Item 3.3.3.
Appendix 1

Joint Commissioning Committee

Clinical Case for Change: Cardiac Surgery and Cardiovascular Services in South Wales

PRE-CIRCULATION FINAL DRAFT — Version 1.1 — 29 September 2026

Incorporating professional-society peer review and the decisions of the Joint Committee, 22 September 2026

Field	Detail
Dyddiad y Cyfarfod / Date of Meeting	Joint Committee, 22 September 2026 — recommendations agreed
Statws Cyhoeddi / Publication Status	Pre-circulation final draft for factual accuracy and standards verification. Not approved for wider distribution, public consultation or a service-configuration decision.
Awdur yr Adroddiad / Report Authors	Dr Joseph Riddell, AMD, NWJCC Cardiac Specialised Services; Melanie Wilkey, Senior Responsible Owner and Director of Commissioning for Specialised Services; Sue Kedward, Head of Commissioning, NHS Wales Joint Commissioning Committee
Cyflwynydd yr Adroddiad / Report Presenter	Dr Joseph Riddell, AMD, NWJCC Cardiac Specialised Services
Noddwr yr Adroddiad / Report Sponsor	NWJCC
Pwrpas yr Adroddiad / Report Purpose	For pre-circulation review before final issue. The case supports a formal, independently assured review, not a preferred configuration.

Engagement (internal/external) undertaken to date

Committee / Group / Individuals	Date	Outcome
Project Board	2025–2026	Draft versions reviewed; v0.24 approved for external peer review
Cardiff and Vale UHB and Swansea Bay UHB (provider evidence returns)	31 July 2026 and 10 August 2026	Incorporated with stated limitations
Society for Cardiothoracic Surgery in Great Britain and Ireland (SCTS)	September 2026	Response received and incorporated
Association for Cardiothoracic Anaesthesia and Critical Care (ACTACC)	August 2026	Response (ratified by ACTACC Executive Committee) received and incorporated
British Cardiovascular Intervention Society (BCIS)	1 September 2026	Response received and incorporated
College of Intensive Care Medicine (CICM)	3 September 2026	Response received and incorporated
Society of Clinical Perfusion Scientists (SCPS), with CCPS input	Following SCPS Executive, 11 September 2026	Formal response received and incorporated; supersedes the SCPS email of 14 August 2026
NHS Wales Joint Commissioning Committee	22 September 2026	All recommendations agreed (Section 0)

Acronyms / Glossary of Terms

Term	Meaning
ACCP	Advanced Critical Care Practitioner
ACCTS	Adult Critical Care Transfer Service
ACHD	Adult Congenital Heart Disease
ACTACC	Association for Cardiothoracic Anaesthesia and Critical Care
AF	Atrial Fibrillation
AMD	Associate Medical Director
ARCP	Annual Review of Competence Progression
BCIS	British Cardiovascular Intervention Society
BPA	Balloon Pulmonary Angioplasty
BSE	British Society of Echocardiography
CABG	Coronary Artery Bypass Grafting
CALS	Cardiac (Surgery) Advanced Life Support
CCPS	College of Clinical Perfusion Scientists
CCT	Certificate of Completion of Training
CICM	College of Intensive Care Medicine
CRG	Clinical Reference Group
CS	Cardiogenic Shock
CT	Computed Tomography
CTO	Chronic Total Occlusion
CVUHB	Cardiff and Vale University Health Board
D&C	Demand and Capacity
DGH	District General Hospital
DOSA	Day of Surgery Admission
EACTS	European Association for Cardio-Thoracic Surgery
ECMO	Extracorporeal Membrane Oxygenation (VA = veno-arterial)
EMRTS	Emergency Medical Retrieval and Transfer Service (Wales)
EP	Electrophysiology
ESC	European Society of Cardiology
FET	Frozen Elephant Trunk
GIRFT	Getting It Right First Time
GPAS	Guidelines for the Provision of Anaesthetic Services (RCoA)
GPICS	Guidelines for the Provision of Intensive Care Services
HEIW	Health Education and Improvement Wales
HF	Heart Failure
HLE	Healthy Life Expectancy

Term	Meaning
ICM	Intensive Care Medicine
ICS	Intensive Care Society
ICU	Intensive Care Unit
JCIE	Joint Committee on Intercollegiate Examinations
JCST	Joint Committee on Surgical Training
MCS	Mechanical Circulatory Support
MDT	Multidisciplinary Team
MRI	Magnetic Resonance Imaging
M&M	Morbidity and Mortality
NACSA	National Adult Cardiac Surgery Audit
NICOR	National Institute for Cardiovascular Outcomes Research
NWJCC / JCC	NHS Wales Joint Commissioning Committee
ODP	Operating Department Practitioner
ONS	Office for National Statistics
PACS	Picture Archiving and Communication System
PCI	Percutaneous Coronary Intervention
PH	Pulmonary Hypertension
PTE	Pulmonary Thromboendarterectomy
RCoA	Royal College of Anaesthetists
SAS	Specialty and Specialist (doctors)
SBUHB	Swansea Bay University Health Board
SCPS	Society of Clinical Perfusion Scientists of Great Britain and Ireland
SCTS	Society for Cardiothoracic Surgery in Great Britain and Ireland
SS205	NWJCC Cardiac Surgery Service Specification (July 2025)
TAVI	Transcatheter Aortic Valve Implantation
TEER	Transcatheter Edge-to-Edge Repair
TOE / TEE	Transoesophageal Echocardiography (the terms are used interchangeably)
TTE	Transthoracic Echocardiography
UHB	University Health Board
UHW	University Hospital of Wales
WHSSC	Welsh Health Specialised Services Committee (predecessor of NWJCC)
WICS	Welsh Intensive Care Society

Document Control and Purpose

Field	Detail
Version	v1.1 — PRE-CIRCULATION FINAL DRAFT
Date	29 September 2026
Supersedes	v1.0 working versions; incorporates the v0.24 professional-society peer-review draft
Author	Dr Joseph Riddell, AMD, NWJCC Cardiac Specialised Services; Melanie Wilkey, Senior Responsible Owner and Director of Commissioning for Specialised Services; Sue Kedward, Head of Commissioning, NHS Wales Joint Commissioning Committee
Status	Pre-circulation final draft. All five professional-society responses have been incorporated. Factual checks and residual standards verification remain open. The Joint Committee agreed the recommendations on 22 September 2026; this editorial draft does not imply further approval.
Peer review	Responses received from SCTS, ACTACC, BCIS, CICM and SCPS, with CCPS input where relevant. Section 20 and Appendix B record the responses, qualifications and outstanding verification.
Change control	Editable controlled draft. Log factual corrections and verification outcomes before final issue through the programme's governance arrangements. Subsequent issued versions must retain a dated change record.

Purpose of this document

This document is a Clinical Case for Change. It is not an options appraisal, a decision paper or a recommendation for a future configuration.

It answers one question:

"Is there sufficient evidence to justify formally reviewing the current service configuration?" It concludes that there is.

It does not answer the next question:

"What should replace the current configuration?" A formal options appraisal, public consultation and a governance decision by the NHS Wales Joint Commissioning Committee will answer that.

Drafts of the Clinical Case for Change were submitted to SCTS, ACTACC, BCIS, CICM and SCPS. All five responded. Section 20 and Appendix B record the responses and material qualifications. Residual standards verification remains open.

Evidence classification: **Level A** = verified documentary evidence; **Level B** = verifiable factual position pending formal confirmation; **Level C** = stakeholder-reported concern pending validation; **Level D** = commissioner interpretation.

0. Decisions of the Joint Committee (22 September 2026)

The AMD and the Head of Commissioning presented the Clinical Case for Change and the evidence-gated pathway to the NHS Wales Joint Commissioning Committee on 22 September 2026. The wording below reproduces the agreed presentation; 'today' refers to that meeting. The Committee was asked:

> *"Today, we are asking the Committee to agree with commissioners and the professional societies that the evidence means the current arrangements cannot continue without a formal, independently assured review. That review must take full account of the clinical and service interdependencies and determine which future model will deliver the best outcomes, equity of access and long-term sustainability for the population of Wales."*

The Joint Committee agreed the presentation in its entirety, including each of the following actions:

1. **SUPPORT** the completion of the evidence base by agreeing that the evidence, supported by professional-society responses received to date, means the status quo cannot continue without a formal assured review — but does not determine the future configuration.
2. **APPROVE** the revised evidence-gated pathway, including CRG scrutiny, local and external assurance, and independent review of evidence-derived appraisal criteria before options appraisal.
3. **AUTHORISE** external, configuration-neutral Stage 1 demand-and-capacity modelling, including ten-year projections, to establish a contemporary baseline and address the identified assurance gaps.
4. **AGREE** that the clinical case for change and evidence gates are used to inform the development of the National Clinical Plan.
5. **AGREE** that the programme will return at the evidence-readiness gate before configuration-specific modelling, options appraisal or formal consultation begins.
6. **NOTE** that provider-specific risks and improvement actions will continue through established escalation and assurance arrangements.
7. **NOTE** that no preferred configuration, host site, options-appraisal decision or service change is sought today.

In agreeing the presentation, the Joint Committee also agreed:

- **The critical clinical dependencies around cardiac surgery.** Section 9 sets out the twelve services and appraisal domains and their assessment tiers. They are site-neutral and within the review's scope.
- **The cross-border and highly specialised pathways provided through English centres.** These are within the scope of the review (Section 9.1). The review must test which pathways Wales should provide and which should remain within formal supra-regional networks.

> *"Continuing without a formal review is no longer defensible. Choosing a future configuration now would be equally indefensible. The decision requested today is to endorse the evidence-gated route between those two positions."*

Source: Cardiac Surgery and Cardiovascular Services Review — South Wales, Joint Committee presentation, 22 September 2026 (Dr Joseph Riddell, Associate Medical Director; Susan Kedward, Head of Commissioning); JCC Report Version 11, Recommendations.

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1. Executive Summary

South Wales has two commissioned cardiac surgery units: University Hospital of Wales, Cardiff, and Morriston Hospital, Swansea. Together they serve approximately 2.4 million people. Both entered commissioner escalation after GIRFT in 2021. Swansea Bay exited GIRFT escalation in May 2024 and is not currently in GIRFT escalation. Its waiting list is managed through the Risk and Assurance process. Cardiff and Vale remains in escalation at Level 2.

This document asks whether the evidence justifies a formal, independently assured review of the current configuration. The commissioner concludes that it does. All five professional bodies consulted support further review or assurance, and four explicitly support the formal review threshold. On 22 September 2026, the Joint Committee agreed that the status quo cannot continue without a formal assured review (Section 0).

This document does not choose a future model. That requires completed evidence and assurance gates, evidence-derived appraisal criteria, a formal options appraisal, public consultation and a governance decision.

Key findings

- Wales enters the review with lower female healthy life expectancy (58.5 years against 61.3 in England, ONS 2022–24) and a higher age-standardised proportion of people in bad or very bad health (6.7% against 5.3%, Census 2021). Both South Wales cardiac surgery units are among the smallest in England and Wales. Evidence of compliance with aortovascular subspecialisation and network requirements is not yet available.
- Workforce age, succession, recruitment and training raise a material sustainability question. Provider datasets still require reconciliation.
- Cardiac surgery depends on TAVI, structural intervention, imaging, anaesthesia, perfusion and critical care. These services cannot be assessed in isolation.
- Established English pathways support selected complex aortic, shock/mechanical circulatory and transplant-related care. The review must test what Wales should provide and what should remain formally networked cross-border.

The evidence justifies a formal, independently assured review. Once the evidence gates close, the options appraisal will determine what follows. No decision on service configuration is sought through this document.

Programme phases

Phase 1 — Complete (Jan 2023 – Jan 2024)	Phase 2 — Under way
WHSSC Cardiac Review initiated Jan 2023. Phase 1 re-baselined cardiac surgery and TAVI contracts and confirmed the TAVI commissioning policy remained appropriate. Concluded Jan 2024 with revised contract baselines agreed.	Both Health Boards agreed a collaborative Phase 2 approach in Mar 2024. SS205 published Jul 2025. Provider self-assessments and evidence returns received 2026. The Clinical Case for Change has completed professional-society peer review and opens the evidence-gated pathway to a future options appraisal.

Scope

The evidence comes from the GIRFT review of both units (June 2021), contemporary commissioning and professional standards, NICOR national-audit data, operational and population evidence, HEIW education quality assurance, provider submissions received up to 10 August 2026, and the formal responses of five professional bodies (August–September

2026). Where scope, completeness or assurance differs between providers, the document says so. It does not use those differences to infer relative performance.

The document describes three strategic models for later assessment: the current two-centre arrangements; a two-centre hybrid or network model, including shared and hub-and-spoke variants; and a single consolidated service. These are not developed options or a shortlist. Options appraisal will not begin until the evidence and assurance gates in Appendix A have closed.

Outcome of professional-society peer review

Society	Sufficient evidence for formal review?	Standards correctly represented?
SCTS	The evidence supports further assurance work but falls short of demonstrating that reconfiguration is required. SCTS did not explicitly endorse the formal review threshold.	Broadly yes, subject to verification against current published SCTS standards.
ACTACC	Yes — a formal, independently assured review is warranted; the evidence cannot yet determine a configuration.	Evidence base incomplete for anaesthesia, perioperative medicine, critical care, TOE and blood management; eleven evidence gates recommended.
BCIS	Yes — agrees it is appropriate to consider the case for change.	Yes — BCIS guidance correctly quoted and interpreted; ESC and EACTS guidelines should also be considered.
CICM	Yes (confined to ICM).	Yes, in general and in good faith; specific points of precision identified.
SCPS (with CCPS)	Yes — and the evidence cannot yet determine or support a future configuration.	Yes, broadly — nothing identified that materially alters the conclusions.

Evidence classification note

Level A = verified documentary evidence: formal correspondence, provider returns, education quality reports, national datasets, GIRFT material, published standards and service specifications reviewed by the commissioner. **Level B** = verifiable factual position pending formal confirmation. **Level C** = stakeholder-reported concern pending validation. **Level D** = commissioner interpretation. Professional-society responses are Level A evidence of each society's position. Their opinions are attributed to them, not presented as commissioner findings.

2. A Chronology of Events

This review is the product of a multi-year process of engagement, monitoring and assessment, not a sudden initiative. The commissioner has followed appropriate governance at each stage.

