with <3 days service well below reasonable public expectation 10-25% over project budget, schedule slippage, key objectives not met Major impact on the environment
5	Catastrophic	National media coverage with >3 days service well below reasonable public expectation. MP concerned (questions in the House) Incident leading to > 25% over project budget, schedule slippage, key objectives not met Catastrophic impact on the environment

*Table 34 - Risk **likelihood** definitions*

Score	Descriptor	Likelihood of occurrence
1	Rare	This will probably never happen/recur
2	Unlikely	Do not expect it to happen/recur but it is possible it may do so
3	Possible	Might happen or recur occasionally
4	Likely	Will probably happen/recur but it is not a persisting issue
5	Almost certain	Will undoubtedly happen/recur, possible frequently

10.12.2 Risk matrix

The risk matrix shown below is also consistent between both levels of risk management. The Health Board risk matrix is shown below.

Figure 19 - Risk scoring matrix (Likelihood x Consequence = Risk score)

Likelihood	Frequency	Consequence				
		1 Negligible	2 Minor	3 Moderate	4 Major	5 Catastrophic
1 Highly unlikely: will probably never happen	not for years	1	2	3	4	5
2 Unlikely: not expected to happen / recur, but is possible	at least annually	2	4	6	8	10
3 Likely: might happen / recur occasionally	at least monthly	3	6	9	12	15
4 Highly likely: will probably happen / recur, but not a persistent issue	at least weekly	4	8	12	16	20
5 Almost certain: will undoubtedly happen / recur, possibly frequently	at least daily	5	10	15	20	25

Risks should be assessed and reviewed on a regular basis, as determined by their score:

1-6 Low	Low risks should be reviewed and progress on actions recorded and updated at least every 6 months
8-12 Moderate	Moderate risks should be reviewed and progress on actions recorded and updated at least quarterly
15-25 High	High risks should be reviewed and progress on actions recorded and updated at least every 2 months; if scored 20 or over the risk should be reviewed each month

The following management actions are taken for each category:

- **Red** – Reviewed at every Steering Group and Programme Board meeting with clear and determined action reviews in each pertinent workstream. Workstream leads are predominantly identified as the risk owner;
- **Amber** – Reviewed regularly and appropriate review dates are agreed at workstream groups/committees. The risk owner should be a senior member of the pertinent workstream; and
- **Yellow and Green** – Reviewed regularly to ensure the likelihood and/or consequence of the risk arising has not risen. Risk ownership can be assigned to anyone on the pertinent workstream.

10.13 Contract management

Robust contract management process will be put in place to oversee the construction contracts. The use of regular reviews and KPI monitoring will be critical to managing and overseeing performance throughout contract durations.

10.14 Post-project evaluation

Post-project evaluation (PPE) is a mandatory requirement for infrastructure projects that receive Welsh Government funding. The purpose of PPE is to improve project delivery through lessons learned during the project delivery phase and to appraise whether the project has delivered its anticipated outcomes and benefits.

The Health Board and its partners are committed to ensuring that a thorough and robust post-project evaluation is undertaken at key stages in the process to ensure that lessons are learnt.

The PPE also sets in place a framework within which the benefits realisation plan set out in section 10.11 can be tested to identify which benefits have been achieved and which have not.

The Health Board is exploring opportunities to work with a local university in carrying out the PPE. Detailed plans will be drawn up in partnership with the university. The evaluation will be carried out in line with NHS guidance, and will measure the project against the following factors:

- The extent to which the original objectives have been met
- Measurement against the Benefits Realisation Plan
- The cost of the project and the extent to which it can demonstrate value for money
- The Project outcome compared with the 'Do Nothing' or 'Do Minimum' scenarios
- The economic viability of the project in comparison with the 'Do Nothing option
- Risk allocation
- Timetable
- Functional Suitability – how the facility performs
- Functional Relationships – how well the various process flows (staff, patient, service) work
- User satisfaction
- Procurement route.

We envisage four key stages to the evaluation, outlined as follows:

Stage 1: Project procurement

The objective of the evaluation at this stage is to assess how well the project was managed from the time of OBC approval to commencement of the construction phase. It is planned that this evaluation will be undertaken within three months of construction commencement. The evaluation at this stage will examine:

- How effectively the project was managed
- The quality of the documentation prepared by the Health Board and its partners
- Communications and involvement during procurement
- The effectiveness of advisers used on the scheme
- The efficacy of NHS guidance in delivering the scheme.

Stage 2: Implementation

The objective of this stage is to assess how well the project was managed from the time the construction phase commences through to commencement of operational commissioning. It is considered that this should be undertaken three months following operational commissioning of the unit. The evaluation at this stage will examine: -

- How effectively the project was managed
- Communications and involvement during construction
- The effectiveness of the joint working arrangements established by the Contractor, the design team and the project team.

Stage 3: New operational model in place

The objective of this stage will be to assess how well the project was managed during the operational commissioning phase, through to operation in the new building. It is proposed that this stage will be undertaken up to 12 months after completion of operational commissioning of the scheme. The evaluation at this stage will examine:

- How effectively the project was managed
- Effectiveness of the new operational model
- Communications and involvement during commissioning, and into operations
- Overall success factors for the project in terms of cost and time
- Extent to which the new operational model meets users' needs – from the point of view of patients, carers and staff.

Stage 4: New operational model well-established

It is proposed that this evaluation is undertaken 18 months following completion of operational commissioning. The objective of this stage will assess how well and effectively the project was managed during the actual operation of the new Health and Wellbeing Centre. The evaluation at this stage will examine:

- Effectiveness of the new operational model
- Extent to which the new operational model meets users' needs – from the point of view of patients, carers and staff.

The evaluation process will be managed by the Project Manager via a bespoke team established to oversee the PPE. Evaluation reports will be made available to all relevant stakeholders, including Welsh Government.