Period	Event	Status
Jun 2021	GIRFT independent deep-dive review of both South Wales cardiac surgery units by Mr David Richens and Bernadette Knight. The commissioner placed both units in escalation.	Level A

Period	Event	Status
Jan 2023	The Joint Committee formally initiated the WHSSC Cardiac Review because of concerns about the form and scale of cardiac surgery and TAVI provision in South Wales.	Level A
2021–2024	Both units engaged with GIRFT recommendations and improved. Swansea Bay UHB exited formal escalation in May 2024 after commissioner review of its action plan; residual actions moved to routine assurance. Cardiff and Vale UHB remained in escalation.	Level A
Jan 2024	Phase 1 outcomes reported to the Joint Committee. Contract baselines revised. TAVI commissioning policy reviewed and confirmed. Further demand-and-capacity work recommended.	Level A
Mar 2024	Both Health Boards agreed a collaborative Phase 2 approach.	Level A
Jul 2024	NHS England updated its Cardiac Surgery Service Specification, adding subspecialisation requirements for low-volume, high-complexity procedures and formal network arrangements. (England-specific; used in Wales as an external benchmark only — Section 3.)	Level A
Jul 2025	NWJCC published SS205. Contractual requirements include designated aortovascular and mitral specialist teams, 100% NACSA data submission with completeness standards, and participation in a networked model of care. Provider self-assessment framework developed.	Level A
2025–2026	HEIW programme SBARs, formal correspondence and the March 2026 Medical Deanery ECQC report document concerns about cardiothoracic surgical training: low operative exposure, developmental ARCP outcomes, constrained trainer capacity and no ST1 recruitment for August 2025 or August 2026. The evidence also records improved trainer capacity at Swansea and continuing concern at Cardiff.	Level A
May 2026	Cardiff and Vale UHB moved to NWJCC escalation Level 2.	Level A
31 Jul 2026	Cardiff provider evidence return received: workforce, perfusion, training, data completeness, escalation and cancellations. It records both improvement and remaining assurance gaps.	Level A
10 Aug 2026	Swansea provider evidence return received: workforce, training, perfusion, data submission and cancellations, with four JCST reports.	Level A — provider-submitted; external and comparative assurance incomplete
11 Aug 2026	Clinical Case for Change v0.24 issued for external professional-society peer review.	Level A
Aug–Sep 2026	Formal responses received from SCTS, ACTACC, BCIS (1 September), CICM (3 September) and SCPS (after its Executive on 11 September, superseding its email of 14 August).	Level A

Period	Event	Status
22 Sep 2026	The Joint Committee agreed all recommendations, the evidence-gated pathway, the critical clinical dependencies and the inclusion of cross-border highly specialised pathways within the scope of the review.	Level A

Provider assurance gaps remain unresolved five years after GIRFT. Cardiff and Vale's Level 2 escalation and Swansea Bay's waiting-list oversight continue through the Risk and Assurance process alongside the strategic review.

3. Commissioner Responsibilities

The seven Local Health Boards in Wales commission cardiac surgery and related specialised cardiovascular services through the NHS Wales Joint Commissioning Committee. The JCC must give the Health Boards a clear, evidence-led basis for assurance, review and any commissioning recommendation.

That responsibility sits within the Health Boards' statutory duties: the Duty of Quality under the Health and Social Care (Quality and Engagement) (Wales) Act 2020, and the sustainable-development duty under the Well-being of Future Generations (Wales) Act 2015. A Healthier Wales and the National Clinical Framework require services to be planned around population need, quality and long-term sustainability. Where credible concerns arise across several domains, the JCC must establish whether the evidence warrants formal review. This document does that. It does not determine the review's outcome.

Clinical quality assurance

[Level A: verified documentary evidence — NWJCC commissioning framework; NHS Wales commissioning obligations]

The commissioner must obtain proportionate assurance that concerns identified by independent review have been addressed. Cardiff and Vale remains at Level 2. Swansea Bay is not in GIRFT escalation; its waiting list is managed through the Risk and Assurance process. These distinct positions do not remove the need to review the wider service's quality and sustainability.

Statutory Duty of Quality

The Duty of Quality came into force on 1 April 2023. It requires NHS bodies in Wales to continually improve service quality across six domains: safe, timely, effective, efficient, equitable, and person-centred. The concerns in this document span several domains: safety, timely treatment, clinical effectiveness and equitable access to specialist care. These duties support formal review of the evidence and opportunities for improvement; they do not prescribe a configuration.

Service sustainability

The commissioner must ensure that services are sustainable over the medium and long term. In cardiac surgery, sustainability covers outcomes, workforce resilience, training viability and compliance with contemporary standards. When several of these are at risk, the commissioner must test whether the current configuration can meet its obligations. A Healthier Wales (2018) reinforces this: it calls for integrated, population-based services that reduce unwarranted variation and are planned around clinical need, not organisational boundaries. The interdependencies in Section 9 reflect that whole-pathway principle.

Workforce and training viability

The commissioner must ensure that services can sustain a viable workforce and training programme. Formal HEIW evidence verifies concerns about operative exposure, trainee progression, trainer capacity, recruitment and retention in Welsh cardiothoracic surgical training. It also identifies an ageing consultant workforce and a weak recent pathway from Welsh training into Welsh consultant posts. The professional societies asked that the same scrutiny extend to cardiothoracic anaesthesia, intensive care medicine and perfusion training (Section 6.3). The Well-being of Future Generations Act reinforces the duty to assess these long-term risks. Detailed provider workforce data remain necessary before any configuration decision.

Compliance with contemporary standards

Standards evolve. The commissioner must ensure that services meet the standards in force. In Wales, the contractual standard is NWJCC Cardiac Surgery Service Specification SS205 (July 2025). UK-wide professional standards, including SCTS standards and GPICS V3, apply across the four nations.

NHS England updated its Cardiac Surgery Service Specification in July 2024. It is an England-specific commissioning document with no statutory application in Wales. This document uses it only as an external benchmark. Conclusions about the Welsh service rest on SS205, UK-wide professional standards or the Welsh commissioning record (CICM peer review, September 2026).

Equitable access

The commissioner must ensure equitable access to cardiac surgery for South Wales, West Wales and South Powys. That means geographical equity and equal access to subspecialised expertise. Where the current configuration may limit that access, the commissioner must assess it.

Financial stewardship

The commissioner must deploy public resources effectively. Repeated escalation cycles, sustained underperformance against commissioned standards and the cost of managing interim risk all consume commissioning resources. A formal review of the underlying configuration addresses that.

> **Why this review is an act of commissioning responsibility, not a predetermined conclusion**
>
> The commissioner is initiating this review because it has a documented obligation to do so. The options appraisal may conclude that the current configuration, with targeted investment and improvement, is sustainable. It may conclude that structural change is required. Either outcome is consistent with this document, which establishes only that a formal review is warranted.

4. The Current Configuration

4.1 The two South Wales cardiac surgery units

Cardiff and Vale UHB (CVUHB) provides cardiac surgery at the University Hospital of Wales (UHW), Cardiff. The service is co-located with interventional cardiology, TAVI and the non-surgical adult congenital heart disease centre (Section 9.1).

Swansea Bay UHB (SBUHB) provides cardiac surgery at Morriston Hospital, Swansea. Morriston is a dedicated cardiothoracic site with theatre infrastructure. It delivers TAVI and interventional cardiology.

NWJCC commissions both units. Both deliver cardiac surgery, TAVI, cardiac anaesthesia and cardiac surgical critical care. The commissioner escalated both after the GIRFT review of June 2021.

4.2 Current position summary

[Level A: verified documentary evidence — GIRFT June 2021; NWJCC escalation and Risk and Assurance records; SCTS standards assessment; provider returns July/August 2026]

Cardiff supplied a more detailed evidence return than Swansea. The greater detail available for Cardiff, including adverse findings, must not be interpreted as demonstrating poorer relative performance. Comparable evidence and independent reconciliation are required for both units.

Indicator	Cardiff (CVUHB)	Swansea (SBUHB)
GIRFT ranking (31 centres E&W)	Among the smallest cardiac surgery units in England and Wales	Among the smallest cardiac surgery units in England and Wales
NACSA 2024/25 ranking (31 NHS providers)	6th smallest (~530 cases)	2nd smallest (~420 cases)
Aorto-vascular procedure volume ranking (GIRFT 2021)	5th lowest in E&W	2nd lowest in E&W
Emergency thoracic aortic operations, 2024/25 (NACSA)	16	14
Aorto-vascular network membership	No formal network evidenced. Relevant individual expertise confirmed; no dedicated specialist rota (Cardiff return, July 2026)	No formal network evidenced. No designated aortic subspecialist; all six surgeons participate in aortovascular work (return received 10 August 2026)
SCTS specialisation — aorto-vascular	Not met in GIRFT 2021. Current specialist-rota compliance unassured	Not met in GIRFT 2021. Current specialist-team, rota, network and referral compliance unassured
SCTS specialisation — mitral	Partially met in GIRFT 2021. Two current mitral interests reported; formal designation, MDT and outcomes unassured	Not met in GIRFT 2021. Two current mitral repair surgeons reported; formal designation, MDT governance and contemporary outcomes unassured
Mitral repair rate (GIRFT 2021)	78.4% (above E&W mean)	65.5% (below 80% target)

Indicator	Cardiff (CVUHB)	Swansea (SBUHB)
NACSA data submission	Cardiff reports recruitment and 97% submission of 2025/26 NACSA data. The vacancy and appointment chronology requires reconciliation with the Risk and Assurance action log. Submission completeness is not outcome assurance (Section 6.7).	Current to 31 March 2026 only. 31 July deadline not met. Provider uploading on its own schedule (next upload September 2026); no reliable date for closing the gap (return received 10 August 2026)
SCTS dashboard submission	Not current (May 2026)	Not independently confirmed. Provider states the dashboard draws on NICOR data, so it depends on NICOR currency (return received 10 August 2026)
Escalation and assurance status	Level 2 (from May 2026), managed through the Risk and Assurance group	Not in GIRFT escalation. Waiting list managed through the Risk and Assurance process. Residual DOSA improvement remains under assurance: provider-reported 5% and NACSA 2024/25 0.79% relate to different periods and sources (Section 6.6).

4.3 National position: volume, recovery and the shift to TAVI

[Level A: verified documentary evidence — NICOR National Adult Cardiac Surgery Audit (NACSA) interactive report 2024/25, NHS providers only; NICOR National Cardiac Audit Programme published national trend data]

Where Wales ranks nationally — small-volume units

England and Wales have 31 NHS cardiac surgery providers (six independent-sector hospitals excluded: Nuffield St Bartholomew's, Spire Nottingham, Spire St Anthony's, Spire Bristol, Cleveland Clinic London and Spire Southampton). In 2024/25 Morriston was the 2nd smallest (~420 cases) and UHW the 6th smallest (~530 cases). The NHS provider average was 863.

Both units sit among the smallest NHS cardiac surgery centres in England and Wales. That raises a material question: is activity at each site sufficient to sustain specialist teams, training and resilience?

Note on activity denominators

Two national averages appear in this document. They are not interchangeable. The NACSA interactive-report average of **863** covers the 31 NHS providers only. The NACSA 2025 Second Edition appendix average of **732** covers all hospitals, including six low-volume independent-sector hospitals. [Level D] The arithmetic difference is consistent with their inclusion. Each figure is cited with its denominator. Both place the two South Wales units below average.

Recovery to pre-pandemic activity

NICOR compared each hospital's 2024/25 caseload with its own 2019/20 level. The average was 93%. UHW reached ~82% and Morriston ~73%. Both remain below their own pre-pandemic activity and below the national recovery average.

National context: the shift to TAVI

UK-wide, surgical volumes (CABG, AVR, MVR) remain below 2019/20 levels. Over the same period TAVI activity has risen 220%. The centre of gravity in cardiac care is shifting towards transcatheter treatment.

Recorded resident-based TAVI rates are comparatively high in Wales. Small Health Board populations make those rates volatile: Swansea Bay serves around 0.4 million people, against up to 3.1 million in an English ICB. TAVI activity has grown substantially at both UHW and Morriston, but each programme remains below the national hospital average in absolute volume. Activity data alone do not demonstrate equitable access.

BCIS has confirmed that TAVI should be co-located with cardiac surgery. Its peer-review response strongly supports the recognition that several interventional cardiology services are inextricably linked to the presence of a surgical unit. Section 9 sets out these interdependencies.

5. Why the GIRFT Evidence Remains Relevant

[Level A: verified documentary evidence — GIRFT review June 2021; NWJCC escalation records]

A predictable criticism of any review that draws on a 2021 report is that the evidence is out of date. The commissioner addresses this directly.

GIRFT led to the formal escalation of both units. It remains the most recent independent comparative baseline. It is not presented as a description of either service today. The commissioner has updated that baseline with NICOR 2024/25 national-audit data, provider self-assessments, both providers' evidence returns, recent HEIW assurance and contemporary operational evidence. The provider returns differ in scope and assurance and cannot support direct comparison without reconciliation.

SCTS and ACTACC both stressed that the comparative clinical evidence relies heavily on GIRFT 2021 and needs confirming with contemporary, audited, risk-adjusted outcome data. The commissioner agrees. Contemporary audited outcomes are an evidence gate before options appraisal (Section 20.3). The same evidence standards apply to both centres.

6. Evidence of Concern

6.1 Clinical Outcomes — The GIRFT Evidence

[Level A: verified documentary evidence — GIRFT Cardiac Surgery Review, June 2021]

The GIRFT review of June 2021 is the primary published clinical baseline. The findings below are the GIRFT team's independently verified conclusions at the time of review. Provider self-assessment and the contemporary outcomes evidence gate will establish the current position at both units.

Unit	GIRFT findings, June 2021 (at time of review)
Swansea Bay UHB	Return to theatre, neurological dysfunction, deep sternal wound infection: on or outside 99.8% confidence limits Unadjusted survival following mitral valve replacement: lowest in England and Wales (self-reported to NICOR) Unadjusted aortovascular surgery mortality: 5.66% vs mean 3.82% — lowest 25% of all units Mitral valve repair rate: 65.5% vs target of 80% Aortovascular procedure volume: 2nd lowest in England and Wales Designated aortovascular surgeon: not present Aortovascular network membership: not in place Urgent to elective case ratio: highest in England and Wales Weekend discharge rate: 2nd lowest in England and Wales
Cardiff and Vale UHB	Post-operative length of stay: longest in England and Wales Waiting times: longest in England and Wales Aortovascular procedure volume: 5th lowest in England and Wales Designated aortovascular surgeon: not present Aortovascular network membership: not in place Elective surgery cancellation rate: 33%, primarily attributed to staffing Weekend discharge rate: lowest in England and Wales Day of surgery admission: 1.6% vs mean 20.2% Referral pooling: incomplete

Commissioner's note on currency of findings

The 2021 GIRFT findings are the latest independent comparative baseline, not a description of the current service. Cardiff's July 2026 submission records improvement and active mitigation. It also confirms continuing gaps in specialist rotas, data, training, workforce and operational resilience. The commissioner handles equivalent evidence from both providers on the same basis. No conclusion about current relative performance is drawn from GIRFT or a provider return alone. As ACTACC advised, historical concerns such as the mitral repair rate should neither be treated as current outcomes without validation nor dismissed without contemporary assurance.

6.2 Specialisation Standards

[Level A: verified documentary evidence — SCTS Specialisation Standards; NWJCC SS205; NHS England Cardiac Surgery Service Specification July 2024 (external benchmark). Site-neutral.]

GIRFT assessed both units against SCTS specialisation standards and found each non-compliant in one or more areas. SCTS standards are UK-wide. SS205 is the Welsh contractual standard. The NHS England specification is an external benchmark.

Aortovascular surgery

[Level A: verified documentary evidence — SCTS Standards; GIRFT 2021; NWJCC SS205; NACSA 2024/25]

SCTS standards require either a designated aortovascular specialist team within a recognised network, or referral of aortovascular cases to a designated centre. In 2021 neither unit had a designated aortovascular surgeon or a formal network.

Cardiff's July 2026 return records five cardiac surgeons, three with a complex aortic interest. All five cover emergency aortic work. Cardiff states that it has no daily named cover for high-complexity aortovascular work and too few specialists for a dedicated rota. Swansea's August 2026 return reports six cardiac surgeons, no designated aortic subspecialist, and that all surgeons take part in aortovascular work.

These returns show individual and general surgical participation. They do not yet show the system SS205 section 2.2 requires: "A system should be in place to ensure that acute aortic syndrome patients are only operated on by rotas of acute aortic syndrome specialist teams." Specialist team, rota, network, referral and high-complexity arrangements at both units remain matters for independent assurance.

NACSA 2024/25 records 16 emergency thoracic aortic operations at UHW and 14 at Morriston. The published figure of 24 or more a year, met by only 11 hospitals UK-wide, is a volume signal, not a formal standard. The one self-assessed gap both providers acknowledge is the absence of an all-Wales acute aortic rota (Section 6.7).

[Level D: commissioner interpretation] The provider returns narrow the earlier evidential gap. The question is not individual capability. It is whether the workforce, specialist team, rota, network and referral arrangements add up to a demonstrably compliant service. As ACTACC stressed, specialist aortic surgery is multidisciplinary: the test is whether a functioning specialist team has the referral pathways, emergency anaesthetic and critical-care support, imaging, perfusion, blood management and postoperative capacity it needs.

Mitral valve surgery

[Level A: verified documentary evidence — SCTS Standards; GIRFT 2021]

SCTS standards require designated mitral surgeons to perform mitral valve surgery, with cases discussed at a formally constituted MDT. In 2021, GIRFT recorded a Swansea repair rate of 65.5% against an 80% target, and unadjusted mitral valve replacement survival as the lowest in England and Wales. It recorded a Cardiff repair rate of 78.4%, above the England and Wales mean.

Cardiff's July 2026 return identifies two surgeons with a mitral interest and says referral between surgeons is possible. Swansea's August 2026 return reports two mitral repair surgeons. Neither return, on its own, evidences formal designation, a compliant MDT process, contemporary volumes, repair rates or risk-adjusted outcomes. Compliance therefore remains to be assured, not presumed absent. SS205 section 2.2 requires a system that ensures specialist mitral surgeons operate on patients with degenerative mitral disease.

[Level D: commissioner interpretation] The historical Swansea repair-rate concern remains clinically relevant but is not a current outcome finding. A high-quality mitral service also needs appropriate MDT selection, advanced imaging, expert intraoperative TOE, specialist anaesthesia and cardiothoracic critical care. Repair rate must be read alongside case complexity, patient selection, individual and team volumes and risk-adjusted outcomes (ACTACC). Contemporary registry data, MDT arrangements and outcome assurance are required for both units before options appraisal.

Interpretation of SCTS standards — principles confirmed through peer review

[Level A: SCTS response to the Clinical Case for Change, September 2026]

SCTS confirmed that the document interprets its standards correctly — "broadly yes", subject to verification against current published standards — and described the interpretation as "appropriately cautious". It asked that five principles govern the review. The commissioner adopts them in full:

- **Absence of evidence is not evidence of non-compliance.** Independent verification against current data, governance documentation and clinical practice must establish compliance.
- **Networked models are recognised.** Robust networks, shared specialist teams, agreed referral pathways and cross-centre MDTs can achieve subspecialisation, as can formal consolidation.
- **Individual expertise is not formal specialist-team designation.** Designation requires MDT governance, infrastructure, audit and network arrangements.
- **Volume is not a surrogate for quality in isolation.** It must be read with risk-adjusted outcomes, complexity, governance, MDT structures, training, audit and network pathways. A low-volume service is not necessarily poor; a high-volume service is not necessarily good.
- **SCTS standards set expectations for expertise, governance and access. They do not prescribe a single organisational model.**

SCTS concluded that the evidence "supports further assurance work but falls short of demonstrating that service reconfiguration is required". It judged the workforce and training concerns real but not, in themselves, proof that structural reconfiguration is necessary. This document makes no claim that reconfiguration is required, so the SCTS position is consistent with an evidence-gated review. Sections 15 and 20.3 incorporate the additional evidence SCTS requested.

6.3 Workforce Sustainability and Training

The commissioner regards workforce and training as among the most significant strategic concerns facing cardiothoracic services in Wales. They are not separate operational issues. They are parts of one sustainability system. Following peer review, this analysis now extends beyond cardiac surgery to cardiothoracic anaesthesia, intensive care medicine and clinical perfusion.

Summary of material risks

- **Surgery:** age-profile and succession evidence indicates material retirement risk, but provider datasets are incomplete and not directly comparable. No ST1 recruitment occurred in August 2025 or August 2026. Examination results rest on small denominators.
- **Perfusion:** Cardiff student training has been paused since 2024. At the case volume recorded in its 2024 review, the College considered taking on students or limited registrants irresponsible. The July 2026 action plan confirms that training remains paused.
- **Anaesthesia and critical care:** comparable provider workforce data remain outstanding. RCoA analysis cited by ACTACC estimates a UK shortage of approximately 2,147 consultant and SAS anaesthetists — around 15% of the workforce required, up from approximately 1,483 in 2020. This is national context, not proof of the position at either unit.
- **Theatre cancellations:** both providers report significant cancellations, many attributed to staffing or scheduling. Periods, categories and denominators differ and need reconciling before comparison.

Sources: HEIW, 2025; GMC National Training Survey, 2024–25; JCST FRCS(CTh) examination results, 2020–24; College of Clinical Perfusion Scientists Review, 2024; Cardiff/Swansea provider returns, 2026; RCoA workforce analysis, cited by ACTACC, 2026. For balance: JCST eLogbook data record a mean of 148 cases per trainee in Wales in 2025, above the 130 UK average — which may reflect a smaller trainee pool, not necessarily greater training capacity.

Whether the current distribution of activity across two units compounds or mitigates these risks is a question the review must test.

Training and workforce evidence

HEIW identifies material concerns about operative exposure, trainee progression, trainer capacity, recruitment and retention in cardiothoracic surgical training. It records two developmental ARCP outcomes attributed to insufficient experience and caseload, and no ST1 recruitment for August 2025 or August 2026.

The two sites differ. Swansea increased its trainer capacity. At Cardiff, HEIW's June 2026 visit found meaningful improvement in engagement, culture and trainee experience. The placement nevertheless remains under GMC enhanced monitoring, with requirements open on cardiac trainer capacity, rota management, curricular access, polytrauma cover and support for the planned sixth consultant.

This training evidence strengthens the case for review. It is not the sole or primary basis for change. The JCST and GMC results are programme-level, based on small numbers, and cannot be attributed to one site. Contemporary operative exposure, formal confirmation of Swansea's current position, delivery of Cardiff's outstanding HEIW requirements and comparable evidence from both providers all still need assurance.

The workforce sustainability system

[Level D: commissioner interpretation]

Workforce sustainability depends on a connected system. A viable training programme supports progression, curriculum completion and future consultant recruitment. New consultants support subspecialisation, rota resilience, training capacity and succession. Subspecialisation supports quality and creates the operative exposure training needs. Training then sustains the cycle.

Limited operative exposure, trainer capacity and recruitment can reinforce one another. An ageing workforce adds succession pressure. HEIW identifies concerns across these domains; the review must test their extent and whether current arrangements can resolve them. ACTACC asked that the assessment extend to anaesthesia and critical care. Each model must demonstrate a sustainable training and recruitment pathway across the multidisciplinary workforce, as well as capacity to deliver current activity.

Training sustainability

[Level A: verified documentary evidence — HEIW programme SBARs, 10 September 2024 and 30 September 2025; HEIW letter to provider Medical Directors, 6 November 2025; HEIW Medical Deanery ECQC Report, March 2026]

HEIW reports that, over the past ten years, few trainees completed the Welsh cardiothoracic surgical programme, and few progressed into substantive Welsh cardiac surgical consultant posts. HEIW also reports attrition before completion. The cohorts are small and careers may be identifiable, so this document does not reproduce individual destinations; authorised personnel can review the source record under controlled conditions. The evidence supports a concern about retention and the domestic consultant pipeline. It does not support the broader claim that Wales produced no home-trained cardiac surgery consultants.

[Level A: verified documentary evidence — HEIW programme SBARs, formal correspondence and education-quality report] HEIW's update of 30 September 2025 records five trainees and two developmental ARCP outcomes linked to insufficient operative experience. No ST1 trainee was recruited for August 2025 or August 2026 — the second consecutive year. HEIW's 6 November 2025 letter states that both Welsh sites performed substantially fewer cardiac operations than the national average, limiting operative opportunity and case mix, and raises fundamental concerns about consistent curriculum delivery. The NACSA 2025 Second Edition

appendix records 531 submitted procedures at UHW and 419 at Morriston in 2024/25, against an all-hospital average of 732 (NHS-provider average 863; Section 4.3). These are submitted audit records. They need reconciling with provider activity before they become the definitive baseline.

HEIW records that Swansea increased its active cardiac trainers from one to four. Swansea reports that an earlier 'at risk' status became 'no concern'; HEIW has not formally confirmed this. The JCST 2025 regional review describes Swansea as having good, engaged trainers. Cardiff's placement has been in GMC enhanced monitoring since November 2024. HEIW's visit of 3 June 2026 supersedes the earlier finding that Cardiff had only one active trainer. It records improved faculty engagement, greater use of ISCP, positive trainee feedback, progress with simulation and no recurrence of earlier behavioural concerns. HEIW reduced the high-risk requirements to nine. Material requirements remain. Both sites have improved; their assurance positions differ; external assurance is incomplete.

[Level A: verified documentary evidence — GMC National Training Survey 2024 and 2025; JCST Annual Quality Assurance Report 2024; JCST Wales Cardiothoracic Regional Review 2025] In 2024 Wales recorded the lowest 'Overall Satisfaction' (68.75) and 'Adequate Experience' (56.25) scores of any UK or Ireland cardiothoracic training region. Both measures fell in the first quartile in three of the four years from 2021 to 2024. In 2025 the survey recorded three red flags (overall satisfaction, supportive environment, adequate experience), against none in 2024. The Wales FRCS (CTh) Section 1 pass rate for 2020–2024 was 60% (3 of 5 attempts), against 100% for Section 2. These are small, programme-wide cohorts (three to five survey respondents). They cannot be attributed to either unit.

For balance, JCST eLogbook pilot data for 2025 recorded a mean of 148 cases per trainee in Wales, above the national 130. On this preliminary measure, individual operative exposure has not tracked the fall in satisfaction. JCST notes that this first-year metric combines trainees with other residents, including SAS doctors, and is indicative only. It may reflect a smaller trainee pool rather than greater capacity.

[Level D: commissioner interpretation] The commissioner does not assert that training has failed or that accreditation has been lost. However, training sustainability is directly relevant to the Duty of Quality and to the long-term commissioning of safe, resilient services.

[Level A: verified documentary evidence — HEIW Medical Deanery ECQC Report, March 2026] The same report records the UHW cardiology placement in enhanced monitoring since June 2024 for concerns about culture, access to training and ward support. Improvement was reported in July 2025. A further review was planned for 27 February 2026; the report does not give its outcome. The commissioner has requested it and will log it on receipt. This is context for the wider cardiovascular pathway; it does not point to a particular surgical configuration. The appended GMC Annual Quality Assurance Summary found that HEIW met the Promoting Excellence standards. That supports the credibility of HEIW's quality management. It does not show that individual placement concerns have been resolved.

A programme with unresolved concerns about operative exposure, progression, trainer engagement or curriculum delivery may lose appeal and face an accreditation challenge. Losing either would weaken the main domestic route to replacing retiring surgeons. Training, recruitment, succession, subspecialisation and rota resilience are therefore directly linked.

Cardiothoracic anaesthesia, intensive care medicine and ACCP training

[Level A: ACTACC response, August 2026; CICM response, 3 September 2026; GPICS V3; RCoA GPAS Chapter 18 (2025)]

Draft v0.24 addressed surgical training only. ACTACC and CICM identified this as an omission. The review will now assess, on the same basis:

- **Cardiothoracic anaesthesia training:** exposure to cardiac anaesthesia, complex valve and aortic surgery, advanced TOE, bypass, cardiogenic shock, MCS, postoperative critical care, major haemorrhage and emergency surgery, against the RCoA curriculum, GPAS Chapter 18 and ACTACC expectations. The test is case mix, complexity, supervision and trainer capacity, not numbers alone.
- **Intensive care medicine training:** ICM residents, portfolio-pathway trainees and ACCP training capacity in the cardiothoracic ICUs at both providers.
- **GPICS V3 requirements:** Chapter 2.2 (with Chapter 2.16) requires a College Tutor and a Training Capacity Assessment for every intensive care training unit, including cardiothoracic ICUs, that hosts ICM residents.
- **ICM training in Wales:** the effect of any configuration on the ICM CCT programme and portfolio pathway, with the direct involvement of the Regional Advisor for ICM.

Consultant recruitment and succession

[Level D: commissioner interpretation, informed by national workforce context and local intelligence requiring validation]

Cardiac surgery draws on a small pool of eligible consultants. Units that cannot offer sufficient volume, subspecialisation, collegiate working, academic opportunity, credible training and rota resilience may struggle to recruit. A weak training pipeline narrows the pool of Welsh-trained candidates and increases reliance on international or cross-border recruitment, while two Welsh units compete for the same people.

The same applies to cardiothoracic anaesthetists, intensivists and advanced TOE practitioners. ACTACC reports consultant vacancies across almost all UK cardiothoracic units and many consultants nearing retirement. Workforce availability therefore shapes which configurations are clinically deliverable. Workforce planning will precede, not follow, the choice of any configuration.

Subspecialisation and rota resilience

[Level A: verified standards and operational data where available; Level B pending equivalent provider data]

SCTS standards require designated specialist surgeons for high-complexity procedures. A small consultant body may not sustain subspecialist teams without rota vulnerability.

Cardiff's July 2026 return records 344 cancelled theatre sessions from April 2025 to March 2026: 167 attributed to theatre or clinic staffing, 87 to surgeon factors and 17 to anaesthetist factors. A further 96 followed from April to June 2026, 50 of them attributed to surgeon factors. Swansea's return records 70 cancellations from April 2025 to July 2026: 29 for anaesthetist or ODP staffing, 30 for scheduling or no surgeon, eight for hospital clinical factors, one for perfusion staffing and two for scrub staffing. Neither return gives a common planned-session denominator, harmonised definitions or patient impact. The figures are not comparable rates. They show operational pressure; they do not prove that configuration is the cause.

[Level D: commissioner interpretation, derived from the Level A figures above] Using each return's own categories, staffing-related causes account for about 79% of Cardiff's 2025/26 cancellations (271 of 344) and 63% of the following three months (60 of 96). At Swansea, staffing and scheduling categories account for 59 of 70 (84%). Without denominators and common definitions, these are not rates. They show that workforce and scheduling are material issues requiring reconciliation.

[Level D: commissioner interpretation] Subspecialisation and rota resilience depend on each other. A workforce too small to subspecialise may also be too small to sustain subspecialisation within an on-call rota. The minimum consultant numbers needed for subspecialisation, safe on-

call cover, training, governance, research, and service development is central to the options appraisal.

Surgical workforce age profile

[Level A: verified HEIW programme-level evidence and provider returns; Level C: remaining provider-level uncertainty]

HEIW's letter of 6 November 2025 records 13 of 19 consultant cardiothoracic surgeons in Wales aged over 55. Cardiff's July 2026 return lists nine cardiothoracic surgeons, six over 55 and five over 60, without separating cardiac from thoracic practice. Its covering submission confirms five cardiac surgeons in post and a sixth recruited, subject to final checks. Retirement intentions were not given. Swansea reports six cardiac surgeons and 'a couple' of retirements expected within ten years, but gave no age profile and no five- and ten-year split. The returns support a programme-level succession concern. Its timing and cardiac-specific distribution remain unclear.

[Level D: commissioner interpretation] Age profile, pipeline weakness and recruitment difficulty compound one another. Cardiff's sixth appointment is an important mitigation, but a larger establishment does not by itself resolve trainer capacity, subspecialist rotas, succession or operative exposure. These need continued local management and external assurance.

Clinical perfusion workforce sustainability

[Level A: verified standards and service specification requirements]

Cardiac surgery on bypass cannot happen without trained, accredited clinical perfusion scientists. Perfusion is a core dependency, and its workforce sustainability bears directly on configuration. SCPS welcomed the recognition that perfusion is integral to configuration, not a consequence of decisions made elsewhere.

SS205 requires a dedicated perfusion service staffed by nationally qualified perfusionists on a 24/7, 365-day rota, close to theatre, and compliant with recognised monitoring standards for bypass. GPICS V3 requires perfusion to be readily available for emergency re-sternotomy and bypass at all times.

[Level A: College of Clinical Perfusion Scientists review, provider workforce return and July 2026 action plan] The CCPS 2024 review of Cardiff found a competent service, good practice and no patient-safety concerns. Cardiff reports unit accreditation to March 2029. The same review recorded about 450 pump cases a year — too few to support student training — and identified succession, structure, pay, retention and leadership issues. The service is not unsafe. Its training capacity and long-term resilience are constrained.

Cardiff's July 2026 return records 8.43 WTE against a budgeted 10.45: a 2.02 WTE shortfall, including a Band 6 student post unusable while training is paused and a Band 7 vacancy. Five of nine staff are aged 51 or over; three are 56 or over. The action plan records progress on equipment, storage and multidisciplinary working. Succession and regrading, medicines policy, appraisal and the future training model remain open. ECMO development is paused until 2027. These are sustainability issues, not evidence of current harm.

[Level A: Swansea provider-submitted evidence; Level D: commissioner interpretation] Swansea reports no perfusion vacancies, two staff who may retire and return within five years, no trainees, and about 300–400 open-heart procedures a year. It does not say whether it is accredited or approved to train perfusionists, whether training has paused, or whether its activity could support a trainee while qualified staff meet their own requirements. That needs confirming. Cardiff's review found 450 pump cases insufficient for training in its model; that finding cannot simply transfer to Swansea, where staffing and case allocation may differ. Swansea's last College visit was in 2016, with the next expected in late 2026 or early 2027. The 2016 report, current accreditation confirmation, age profile and supervision model were

not supplied. The vacancy position is reassuring. External assurance of accreditation, training, succession and rota resilience is outstanding. This is an assurance gap, not evidence of lost accreditation or unsafe care.

[Level D: commissioner interpretation] Cardiff's training pause matters beyond Cardiff. The University of Bristol is the sole UK academic provider of the accredited route into registration (MSc/PgCert Clinical Perfusion Science). That course must pair with in-service training at an approved unit such as Cardiff. A prolonged pause at any approved unit removes one of a small number of national placement routes.

[Level A: verified documentary evidence — CCPS 2024 review and Cardiff's July 2026 action plan] The College report identifies insufficient annual case exposure as the reason student training could not be supported. It distinguishes qualified perfusionists' registration requirements, described as a minimum of 40 cases annually, from the higher requirements for students and limited registrants, described as 75 cases annually, with students requiring that exposure over two years. At approximately 450 pump cases across the unit each year, training a student could reduce qualified staff's access to the cases needed to maintain registration and competence. The College considered taking on students or limited registrants irresponsible at that volume. The July 2026 action plan records continued low volume and no students in post. Current SCPS/CCPS requirements must be confirmed before this evidence gate closes. ECMO development is a separate issue: its pause until 2027 is not the stated reason for the training pause.

[Level D: commissioner interpretation] The training pause has continued since 2024, with no agreed case-volume threshold for resumption recorded in the evidence reviewed. A Band 6 vacancy cannot be filled while student training remains suspended. Five of nine staff are aged 51 or over, and there is no Deputy Principal Perfusion Scientist. These factors raise linked training and succession concerns. They do not establish the scale of any wider UK perfusion shortage. SCPS and CCPS have offered to assess the implications once demand-and-capacity evidence is available.

[Level A: SCPS formal response, September 2026] SCPS asked the review to distinguish individual registration, departmental accreditation, training-centre status and service or workforce resilience. These are different forms of assurance. The commissioner adopts the distinction. Cardiff's accreditation to 2029 (departmental), its training pause (training-centre) and its workforce position (resilience) are separate questions. The same applies to Swansea. SCPS also asked that every option be assessed explicitly for workforce resilience, training capacity, maintenance of competencies, out-of-hours provision, specialist expertise and complex extracorporeal support.

The factors that constrain surgical sustainability in a small service — volume, rota resilience, training exposure, recruitment, retention and succession — apply equally to perfusion. A fragile perfusion workforce can limit delivery even when surgical, anaesthetic and ICU capacity exist. The commissioner therefore treats perfusion as a core appraisal domain. Any future model must demonstrate a resilient, accredited, sustainable perfusion workforce with training capacity, CPD, out-of-hours resilience, succession and competitive employment structures.

Required evidence for validation

[Level D: commissioner interpretation]

The review assesses these domains for both Health Boards on an equal basis. Gaps will be closed through comparable evidence, independent modelling and the assurance gates. They are not evidence of failure.

- Consultant cardiac surgical establishment, vacancies, locum dependency and job plans; SAS and NTN trainee numbers, absolute and relative to consultants;

- Consultant age profile and expected retirements over five and ten years;
- Recent consultant recruitment attempts and outcomes;
- Subspecialist capability and named cover for high-complexity procedures;
- Theatre cancellations by reason, including surgeon availability, and cases performed against available sessions;
- Surgical trainee numbers, progression, attrition and operative exposure;
- Training feedback, education quality reports and HEIW correspondence;
- Cardiothoracic anaesthesia: funded and actual consultant/SAS establishment, vacancies, temporary staffing, age profile, retirements, subspecialist and advanced TOE capability, out-of-hours rotas, trainers, recruitment and retention, and five- and ten-year projections;
- Intensive care: consultant intensivist staffing, rota and skill mix, including non-consultant medical staff and ACCPs (GPICS V3 Chapters 2.1–2.4), and critical-care nursing establishment;
- Perfusion establishment, vacancies, age profile, retirements and rota model;
- Perfusion training posts, accreditation, supervision and annual pump-case exposure;
- Perfusion pay bands, recruitment history and retention;
- Compliance with service specifications and professional standards.

Overall commissioner interpretation

[Level D: commissioner interpretation]

The commissioner does not use workforce or training concerns to choose a configuration. They are included so the review properly tests whether the current model is sustainable and whether alternatives would better support training, recruitment, retention, subspecialisation, perfusion resilience, and rota stability. The next step is to complete and independently assure the evidence base. The review will test workforce and training implications against evidence-derived criteria once the Clinical Case for Change and demand-and-capacity gates have closed.

6.4 Structural and Operational Deficiencies

[Level A: verified documentary evidence — GIRFT 2021; applies to both units]

GIRFT identified structural and operational deficiencies at both units in 2021. Improvement work is under way, but provider submissions do not yet give a complete, comparable or independently assured account of closure. Each finding below carries its date and current status.

- ICU bed ring-fencing: neither unit had ring-fenced cardiac surgical ICU beds in 2021.
- Referral pooling: neither unit operated a fully pooled referral model in 2021.
- Day of surgery admission: both units were well below the national standard in 2021 and remain well below the 50% target (Section 6.6).
- Weekend discharge: both units had among the lowest rates in England and Wales in 2021. GPICS V3 Chapter 3.2 sets minimum standards for ICU discharge timing (07:00–21:59, except in surge) and requires an incident report for any out-of-hours discharge. The critical-care evidence sought from both providers will include this (CICM).
- Seven-day consultant review: neither unit had fully implemented this in 2021.

6.5 Interim Clinical Risk

[Level A: verified documentary evidence — SCTS Standards; GIRFT 2021; NWJCC escalation status; GPICS V3; applies to both units]

GIRFT identified non-compliance with specialist standards in 2021, principally in aortovascular and complex mitral surgery. Any change selected after review would take time to implement. Current risks must therefore be managed irrespective of the eventual configuration decision.

GPICS V3 (CICM and ICS, January 2026, endorsed by ACTACC) is a four-nations document. It sets minimum standards ("must do" safety baselines) and recommendations ("should do" markers of quality). The minimum standards most relevant to South Wales are:

- Standard 3: in addition to the on-site medical doctor or ACCP, there must be a cardiothoracic surgeon. CICM advises that the standard neither defines "on-site" for the surgeon nor requires presence "at all times". The commissioner draws no firm conclusion from the wording and will seek each provider's interpretation and arrangements.
- Standard 5: perfusion, theatre staff and facilities must be readily available for emergency re-sternotomy and bypass 24/7.
- Standard 6: everyone on the on-site rota must be CALS-trained and able to reopen a chest 24/7.
- Standard 7: TOE equipment must be immediately available in cardiothoracic ICUs.
- Standard 9: a job-planned consultant in cardiothoracic intensive care medicine must direct care through a structured, face-to-face ward round 7/7 with access to multidisciplinary input.

CICM confirmed that these standards, and the cardiogenic-shock standards in Section 9, are accurately represented. It identified three further requirements. The commissioner has added each to the evidence sought:

- **Ultrasound image storage:** GPICS V3 Chapter 1.6, Standard 11, requires ICUs to store clinical and point-of-care ultrasound images in PACS as part of the record. CICM regards this as a live and material safety matter, reflected in its response to a Regulation 28 Prevention of Future Deaths report.
- **Echocardiography in suspected cardiogenic shock:** BSE guidance PUE006 (endorsed by BCIS, BCS, BHRS, BIAS, GIRFT and the ICS) sets a target of TTE within 60 minutes.
- **Transfer:** GPICS V3 Chapter 3.14 (Section 14, critical care transfer safety).

Both providers report operational pressure. Cardiff records 344 cancelled sessions from April 2025 to March 2026 and 96 more from April to June 2026. Swansea records 70 from April 2025 to July 2026. Without common definitions, denominators, case mix and patient impact, these figures justify scrutiny of rota and capacity resilience but not comparison between sites.

[Level D: commissioner interpretation] This is a structural concern, not a judgement on clinical teams. Clinicians at both sites work within the resources, workforce and infrastructure available to them. The concern is systemic: the current distribution of activity may limit the subspecialisation and volume concentration that professional standards associate with better outcomes in specific high-risk procedures. Whether it does, and whether networked arrangements could address it, is for the review to establish.

Interim risk management and long-term review are separate, parallel workstreams. The commissioner must manage risk in the current configuration now, whatever the review concludes. The interim workstream covers both units equally.

Interim actions include engagement with both Medical Directors on aortovascular and complex mitral arrangements, network pathways and provider-specific assurance. Cardiff's Level 2 action plan records recruitment, clinical leadership, weekly waiting-list validation, work to equalise waits, and theatre and flow improvements. Swansea Bay is not in GIRFT escalation;

its waiting list is managed through the Risk and Assurance process. Planned actions are not treated as completed assurance. These arrangements continue alongside the strategic review, as agreed by the Joint Committee.

6.6 Current Performance Against Cardiac Surgery Standards

[Level A: verified documentary evidence — NICOR NACSA hospital-level report, 2024/25; Health Board-reported waiting-time data, August 2026; GIRFT Cardiac Surgery Review, 2021]

Cardiothoracic surgery has the longest reported median wait of any speciality in Wales. In August 2026, Cardiff and Vale reported an average wait of 12 weeks and Swansea Bay 11 weeks. The longest-waiting 10% exceeded 47 and 34 weeks respectively. Day-of-surgery admission remains far below the 50% target at both centres.

Metric	UHW Cardiff	Morriston	Standard / signal
Elective CABG wait	175 days	77 days*; 143 days in Q2 NICOR 2025/26 interim	84-day standard
Urgent CABG wait	17 days (9% within 7 days)	10 days (26% within 7 days)	7-day target
Day-of-surgery admission	0.40%	0.79%	50% target
Emergency thoracic aortic operations / year	16	14	24+ signal (met by only 11 hospitals UK-wide, 2024/25)

**Morriston's elective figure has only 52% waiting-time data completeness and is not a reliable comparison. DOSA figures are NACSA 2024/25; Swansea's provider-reported current DOSA rate of 5% (Section 4.2) covers a different period and source. Both are below target.*

Prolonged waits and low-volume emergency aortic activity leave material questions of access and organisation unresolved.

6.7 Provider Self-Assessments: Not Yet Assurance

[Level A: provider-submitted evidence — Cardiff and Vale UHB and Swansea Bay UHB, Provider Self-Assessments Against the Service Specification, 2026 (123 standards each)]

- Cardiff self-reports a gap on 22 of 123 standards. Swansea reports 19 of those 22 (86%) as fully achieved. The only shared, mutually acknowledged gap is an all-Wales acute aortic rota.
- Both providers report compliance with the perfusion accreditation requirement. Cardiff's independent College review found too little case exposure for student training. The commissioner has not yet reviewed contemporary independent accreditation evidence for Swansea.
- Cardiff reports further recruitment to its data manager/analyst post and 97% submission of 2025/26 NACSA data. The staffing chronology requires reconciliation: the Risk and Assurance action log records a postholder starting in August 2025 and leaving before March 2026, while the provider return describes a vacancy from December 2024. These accounts may refer to different posts or periods. The factual-accuracy review must resolve the discrepancy and confirm the current position. Neither recruitment nor reported submission completeness alone establishes outcome assurance.
- Cardiff recorded 0% completion of the ethnicity field from April 2023 to March 2026. This prevents ethnicity-based access analysis for Cardiff. Swansea's equivalent evidence must be confirmed separately.

The returns differ materially and require independent reconciliation. Self-assessment informs the review; it does not demonstrate compliance, capacity or sustainability. As SCTS advised, the review will distinguish a service that lacks a structure from one whose structure exists but has not yet been evidenced.

7. Consequences of Maintaining the Current Configuration

[Level D: commissioner interpretation, drawing on verified HEIW evidence, GIRFT findings, SCTS standards, SS205 and NHS workforce intelligence]

If the concerns in this document are not addressed, the commissioner considers the following consequences plausible. They are not assertions of current failure. The options appraisal may find mitigations within the current two-site configuration.

Surgical training may continue to face the concerns HEIW has documented. Cardiff's June 2026 review shows that improvement is achievable, and that significant requirements remain open. Whether they can be resolved sustainably within current arrangements, through an integrated network or through consolidation is not yet known. The cancellation returns illustrate how constrained staffing, specialist cover and capacity create operational vulnerability. They are not rates and cannot be attributed to configuration alone.

Without resolving the causes of escalation, subspecialisation gaps, data limitations and workforce fragility, repeated assurance cycles are likely. The same issues affect the platform for structural heart, cardiogenic shock, advanced heart failure and TAVI development.

Cardiff's NICOR field-completeness reports for 2023/24 to 2025/26 show high completeness in several core fields and active improvement. Recurrent gaps remain: ethnicity, blood-product and transfusion data, and aspects of aortic severity and procedure coding. Completeness does not establish case ascertainment, timeliness, coding accuracy, risk-adjusted outcomes or national comparison. Cardiff reports recruitment to its data manager post and 97% submission of 2025/26 NACSA data. Independent confirmation of completeness and outcomes remains an evidence gate. As ACTACC advised, incomplete data should neither be read as poor performance nor used to give unwarranted assurance.

8. Why This Matters for Patients

This document frames its concerns in clinical and governance terms. The consequences for patients are direct. Where subspecialisation standards are not met, access to specialist expertise is constrained. Access to future services — structural heart, cardiogenic shock, advanced heart failure — depends on the surgical configuration. Cardiothoracic surgery has the longest waits of any speciality in Wales. The service's long-term resilience depends on a sustainable workforce and training pipeline.

Any model that concentrates specialist services must also be judged from the patient's side. ACTACC stressed that longer journeys affect patients, relatives and carers at every stage: assessment, investigation, admission, surgery, review, rehabilitation and complications. The burden falls unevenly, and hardest on older people, those with frailty or disability, people without private transport, rural communities and deprived areas. Emergency transfer of critically ill cardiac patients adds safety and resilience requirements.

CICM noted that the patient-relevant intensive care measure is Level 2 and Level 3 bed-days, not procedure counts. Prolonged weaning and long-term ventilation needs bear directly on general intensive care capacity.

Sections 6, 7 and 9 address these implications. Section 14 reflects them in the appraisal criteria. Section 18 addresses equality and access.

9. Clinical Interdependencies

The Joint Committee agreed the critical clinical dependencies around cardiac surgery set out below. They form part of the review scope. They are site-neutral. Inclusion does not mean every service needs a standalone review; the depth of analysis must match its relationship with cardiac surgery, TAVI and structural heart pathways.

The review focuses on adult cardiac surgery, including TAVI, and directly dependent services. Interdependencies are considered only in terms of the safety, sustainability and deliverability of cardiac surgical services. This is not a wider review of cardiovascular services.

The twelve items combine the v0.24 interdependencies with domains ACTACC and CICM added through peer review: training beyond surgery, blood-product resilience, and coagulation monitoring and patient blood management. BCIS strongly supported the recognition that several interventional cardiology services are inextricably linked to a surgical unit.

Clinical interdependencies around cardiac surgery — as agreed by the Joint Committee

Service	Assessment	Clinical rationale — site-neutral
TAVI	Core in-scope service	BCIS: TAVI should coexist with cardiac surgery for treatment selection, modality transfer and complication management. The 2025 ESC/EACTS VHD Guidelines define a Heart Valve Centre performing procedures as having on-site interventional cardiology and cardiac surgery departments providing 24 h/7 day services, alongside a core Heart Team and formal governance arrangements. This is an institutional capability requirement, distinct from per-case surgical standby. (2025 Guidelines, Table 5; BCIS TAVI Position Statement)
Transcatheter mitral/tricuspid	Critical interdependency	BCIS: mitral TEER should be delivered in cardiac surgical centres, though surgical bailout is not required for every case. The 2025 ESC/EACTS VHD Guidelines define a Heart Valve Centre performing procedures as having on-site interventional cardiology and cardiac surgery departments providing 24 h/7 day services, alongside a core Heart Team and formal governance arrangements. This is an institutional capability requirement, distinct from per-case standby. (2025 Guidelines, Table 5; BCIS Mitral TEER Position Statement 2025)
Cardiogenic shock programme	Critical interdependency	GPICS V3: shock centres need 24/7 cardiology, MCS, imaging and defined referral/transfer pathways; early discussion with MCS-capable or advanced-HF centres. (GPICS V3, 3.7)
High-risk / complex PCI, incl. CTO PCI	Material network dependency	BCIS: MDT review for complex/CTO cases; on-site surgery not mandatory, but agreed emergency surgical-support and transfer protocols required. (BCIS, PCI in the UK, 2025)

Service	Assessment	Clinical rationale — site-neutral
Advanced echocardiography (TOE)	Critical interdependency	GPICS V3: immediate TOE availability required in cardiothoracic ICUs, 24/7 access to a competent clinician (1.8). ACTACC: TEE is a workforce issue — operators, accreditation, case exposure, succession — not just equipment. CICM: also flags PACS image-storage (1.6) and a 60-min TTE target in suspected shock.
Cardiac CT	Critical interdependency	Central to TAVI planning (annular sizing, anatomy, access) and thoracic aortic/aortovascular assessment; any model must show adequate capacity and timely access. (BCIS TAVI Position Statement)
Adult Congenital Heart Disease	Recommended — Wales-specific	Cardiff is the Level 2 non-surgical ACHD centre in the South Wales and South West network; Bristol provides Level 1 surgical care. Any future model must preserve safe referral, MDT and emergency interfaces. Relocation of congenital cardiac surgery is not proposed through this review. (Network centre information; Section 9.1)
Advanced heart failure / MCS	Material network dependency	GPICS V3: 24/7 MDT access and early discussion with MCS-capable/advanced-HF centres; does not itself require MCS or transplant co-location at every site. (GPICS V3, 1.8/3.7)
Pulmonary hypertension & PTE	Relevant network dependency	Access to commissioned specialist PH pathways and PTE/BPA/transplant referral; no general requirement for co-location with cardiac surgery. (ESC/ERS PH Guidelines, 2022)
Surgical, medical & perfusion training (cardiothoracic surgical training)	Essential appraisal domain	HEIW-documented concerns on operative exposure, trainee progression, trainer capacity and recruitment; each future model must be assessed against these. (HEIW SBARs 2024–25; ECQC Report, Mar 2026). Extended through peer review to cardiothoracic anaesthesia, ICM/ACCP and perfusion training (ACTACC, CICM, SCPS).
Blood-product stock & supply-chain resilience	Essential appraisal domain	ACTACC (August 2026): concentrating high-risk activity concentrates blood-product demand — stock, storage and out-of-hours lab resilience must be assessed for any configuration. (ACTACC response, 2026)
Coagulation monitoring & patient blood management	Essential appraisal domain	ACTACC (August 2026): major omission — ACT/anticoagulation monitoring, viscoelastic testing, cell salvage, antifibrinolytic and major-haemorrhage protocols, 24/7 lab support. (ACTACC response, 2026)

Sources: GPICS V3; BCIS TAVI and Mitral TEER Position Statements 2025; 2025 ESC/EACTS Valvular Heart Disease Guidelines; NHS England ACHD standards; ESC/ERS PH Guidelines 2022; HEIW SBARs; ACTACC and CICM responses to the Clinical Case for Change, 2026. Site-neutral: applies regardless of which site(s) host services under any future model.

Note on ESC/EACTS valvular heart disease guidance

The Joint Committee presentation cited the 2021 ESC/EACTS wording; that remains part of the evidential history. The 2025 ESC/EACTS Guidelines supersede the 2021 edition. Table 5 confirms that a Heart Valve Centre performing procedures should have on-site interventional cardiology and cardiac surgery departments providing 24 h/7 day services, a core Heart Team, formal governance arrangements and outcome monitoring. These current requirements will inform the appraisal criteria. The clarification does not change this document's conclusion.

Cardiac surgery cannot be assessed in isolation. The review must distinguish services that need on-site co-location from those that formal, resilient clinical networks can deliver.

Supporting rationale

- **TAVI** depends materially on cardiac surgery, structural-heart imaging and specialist multidisciplinary decision-making.
- **Transcatheter mitral/tricuspid** services require specialist interventional and echocardiographic expertise, multidisciplinary decision-making, and access to surgical assessment and complication management. Surgical bailout is not required for every procedure.
- **Cardiogenic shock:** GPICS V3 requires early discussion of potentially reversible shock with MCS-capable shock centres or regional advanced-heart-failure centres. It recommends 24/7 access to cardiology, MCS, invasive monitoring and imaging, with defined referral and transfer pathways. Emergency surgical or catheter intervention should be considered for mechanical complications or acute valve pathology. Any Pan-London co-location or minimum-volume requirements are regional commissioning standards and will be verified before use. CICM confirmed that the GPICS V3 Chapter 3.7 standards are accurately represented.
- **Advanced echocardiography:** GPICS V3 requires immediate TOE availability in cardiothoracic ICUs and units providing extracorporeal support, with 24/7 access to a competent clinician. TOE is not required for every operation or every structural-heart MDT. ACTACC asked that advanced TOE be treated as a workforce and expertise issue: the same anaesthetists may cover theatres, emergencies, structural-heart work, critical care and TOE, so TOE capacity cannot be calculated apart from the anaesthetic establishment.
- **Adult congenital heart disease:** NHS England standards require each ACHD network to contain a Level 1 specialist surgical centre. For South Wales, that centre is Bristol; Cardiff is the Level 2 (non-surgical) centre (Section 9.1).
- **Pulmonary hypertension:** neither ESC/ERS guidance nor NHS England specifications require PH services to be co-located with adult cardiac surgery. Section 9.1 addresses current cross-border provision.
- **Coagulation and blood management** (ACTACC): ACT and anticoagulation monitoring; point-of-care and viscoelastic testing where indicated; platelet and fibrinogen assessment; cell salvage; antifibrinolytic protocols; anticoagulation reversal; major haemorrhage protocols; transfusion governance; 24/7 laboratory support; staff competence and quality assurance; and integration of results with transfusion algorithms.
- **Blood-product resilience** (ACTACC): for each configuration, expected red-cell, platelet, plasma and fibrinogen demand; emergency release; storage capacity; major haemorrhage response; out-of-hours laboratory staffing; stock control, expiry and wastage; supply-chain resilience; and contingency for surges and major incidents.

Scope for demand-and-capacity purposes

Adult cardiac surgery and TAVI are the core in-scope services. They need full quantitative assessment, including ten-year projections. That assessment must cover the surgical workforce, perfusion, anaesthesia, cardiothoracic critical care (including Level 2 and Level 3 bed-days), theatres, advanced echocardiography, cardiac CT and training. Transcatheter mitral and tricuspid intervention and cardiogenic-shock pathways, including temporary MCS, should be quantified where they draw on the same workforce, infrastructure and capacity.

Map complex PCI, including CTO PCI, ACHD, advanced heart failure and durable MCS, pulmonary hypertension and PTE, and the cross-border pathways in Section 9.1 as network dependencies. Quantification should reflect material shared-resource, referral, transfer and patient-flow requirements. Stage 1 must map existing dependencies on general intensive care, long-term ventilation and weaning, rehabilitation and follow-up, and on cardiac arrest, EP, inherited cardiac condition and DGH cardiology pathways where these interface with cardiac surgical services. Any later assessment of configuration-specific effects requires separate authority. This scope does not commission a standalone review of each service or assume co-location.

9.1 Highly Specialised Pathways Provided Through English Centres

[Level A: verified documentary evidence — NWJCC Annual Plan 2026–27; JCC Report Version 11; NWJCC commissioning arrangements]

The Joint Committee agreed that the review covers cross-border and highly specialised pathways provided through English centres. Established cross-border pathways include:

- Selected highly complex aortic procedures, including frozen elephant trunk surgery.
- Advanced cardiogenic shock support, including VA ECMO and temporary mechanical circulatory support.
- Adult respiratory ECMO.
- Specialist pulmonary hypertension care and pulmonary thromboendarterectomy.
- Bridge-to-heart transplant support for adults.
- Adult congenital cardiac surgery. Cardiff is the Level 2 non-surgical ACHD centre within the South Wales and South West congenital heart disease network; Bristol provides the Level 1 surgical service. The review will assess the interfaces and dependencies that any future South Wales model must preserve. Relocation of congenital cardiac surgery is not proposed through this review.

Patients are referred to established NHS England centres for these pathways. Their full scale, destinations and patient impact have not yet been mapped (JCC Report Version 11). Mapping volume, destinations, transfer requirements, outcomes and patient and family impact is an evidence requirement (Section 20.3).

Cross-border dependency is not, by itself, evidence of service failure. Subject to the ACHD scope described above, the review must test which pathways should safely and sustainably be provided in Wales and which should remain within formal supra-regional networks.

10. Population Need

[Level A: verified documentary evidence — NWJCC Population Needs Assessment; ONS Healthy Life Expectancy, UK: 2022 to 2024 (19 February 2026); ONS General Health, England and Wales: Census 2021 (19 January 2023)]

- The two South Wales units serve approximately 2.4 million people across South Wales, West Wales and South Powys.

- The NHS England specification, an external benchmark with no statutory application in Wales, describes a typical provider population of 1–3 million. This is context, not a configuration test.
- Cardiac surgery volume is projected to stay broadly stable or fall moderately as TAVI grows.
- TAVI demand is projected to keep rising.
- A potential shortfall has been identified between aortic stenosis prevalence and intervention rates.

These measures indicate greater population-health need in Wales than in England. Female healthy life expectancy at birth in Wales is 58.5 years, the lowest of the four UK nations, against 61.3 years in England (ONS, 2022–2024). At Census 2021, the age-standardised proportion of people in bad or very bad health was 6.7% in Wales (5.1% bad, 1.6% very bad) against 5.3% in England (4.1% and 1.2%).

[Level A: CICM response, 3 September 2026 (professional-society position)] CICM notes that South Wales has an ageing, multimorbid population, areas of deprivation and health inequality, and among the lowest staffed intensive care beds per head in the UK and Europe. Patients increasingly spend longer weaning from ventilation, with prolonged ICU stays.

[Level D: commissioner interpretation] Population profile is context for the options appraisal. The appraisal will weigh it alongside access, equality, workforce, critical-care capacity and capital.

11. Volume, Subspecialisation, and Outcomes

[Level A: verified documentary evidence — SCTS standards; SS205; NACSA 2024/25; GIRFT 2021; NHS England Cardiac Surgery Service Specification 2024 (external benchmark)]

Low volume does not automatically mean poor quality. SCTS stressed, and the commissioner agrees, that volume is not a surrogate for quality in isolation. The concern arises from several structural factors acting together:

- Case volume: both units are among the smallest NHS providers in England and Wales (Morriston 2nd and UHW 6th smallest of 31 in 2024/25) and among the lowest in specific high-complexity categories.
- Subspecialisation: low procedure volumes raise questions about sustainable specialist-team exposure. Assessing proficiency against applicable standards requires considering contemporary activity, case complexity, team designation, referral arrangements, and risk-adjusted outcomes. The evidence does not establish a single volume threshold that determines configuration.
- Workforce fragility: small rotas are vulnerable to individual retirements and departures.
- Training sustainability: HEIW has documented concerns about exposure, progression, trainer capacity and curriculum delivery. Current data and HEIW assurance will show whether current arrangements can mitigate them.
- Network configuration: a compliant formal aortovascular network or specialist referral arrangement has not yet been evidenced for either unit.
- Rota resilience: both providers attribute most cancellations to workforce or scheduling. Common definitions, denominators and patient-impact analysis are needed before comparison.

[Level D: commissioner interpretation] The distribution of activity and workforce across two units may constrain specialist-team development and resilience. The review must establish whether improvement within current arrangements, formal networks, shared teams or consolidation would best address these concerns. SCTS recognises networked models. ACTACC emphasises the importance of procedure, operator and team experience, multidisciplinary

support and outcomes. Activity should therefore be attributed to specialist teams and operators where possible, not only to hospitals.

Activity note

The NACSA 2025 Second Edition appendix records 531 submitted procedures at UHW and 419 at Morriston in 2024/25, against an all-hospital average of 732 (NHS-provider average 863). These are submitted audit records, not the provider-reconciled Stage 1 baseline. Stage 1 evidence, any authorised Stage 2 modelling and the options appraisal will test whether demand and deliverable capacity could support contemporary standards under current, networked or consolidated arrangements.

12. National Precedent and International Evidence

NHS England — North East London (2014)

NHS England consolidated cardiac surgery from three sites into a single integrated cardiovascular centre at St Bartholomew's Hospital. Some concerns in its case for change resemble those raised here; differences in population, geography, and network structure must be assessed before relying on it. A formal equality impact assessment addressed travel, ethnicity and population profile.

NHS England — Children's Cardiac Surgery Safe and Sustainable Review (2009–2016)

Safe and Sustainable is the main procedural precedent. Its lessons for Wales: engage the relevant professional bodies and transparently address their qualifications; complete an independent peer review before consultation; and make the consultation complete and fair enough to withstand legal challenge. The review faced judicial review partly on process grounds. Those lessons shape this document.

[Level A] Five professional bodies have now peer-reviewed this document. Four explicitly support the formal review threshold; SCTS supports further assurance work. Appendix B records every qualification raised.

NHS England — Essex Cardiothoracic Centre, Basildon (hub-and-spoke comparator)

[Level A: published NHS evidence — Mid and South Essex NHS Foundation Trust, Essex Cardiothoracic Centre service information and 15-year anniversary report, 2022]

The Essex Cardiothoracic Centre at Basildon Hospital opened in 2007. The Trust describes a specialist heart and lung centre with cardiac surgery, cardiology, operating theatres and catheter laboratories. It is a relevant comparator for how specialist cardiovascular care is organised, not evidence that South Wales should adopt the same configuration.

[Level D: commissioner interpretation] Comparator work should examine how a specialist centre operates with local cardiology services, including referral, diagnostics, follow-up, workforce and governance. Detailed operational arrangements and current activity must be confirmed with the centre before they inform options appraisal. No conclusion here depends on an unverified population or annual-activity estimate.

[Level D: commissioner interpretation] Both precedents above involve concentration of activity. Comparator work must also identify UK examples of formal multi-site or networked cardiac surgical services, so that each model family is tested against relevant evidence (Section 20.2).

International evidence

BCIS recommended considering ESC and EACTS guidelines when undertaking the review. ACTACC and CICM identified the relevant UK standards (RCoA GPAS Chapter 18, GPICS V3, BSE guidance). All are now in the evidence base (Section 20.1) and will inform the appraisal criteria. No society identified international evidence that it considered materially alters this document's conclusion.

13. Three Strategic Models for Later Assessment — Not Developed or Scored

These three model families describe credible strategic approaches for later assessment. They are not developed, approved or scored options. Cross-border support and pathway networks may form part of each. Configuration-specific modelling requires a separate scope and authority after the programme returns to the Joint Committee at the evidence-readiness gate.

Model 1: Continue the Current Two-Centre Arrangements	Model 2: Two-Centre Hybrid or Integrated Network	Model 3: Single Consolidated Cardiac Surgical Service
Preserves local access; must demonstrate standards can be met without unverified assumptions.	Retains roles at both sites; must demonstrate genuine integration, not the status quo relabelled.	Concentrates activity in one service; benefit must be demonstrated against transition risk and travel burden.

Model 1: Continue the Current Two-Centre Arrangements

Cardiac surgery continues at CVUHB and SBUHB under the present configuration, with local improvement and investment but no material redistribution of services.

What it could offer: local access to surgery at both sites; existing clinical relationships; possible resilience through geographic separation; less transitional disruption and capital cost.

Limits and tests: the appraisal must establish whether improvement and investment can meet contemporary standards at both sites, including specialist-team capability, multidisciplinary rota resilience, training, data quality, waiting times and pathway integration. It must test affordability and sustained delivery without dependence on temporary measures. ACTACC requires each site to demonstrate specialist anaesthetic, critical-care, TOE, perfusion and surgical capacity, emergency cover and succession. The model must also support future service development and meet Welsh quality and sustainability duties.

Model 2: Two-Centre Hybrid or Integrated Network

Both sites keep defined roles within one clinically governed South Wales service. Variants include shared delivery, designated centres for specific complex procedures, or hub-and-spoke with local diagnostic, pre-operative, post-operative and selected procedural activity.

What it could offer: concentration of selected high-complexity work with defined local activity at both sites; use of existing infrastructure; greater subspecialisation, common governance and shared standards with less change to access than full consolidation; flexibility to develop regional networks. ACTACC considers an integrated network worthy of detailed appraisal; SCTS recognises that networks can meet specialist standards.

Limits and tests: define the allocation of activity, governance, pooled referrals and waiting lists, emergency transfer arrangements and workforce responsibilities. Test whether activity and specialist expertise can be concentrated sufficiently to deliver the proposed benefits. Cross-site anaesthetic, critical-care, TOE, perfusion and surgical dependencies must be resourced and sustainable in routine and emergency care. The model must represent operational integration, with clear accountability, rather than a change in name alone. Assess its ability to support training, future services and Welsh quality and sustainability duties.

Model 3: Single Consolidated Cardiac Surgical Service

Adult cardiac surgery and its core specialist services come together in one South Wales centre and one accountable clinical service. The location remains site-neutral and would be set through a later appraisal against agreed clinical, operational, workforce, financial, estate and strategic criteria. Referral, diagnostics, rehabilitation and follow-up would remain local where clinically appropriate.

What it could offer: one accountable service with concentrated activity and workforce; deeper subspecialist teams; common referral and waiting lists; integrated data and governance; concentrated training, research and innovation; theatres, perfusion, critical care and imaging planned as one cardiovascular service.

Limits and tests: establish whether one site can provide sufficient estate, theatre, critical-care, imaging, blood-product and laboratory capacity, and recruit and retain the full multidisciplinary workforce. Assess general ICU and long-term ventilation and weaning requirements, transition safety, capital and revenue costs, stranded costs, patient travel, equality and emergency access. Test resilience to workforce absence, ICU pressure, major incidents and single-site failure. Benefits from concentration must be demonstrated against these risks. The model must preserve equitable networked access and meet Welsh quality and sustainability duties.

Commissioner statement on model neutrality

No configuration or host site has been selected, preferred or excluded. Each credible model will be assessed against the same evidence-derived criteria and weights, agreed and independently reviewed before appraisal. Stage 1 establishes the baseline under current arrangements. Configuration-specific modelling requires separate authority after return to the Joint Committee at the evidence-readiness gate. Options appraisal precedes consultation, and consultation precedes any final configuration decision. These safeguards prevent criteria being designed around a preferred option.

14. Service Model Appraisal Criteria

The purpose of any change is to improve patient outcomes and equitable access. Any proposed model must also provide value-based healthcare within a financially sustainable and deliverable multidisciplinary workforce model, including training, recruitment and retention. The criteria below are proposed, not agreed or weighted. Final criteria and weights will follow the completed evidence, stakeholder input and independent review before options appraisal begins.

The appraisal must assess the complete multidisciplinary cardiac service. It must test the dependencies identified in Section 9, including the effects on general intensive care, transfer, rehabilitation, cross-border services and local cardiology. Each model must demonstrate how these services would operate safely and sustainably, rather than assume that all require co-location.

Criteria are confined to the scope agreed by the Joint Committee: adult cardiac surgery and TAVI, the twelve dependencies in Section 9 and the pathways in Section 9.1. Criteria relating to wider cardiovascular services — interventional cardiology, electrophysiology and devices, cardiac arrest, district general hospital cardiology and inherited cardiac conditions — assess only their interface with cardiac surgical services, insofar as it affects the safety, sustainability and deliverability of those services. Configuration of those services in their own right is outside the scope of this review. The Cardiac Devices and Interventional Cardiology Services Review is taking forward device and interventional commissioning.

The proposed criteria are:

- **Compliance with Welsh commissioning requirements:** compliance with the contractual requirements of the NWJCC Cardiac Surgery Service Specification SS205, including designated specialist teams, data submission obligations, participation in networked models of care, perfusion requirements and delivery of commissioned activity.
- **Compliance with UK professional standards and external benchmarks:** compliance with SCTS standards (current published versions), including requirements for governance, outcomes, specialist surgical teams, multidisciplinary working, audit, data submission and networked service delivery; with the NHS England Cardiac Surgery Service Specification used as an external benchmark only, as it has no statutory application in Wales; and with relevant ESC/EACTS guidance, including the 2025 Valvular Heart Disease Guidelines.
- **Specialist cardiac surgical capability:** ability to provide sufficient surgical volume, consultant expertise, team resilience and governance for all relevant procedure groups, including aortovascular surgery, mitral surgery, complex valve surgery, coronary surgery, re-operative surgery and other high-complexity procedures — evidenced by formal designation, contemporary case volume and complexity, MDT governance, outcomes and resilient out-of-hours cover.
- **Aortovascular service resilience:** ability to meet recognised standards for acute and elective aortic care, including named specialist surgical capability, formal network arrangements, access to hybrid theatre or equivalent pathways, specialist anaesthetic and TOE support, intensive care support, perfusion support, blood management, imaging, interventional radiology and emergency transfer protocols.
- **Cardiothoracic anaesthesia and perioperative medicine:** ability to deliver the full cardiothoracic anaesthetic pathway — pre-operative assessment and optimisation; elective, complex and emergency cardiac anaesthesia; advanced TOE; structural-heart and transcatheter procedures; cardiogenic shock and MCS; major haemorrhage and coagulation management; emergency re-exploration; transfer; and multidisciplinary perioperative decision-making — against RCoA GPAS Chapter 18 and ACTACC standards.
- **Advanced TOE workforce:** number of clinicians competent in advanced TOE, accreditation and competency arrangements, annual case exposure, emergency and out-of-hours provision, training, succession, requirements for valve, aortic and structural-heart work, critical-care TOE capability, and governance.
- **Cardiothoracic intensive care and general ICU compliance:** compliance with GPICS V3, including general intensive care standards, cardiothoracic intensive care standards, emergency resternotomy capability, consultant intensivist staffing (GPICS V3 Chapter 2.1) and the contribution of non-consultant medical staff and ACCPs (Chapters 2.2–2.4), nursing and allied health professional requirements, ultrasound image storage (Chapter

1.6, Standard 11), discharge timing (Chapter 3.2), rehabilitation, governance, escalation, surge capacity and sustainability; and the impact on staffed general ICU capacity, Level 2 and Level 3 bed-days, and long-term ventilation and weaning services.

- **Cardiogenic shock and cardiovascular support:** ability to deliver or formally network cardiogenic shock care, including timely echocardiography (TTE within 60 minutes where shock is suspected, per BSE PUE006), invasive monitoring, vasoactive support, mechanical circulatory support where appropriate, emergency revascularisation pathways, cardiothoracic surgical input, intensive care capacity, transfer arrangements and links to supra-regional services where required.
- **Critical care transfer safety:** ability to provide safe transfer pathways for critically ill cardiac patients, including post-operative cardiac surgical patients, cardiogenic shock and MCS patients, cardiac arrest survivors and patients requiring escalation to supra-regional services. Models requiring inter-site transfer must demonstrate compliance with recognised critical care transfer standards (GPICS V3 Chapter 3.14), including staffing, retrieval capability, equipment, transfer governance and receiving-centre capacity, and must take account of the existing Welsh transfer infrastructure — the Adult Critical Care Transfer Service (ACCTS) and the Emergency Medical Retrieval and Transfer Service (EMRTS).
- **Coagulation monitoring, patient blood management and blood-stock resilience:** ability to deliver 24/7 anticoagulation and coagulation monitoring, viscoelastic testing where indicated, cell salvage, antifibrinolytic and major-haemorrhage protocols and transfusion governance, and to sustain blood-product stock, storage, out-of-hours laboratory staffing and supply-chain resilience under the concentrated demand of the model.
- **Clinical perfusion workforce and safety standards:** ability to provide a resilient, accredited clinical perfusion service, compliant with current published SCPS/CCPS standards, recognised monitoring and safety standards for cardiopulmonary bypass and ECMO, and the perfusion requirements of the NWJCC service specification. This should include 24/7 rota resilience, training capacity, accreditation, continuing professional development, competency maintenance, succession planning, emergency re-sternotomy support, and the ability to support complex cardiac surgery and extracorporeal and mechanical circulatory support. Individual registration, departmental accreditation, training-centre status and service resilience will be assessed as distinct forms of assurance (SCPS).
- **Perfusion training, recruitment, and retention:** ability to support sustainable perfusion training and workforce development, including access to accredited training pathways, adequate case exposure, supervision, pay, and workforce structures, recruitment history, retention, vacancy profile, and future age/retirement risk.
- **Interventional cardiology interface and BCIS alignment:** ability to provide the surgical support, heart team review, emergency surgical-support and transfer protocols on which complex and high-risk PCI depend, consistent with BCIS standards, data submission and governance.
- **Structural heart service capability:** ability to support TAVI and other structural heart interventions, including mitral and tricuspid transcatheter therapies where relevant, with appropriate MDT decision-making, imaging, anaesthetic support, interventional expertise, surgical backup, intensive care access, governance and registry submission.
- **Electrophysiology and device interface:** assessed only where electrophysiology, device or lead-extraction activity shares cardiac surgical support, workforce, theatre or cath lab capacity with the services in scope. Wider electrophysiology and device configuration is outside scope.
- **Advanced cardiac imaging:** ability to provide timely access to advanced echocardiography, cardiac CT, cardiac MRI, structural heart imaging, peri-operative

imaging and imaging support for MDT decision-making, procedural planning and networked care.

- **Integration with clinically dependent services:** ability to maintain the heart team, MDT and pathway links between cardiac surgery and the dependencies in Section 9, including structural heart, advanced heart failure, ACHD and pulmonary hypertension interfaces, cardiogenic shock and rehabilitation.
- **Cross-border and supra-regional pathways:** assess safe, sustainable provision, referral, transfer, repatriation, governance, outcomes and patient impact for the pathways in Section 9.1. Respect the defined ACHD scope: assess dependencies on the commissioned congenital network without proposing relocation of congenital cardiac surgery.
- **ACHD and supra-regional dependencies:** ability to define safe pathways for adult congenital heart disease, including which activity is delivered locally, which requires formal network links, and how surgical, interventional, imaging, anaesthetic, intensive care and transfer dependencies are managed.
- **Pulmonary hypertension and advanced heart failure interfaces:** ability to support clear pathways for pulmonary hypertension, advanced heart failure, mechanical circulatory support assessment, transplantation referral where relevant, and links with supra-regional specialist centres.
- **Cardiac arrest pathway interface:** ability to receive and support cardiac arrest survivors who need cardiac surgical, MCS or cardiothoracic intensive care input, and the effect of any model on existing regional arrest pathways. Configuration of the out-of-hospital cardiac arrest pathway itself is outside scope.
- **Workforce resilience:** sufficient consultant surgeons, cardiologists, anaesthetists, intensivists, perfusionists, nurses, ODPs, cardiac physiologists, radiographers, advanced practitioners, transfusion and laboratory staff, data staff and support teams to deliver safe elective, urgent and emergency care across seven-day and out-of-hours requirements, demonstrated through multidisciplinary workforce modelling before any configuration is selected.
- **Training programme viability:** ability to support JCIE curriculum requirements, HEIW education standards, surgical training exposure, trainer engagement, perfusion training, cardiology training, ICM training (including the College Tutor and Training Capacity Assessment requirements of GPICS V3), ACCP training, cardiothoracic anaesthetic training against the RCoA curriculum, multidisciplinary education and future workforce succession.
- **Research, innovation and academic sustainability:** ability to support research, innovation, commercial trials, academic appointments, trainee academic development, data-driven service improvement and participation in national and international cardiovascular research.
- **Data quality, audit and registry compliance:** ability to meet national and contractual data submission requirements, including SCTS/NICOR, BCIS, TAVI registry, local operational dashboards, mortality and morbidity review, outcome reporting, GIRFT requirements and transparent governance of data quality.
- **Governance and clinical accountability:** ability to support clear clinical governance, network governance, MDT terms of reference, incident review, mortality review, audit, peer review, clinical leadership, escalation processes and commissioner assurance.
- **District general hospital interface:** the effect of any model on referral, diagnostics, pre-operative work-up, follow-up and rehabilitation delivered through district general hospital cardiology. Configuration of district general hospital cardiology in its own right is outside scope.

- **Equitable patient access:** equitable access assessed by travel time analysis across South Wales, West Wales and South Powys, including emergency access, elective access, outpatient access, follow-up burden, deprivation, rurality, public transport, ambulance pathways and impact on families and carers.
- **Equality and health impact:** assessment of impact for patients with protected characteristics and for populations at risk of poorer cardiovascular outcomes, including deprivation, older age, frailty, disability, ethnicity, rurality and Welsh language needs where applicable.
- **Financial sustainability:** deliverability within NHS Wales capital and revenue constraints, including estates, theatre capacity, cath lab capacity, ICU capacity, workforce costs, transfer costs, duplicated infrastructure, stranded costs and opportunity costs.
- **Deliverability and transition risk:** ability to implement the model safely within a realistic timescale, including interim risk management, workforce transition, estates readiness, capital requirements, clinical engagement, public engagement, consultation requirements and continuity of service during transition.
- **Consistency with Welsh statutory duties and policy:** compliance with the Well-being of Future Generations (Wales) Act 2015, the Duty of Quality under the Health and Social Care (Quality and Engagement) (Wales) Act 2020, the principles of A Healthier Wales, the National Clinical Framework for Wales, the National Clinical Plan, and the requirement to commission sustainable, equitable, population-based services.

15. Evidence Position and Outstanding Assurance

Evidence has advanced through provider returns, HEIW and JCST material, NICOR 2024/25 data, provider self-assessments against SS205, and five professional-society responses. These close several factual gaps and record improvement. They also leave material limitations. The provider returns differ in scope and cannot be compared directly without reconciliation. Absence or incompleteness is not evidence for or against a provider or model.

Options appraisal will not begin until independent demand-and-capacity modelling, CRG scrutiny and local and external clinical assurance are complete and incorporated, and evidence-derived appraisal criteria have been agreed and independently reviewed (Appendix A).

Provider workforce and training evidence

- **Consultant cardiac surgical workforce data** — Cardiff has supplied a directorate-level age profile and confirmed five current cardiac surgeons with a sixth recruited subject to checks; the dataset does not distinguish cardiac from thoracic staff or include retirement intentions. Swansea reports six cardiac surgeons and two anticipated retirements within ten years, but has not supplied the requested age profile or five- and ten-year split. Numbers of SAS doctors and NTN trainees/registrars, absolute and relative to consultant numbers, are also required (SCTS). Comparable evidence and independent reconciliation remain part of the assurance process.
- **Anaesthetic and cardiothoracic intensive care workforce data** — consultant cardiothoracic anaesthetist and consultant intensivist establishment (recognising that consultants in ICM are a distinct workforce and job-planning category from cardiothoracic anaesthetists; GPICS V3 Chapter 2.1), rota model and skill mix including non-consultant medical staff and ACCPs (Chapters 2.2–2.4), cardiothoracic ICU cover arrangements, vacancies and temporary staffing, age profile and anticipated retirements, recruitment and retention, and five- and ten-year projections. This evidence is necessary before compliance with GPICS V3 can be properly assessed for either provider or any future model (CICM; ACTACC).

- **Advanced TOE workforce** — clinicians competent in advanced TOE, accreditation, annual case exposure, out-of-hours provision, training and succession (ACTACC).
- **Clinical perfusion workforce data** — Cardiff has supplied establishment, vacancy, age profile, training status and accreditation evidence, supported by the 2024 College review and July 2026 action plan. Swansea reports no current vacancies, no trainees, two potential retirements within five years and 300–400 open-heart procedures annually, but has not supplied the 2016 College report, contemporary accreditation confirmation, detailed age profile or supervision model. Comparable evidence and professional-society assurance remain required across the programme.
- **Surgical training evidence** — HEIW has supplied programme-level evidence and the June 2026 Cardiff visit outcome. JCST material records programme-level concerns, but its survey results are limited by small or absent response numbers and cannot be attributed to an individual site. The 2025 regional report describes good and engaged trainers at Swansea; Swansea reports that its earlier 'at risk' position changed to 'no concern', although formal HEIW confirmation was not supplied. Cardiff shows improvement in culture, engagement and educational processes, but remains in enhanced monitoring with open requirements. Operative-exposure and action-delivery evidence will be followed through the HEIW and provider assurance processes. Details of educational and training programmes — structure, opportunities, trainee numbers, supervision, simulation/wet-lab training and assessment — are required from both units (SCTS).
- **Anaesthetic, ICM and ACCP training evidence** — trainee numbers, trainers, curriculum access, case mix and supervision for cardiothoracic anaesthesia; ICM residents and portfolio-pathway trainees; ACCP training; College Tutor and Training Capacity Assessment status (ACTACC; CICM).
- **Perfusion training and accreditation evidence** — Cardiff reports accreditation through March 2029. The 2024 College review found that annual pump-case exposure did not support student training and the July 2026 action plan confirms that training remains paused. Future training capacity, supervision, succession, pay and retention will be tested through provider and SCPS/CCPS assurance, distinguishing individual registration, departmental accreditation, training-centre status and service resilience.

Activity, outcomes and data quality

- **Current NICOR/NACSA data** — Cardiff has supplied field-completeness reports for 2023/24, 2024/25 and 2025/26 and reports 97% submission of 2025/26 NACSA data following recruitment to its data manager/analyst post. Swansea reports that its latest upload contains data to 31 March 2026, that April–June 2026 is planned for upload in September, and that later completion has no reliable timeframe because validation depends on two staff with competing theatre commitments. Swansea did not supply the requested contemporary dataset or completeness and outcome outputs. Neither return provides complete, current, and comparable case ascertainment, timeliness, coding accuracy, or risk-adjusted performance. This is a data-governance and assurance gap, not evidence of adverse clinical outcomes.
- **Contemporary audited, risk-adjusted outcomes** — for both units: operative mortality; stroke; renal failure; prolonged ventilation; major bleeding; return to theatre; ICU and hospital length of stay; readmission; mitral repair rates; outcomes following complex aortic surgery; and emergency versus elective outcomes (SCTS; ACTACC).
- **Contemporary activity by procedure and complexity** — CABG; aortic valve; mitral repair and replacement; other valve; combined procedures; complex aortic surgery and acute aortic syndromes; redo sternotomy; emergency surgery; complex and high-risk cases; minimally invasive procedures; and cases requiring cardiogenic-shock or MCS pathways — attributed where possible to designated specialist teams and operators (ACTACC; SCTS).

- **SCTS National Benchmarking Dashboard submissions** — Swansea states that its dashboard is populated by NICOR data, but this does not confirm that the dashboard is current or provide comparative outputs. Therefore, the current submission status, available outputs, and any remaining technical or governance barriers require confirmation and assurance for both units. Technical support from Dendrite has been identified and should be used where relevant.
- **BCIS and interventional cardiology data** — PCI activity, complex PCI activity, acute coronary syndrome pathways, cath lab access, out-of-hours arrangements, BCIS data submission, TAVI activity, structural heart activity, outcomes and governance.
- **Structural heart data** — TAVI, mitral, tricuspid and other structural heart activity, referral pathways, MDT arrangements, imaging support, surgical backup arrangements, anaesthetic support, ICU access and registry submission.
- **Theatre utilisation and cancellation data** — both Health Boards have supplied cancellation figures, but the categories, periods and supporting detail are not yet equivalent. Before comparison, we need common definitions; the number of surgical cases performed relative to available theatre sessions; the number and proportion of cancelled or unused sessions; case mix; patient impact; and reconciliation of surgeon, anaesthetic, perfusion, ICU, bed, emergency, and patient factors.
- **Critical care activity and capacity data** — cardiothoracic ICU bed base, occupancy and Level 2/Level 3 bed-days, delayed discharges, out-of-hours discharges (GPICS V3 Chapter 3.2), emergency re-sternotomy capability, post-operative cardiac surgical activity, cardiogenic shock activity, cardiac arrest admissions, out-of-hours cover, transfer activity, flow into general intensive care and long-term ventilation and weaning services, ultrasound image-storage (PACS) capability, and compliance with relevant GPICS standards.
- **Waiting-time data** — complete and comparable waiting-time data for both units; Morriston's current elective waiting-time data completeness (52%) does not yet support reliable comparison.

Service model, interdependencies and network evidence

- **Provider self-assessment returns against SS205** — both units have completed the same 123-standard framework. The returns differ materially (Section 6.7) and require independent reconciliation, including surgical capability, data submission, workforce, perfusion, ICU, governance, network participation and compliance with commissioned standards.
- **MDT structure, activity and compliance** (SCTS) — number and proportion of patients discussed at MDT before intervention, by elective and non-elective status and by procedure/pathology; details of MDTs operating in each unit (aortic, mitral/valve, high-risk, interventional/TAVI, adult congenital and other specialist MDTs), with frequency, attendance, clinical leadership and numbers discussed.
- **Governance documentation** (SCTS) — terms of reference for all current MDTs; minutes and action logs from recent M&M meetings; current referral pathways and pooling processes between the two units, particularly for non-elective and high-risk patients.
- **Assessment against SCTS standards and external benchmarks** — to provide a UK benchmark for cardiac surgery, specialist teams, governance, outcomes and service resilience, verified against current published SCTS standards; with the NHS England specification used as an external benchmark only.
- **Assessment against GPICS V3 and CICM/ICS/ACTACC standards, and RCoA GPAS Chapter 18** — to test whether each potential model can meet general and cardiothoracic intensive care standards, anaesthetic service standards, emergency re-sternotomy requirements, cardiogenic shock requirements and transfer standards.

- **Clinical perfusion standards evidence** — current published SCPS/CCPS standards, including the SCPS Standards of Practice, monitoring and safety recommendations, relevant joint professional standards, and CCPS requirements for registration, departmental accreditation, education and training.
- **BCIS and interventional cardiology standards evidence** — relevant BCIS documents relating to PCI, complex PCI, TAVI, structural heart intervention, registry participation, governance and the requirement for appropriate surgical, anaesthetic, imaging and intensive care support; and relevant ESC/EACTS guidance.
- **Coagulation, patient blood management and blood-stock resilience evidence** — for each unit and, later, each configuration (ACTACC; Section 9).
- **Clinically dependent service mapping** — mapping of cardiac surgery interdependencies with TAVI, structural heart intervention, complex PCI, EP/ablation, advanced imaging, cardiogenic shock, cardiac arrest, ACHD pathways, pulmonary hypertension, advanced heart failure, inherited cardiac conditions and district general hospital cardiology services; for electrophysiology, cardiac arrest, inherited cardiac conditions and district general hospital cardiology, mapping is limited to their interface with cardiac surgical services.
- **Cross-border pathway mapping** — scale, destinations, transfer arrangements, outcomes and patient impact of the highly specialised pathways provided through English centres (Section 9.1).
- **Hub-and-spoke comparator evidence** — evidence from relevant UK models, including Essex Cardiothoracic Centre and formal multi-site networks, to understand how specialist cardiac surgery can operate alongside meaningful district general hospital cardiology roles, shared workforce, satellite clinics, cath lab activity and networked governance.

Demand, capacity, access and population impact

- **Stage 1 demand and capacity analysis** — authorised by the Joint Committee as external and configuration-neutral, including ten-year projections, to establish the primary quantitative baseline for the review. It should assess current and future population need; referrals, activity, waiting lists and unmet or deferred demand; available capacity; workforce; theatres; perfusion; anaesthesia; catheter laboratories; advanced imaging; cardiothoracic critical care; inpatient and postoperative flow; backlog; and the current and forecast capacity gap under existing arrangements. It should quantify material interdependencies but must not design, appraise or recommend a future configuration.
- **Phase 2 configuration modelling** — after the Clinical Case for Change and Stage 1 independent demand-and-capacity modelling have been assured, further modelling may be required to test each credible future service configuration, potentially with health-economic input. Any Phase 2 work would require a separate scope, procurement route, cost and authority, and the programme will return to the Joint Committee at the evidence-readiness gate before it begins. Modellers will test transparent assumptions. They will not recommend a configuration.
- **Travel time and access analysis** — assessment across South Wales, West Wales and South Powys, including emergency pathways, elective pathways, outpatient attendance, follow-up burden, deprivation, rurality, ambulance transfer, public transport and family impact.
- **Emergency and critical-care transfer modelling** — for post-operative cardiac surgical patients, cardiogenic shock and MCS patients and patients requiring urgent specialist intervention, including staffing, retrieval capability, equipment, governance and receiving-centre capacity, drawing on ACCTS and EMRTS.

- **Equality and health impact evidence** — assessment of impact for patients with protected characteristics and populations at higher risk of poorer cardiovascular outcomes, including deprivation, older age, disability, rurality and ethnicity.
- **Financial, estates and deliverability evidence** — capital requirements, revenue impact, estates constraints, theatre capacity, ICU capacity, cath lab capacity, workforce cost, transfer cost, implementation timescale, transition risk and stranded-cost implications.

Evidence-handling principle

Log each source, date and evidential status, distinguishing verified findings, provider reports, unresolved questions and commissioner interpretation. Missing evidence is not proof of poor performance. Persistent inability to provide required contractual, workforce, training or outcome evidence is itself an assurance issue for the Project Board. Apply the same standards to both centres. The greater detail available for Cardiff must not be used to infer poorer relative performance before comparable evidence is reconciled.

15.1 Readiness for options appraisal

This pre-circulation draft does not trigger options appraisal or public consultation. The agreed sequence is to finalise the Clinical Case for Change and complete residual standards verification; complete independent Stage 1 modelling; obtain CRG scrutiny and local and external clinical assurance; incorporate the findings; agree and independently review evidence-derived appraisal criteria; and return to the Joint Committee at the evidence-readiness gate. All five professional-society responses have been received, but that does not close their outstanding verification actions. Configuration-specific modelling and options appraisal follow the gate. Public consultation follows appraisal and precedes any final configuration decision (Appendix A).

16. What Is Known, What Is Suspected, and What Remains Uncertain

Status	Finding
Level A — known	Both units entered GIRFT escalation in June 2021. Cardiff and Vale remains at Level 2 from May 2026. Swansea Bay exited GIRFT escalation in May 2024 and is not currently in GIRFT escalation; its waiting list is managed through the Risk and Assurance process.
Level A — known	Both units were assessed as non-compliant with SCTS aortovascular specialisation standards at the time of the GIRFT review.
Level A — known	Swansea Bay UHB mitral valve repair rate was below the 80% target at the time of the GIRFT review.
Level A — known	In 2024/25, Morriston was the 2nd smallest and UHW the 6th smallest of 31 NHS cardiac surgery providers in England and Wales; both remained below their own pre-pandemic activity (~73% and ~82%) and the 93% national recovery average.
Level A — known	Cardiothoracic surgery has the longest reported median wait of any specialty in Wales; day-of-surgery admission is well below the 50% target at both centres.

Status	Finding
Level A — known	HEIW reports limited progression from a small cohort of programme completers into substantive cardiac surgical consultant posts in Wales, alongside attrition before completion. Individual career destinations are not reproduced because the numbers are small and potentially identifiable.
Level A — known	HEIW has documented programme-level cardiothoracic training concerns. Swansea increased trainer capacity. Cardiff's June 2026 visit records material improvement in engagement and trainee experience, but the placement remains in enhanced monitoring with open requirements relating to trainer capacity, rota, curricular access, polytrauma cover and support for the planned sixth consultant.
Level A — known	All five professional bodies consulted support proceeding with further review or assurance; four (ACTACC, BCIS, CICM, SCPS) explicitly support the formal review threshold; SCTS concludes the evidence supports further assurance work but does not yet demonstrate that reconfiguration is required. All confirm their standards are broadly or accurately represented.
Level A — known	Selected highly specialised cardiovascular pathways are currently provided through English centres; their full scale, destinations and patient impact have not yet been mapped.
Level A — provider-reported evidence; comparative assurance incomplete	Cardiff reported 344 cancelled theatre sessions from April 2025 to March 2026 and a further 96 from April to June 2026. Swansea reported 70 cancellations from April 2025 to July 2026, including 29 attributed to anaesthetist/ODP staffing and 30 to scheduling/no surgeon. Common denominators, definitions and patient-impact analysis were not supplied, so the figures are not directly comparable.
Level A — provider-reported evidence; independent reconciliation required	Cardiff self-reports a gap on 22 of 123 SS205 standards; Swansea reports 19 of those 22 as fully achieved. Only an all-Wales acute aortic rota is a mutually acknowledged gap.
Level A — known	Current SCTS dashboard assurance remains incomplete. Cardiff's May 2026 position and Swansea's later statement that the dashboard draws on NICOR data require a dated update and independent confirmation for both units.
Level D — interpretation	The distribution of activity and workforce across two units may affect subspecialisation, rota resilience, training and pathway delivery. The extent of any effect, and whether it is remediable within the current arrangements, requires current evidence and formal appraisal.
Level D — interpretation	The training sustainability concern requires active intervention. Whether it can be resolved within the current arrangements, through an integrated network, or through consolidation has not yet been established.
Level D — interpretation	Published 2024/25 NACSA activity totals 950 submitted procedures across both units. How that activity, underlying demand and deliverable capacity would perform under each credible configuration requires independent validation and appraisal.

Status	Finding
Level A — programme evidence and provider returns	HEIW records 13 of 19 consultant cardiothoracic surgeons in Wales aged over 55. Cardiff lists nine cardiothoracic surgeons, six over 55, but does not distinguish cardiac from thoracic practice or provide retirement intentions; five current cardiac surgeons and recruitment of a sixth are reported. Swansea reports six cardiac surgeons and two anticipated retirements within ten years, but no detailed age profile or five- and ten-year split.
Level A — provider-reported perfusion evidence; external assurance incomplete	Swansea reports no current perfusion vacancies, no trainees, two potential retirements within five years and 300–400 open-heart procedures annually. The latest reported College visit was in 2016; the report and contemporary accreditation confirmation were not supplied.
Level A — provider evidence; wider assurance incomplete	Cardiff supplied NICOR field-completeness reports for 2023/24–2025/26 and reports 97% submission of 2025/26 NACSA data. Swansea reports NICOR data uploaded to 31 March 2026, with later submission constrained by dependence on two staff and no reliable timeframe for completing subsequent records. Neither return provides complete, current and comparable outcome assurance.
Level A — provider mitigations reported; independent closure unassured	Cardiff reports active mitigations through its Level 2 action plan, including recruitment, data, leadership, waiting-list and flow actions. Plans and partial progress are recognised but are not treated as independent assurance that the underlying GIRFT and current concerns have closed.
Level C — uncertain; evidence outstanding	Anaesthetic, intensive care, advanced TOE, coagulation and blood-management capability and workforce at both units have not yet been assessed to the same depth as surgical evidence.
Level C — uncertain; model dependent	Travel and access implications for different patient populations under each future model.
Level C — uncertain; analysis required	Capital feasibility and affordability of future model options.
Level C — uncertain; appraisal required	Whether a single-site model is the only viable configuration or whether other models could adequately address the concerns identified.

17. Why Review Now?

GIRFT escalation and the commissioner's continuing obligation

[Level A: verified documentary evidence]

Both units entered escalation after GIRFT in June 2021. Swansea Bay exited GIRFT escalation in May 2024 and is not currently in GIRFT escalation; its waiting list is managed through the Risk and Assurance process. Cardiff and Vale remains at Level 2. These distinct positions do not remove the need to review the overall service's quality and sustainability.

Training sustainability

[Level A: verified documentary evidence; Level D: commissioner interpretation]

HEIW's evidence verifies a weak recent pathway from Welsh cardiothoracic training into Welsh consultant posts, with limited progression from a small cohort of completers and some attrition

before completion. This is a retention and succession concern. It is not evidence that Wales produced no trained cardiothoracic surgeons.

HEIW has documented insufficient operative exposure contributing to two developmental ARCP outcomes, no ST1 recruitment for August 2025 or August 2026, and constrained trainer capacity. It has also recorded improvement: Swansea increased trainer capacity, and Cardiff's June 2026 review found better engagement, processes and trainee experience. Cardiff remains in enhanced monitoring with material requirements open. The evidence establishes a programme-level concern, not a uniform position at both sites.

The commissioner does not assert that accreditation has been lost. HEIW monitoring, provider action plans, contemporary exposure data and the evidence gates will manage the remaining uncertainty.

Workforce demographics

[Level A: verified aggregate HEIW evidence and provider returns; Level C: remaining provider-level uncertainty]

Thirteen of 19 consultant cardiothoracic surgeons in Wales are over 55 (HEIW). Cardiff lists nine cardiothoracic surgeons, six over 55, without a cardiac/thoracic split or retirement intentions; it confirms five cardiac surgeons and a sixth recruited. Swansea reports six cardiac surgeons and two expected retirements within ten years, without an age profile. The succession concern is material. Its timing and distribution are uncertain. National anaesthetic workforce pressures add to it (Section 6.3).

Updated standards

[Level A: verified documentary evidence — NWJCC SS205 (July 2025); GPICS V3 (January 2026); NHS England Cardiac Surgery Service Specification (July 2024, external benchmark)]

NWJCC published SS205, the Welsh contractual standard, in July 2025. GPICS V3 followed in January 2026. NHS England updated its specification in July 2024; it has no statutory application in Wales but is a contemporary benchmark. The commissioner must assess services against current standards.

TAVI demand, interdependencies and cross-border pathways

[Level A: verified documentary evidence — NWJCC Population Needs Assessment; NWJCC Annual Plan 2026–27; NICOR national trend data]

TAVI growth and clinical interdependencies mean that future TAVI and structural heart provision cannot be planned apart from cardiac surgical services. UK-wide, TAVI activity has risen 220% since 2019/20 while surgical volumes remain below pre-pandemic levels.

The NWJCC Annual Plan 2026–27, approved in March 2026, names cardiac services as one of four strategic reviews for the year, alongside neonatal services, mental health and ambulance commissioning. The programme is therefore accountable to Welsh Government through NWJCC's planning and reporting cycle. The Joint Committee has agreed that the case for change and evidence gates will inform the National Clinical Plan.

Several highly specialised pathways are currently provided through English centres (Section 9.1). Cross-border dependency is not, by itself, evidence of service failure. The Joint Committee has placed these pathways within the review's scope.

Commissioner responsibility

Documented escalation, training concerns, updated standards and operational risk together leave the seven Health Boards without a sufficient basis for long-term assurance unless a formal review takes place. The Duty of Quality, the Well-being of Future Generations Act and A Healthier Wales all support a rigorous, site-neutral review. None prescribes its outcome.

18. Equality and Access Considerations

Any reconfiguration needs a full Equality and Health Impact Assessment before consultation. Every consideration below applies site-neutrally.

Cardiac surgery patients are mostly older. Any future model must address access for people with limited mobility, frailty or disability, without private transport, or with caring responsibilities. South Wales has areas of significant deprivation with higher cardiovascular disease prevalence. No future model may widen existing inequalities.

Travel analysis must model public and private transport from all of South Wales, West Wales and South Powys to each potential site, for elective and emergency pathways, with West Wales access addressed explicitly. It must cover the whole patient journey — assessment, investigation, admission, surgery, review, rehabilitation and complications — and the burden on relatives and carers, which falls unevenly (ACTACC). Emergency and critical-care transfer is a separate safety question (Sections 14 and 15). Welsh language provision must be maintained at any site delivering cardiac surgery, in line with the Welsh Language Standards.

[Level A: verified documentary evidence — Cardiff NICOR/NACSA completeness reports, 2023/24 to 2025/26; Swansea provider return received 10 August 2026] Cardiff recorded 0% completion of the ethnic-group field in every month from April 2023 to March 2026 because its patient administration system is not configured to capture it. Cardiff intends to reconfigure it with Swansea's help. Swansea supplied no equivalent completeness evidence. Access and outcomes by ethnicity cannot yet be compared across the two units. Closing this gap is a tracked evidence requirement, independent of any configuration decision.

19. Summary of Findings and Commissioner's Conclusion

The commissioner considers the following concerns sufficient to warrant a formal, independently assured review. Each is attributed to the relevant provider or programme.

- **Escalation and assurance.** Cardiff and Vale remains at Level 2. Swansea Bay is not in GIRFT escalation; its waiting list is managed through the Risk and Assurance process. Historical escalation and current oversight are not interchangeable.
- **Scale and access.** Both units are among the smallest NHS cardiac surgery providers in England and Wales. Both remain below pre-pandemic activity. Cardiothoracic surgery has the longest median wait of any speciality in Wales.
- **Specialisation.** Both units were non-compliant with SCTS aortovascular standards in 2021. Neither has yet evidenced a specialist aortovascular rota, network or referral system; an all-Wales acute aortic rota is the one gap both acknowledge. Both report mitral surgeons, but formal designation, MDT governance and contemporary outcomes remain unassured. The historical Swansea mitral finding is not treated as current.
- **Standards.** SS205, SCTS standards and GPICS V3 set contemporary requirements. Current evidence does not yet assure compliance at either provider.
- **Training.** HEIW and JCST record material programme-level concerns. Both sites have improved. Cardiff remains in enhanced monitoring; Swansea's reported 'no concern' status awaits HEIW confirmation.
- **Workforce.** Training, recruitment, subspecialisation and rota resilience form one system, spanning surgery, anaesthesia, intensive care and perfusion.
- **Interdependencies**. The Joint Committee agreed twelve service dependencies and appraisal domains, with distinct assessment tiers (Section 9). The review must distinguish co-location requirements from services that can operate through formal networks.

- **Cross-border pathways.** Selected complex aortic, shock and MCS, respiratory ECMO, pulmonary hypertension and transplant-related pathways are within scope. ACHD surgical-network interfaces are also included, without a proposal to relocate congenital cardiac surgery (Section 9.1).
- **Risk.** If unresolved, the current configuration may continue to carry training fragility, individual dependency, operational pressure, and constraints on future specialised services. Whether the current model can resolve these is an open question.
- **Interim risk.** Interim risk management and long-term review run in parallel. The commissioner must manage current risk now.
- **Models.** Three model families frame later assessment: the current two-centre arrangements, a two-centre integrated network, and a single consolidated service. None is developed, approved or scored.
- **Professional support.** All five professional bodies support further review or assurance. Four explicitly support the formal review threshold.

Commissioner's Conclusion

There is a clear and sufficient case to proceed with a formal, independently assured review of adult cardiac surgery and its critical cardiovascular interdependencies in South Wales, including the highly specialised pathways provided through English centres.

The evidence raises material questions about quality, resilience and long-term sustainability. They should not remain unresolved. On 22 September 2026 the Joint Committee agreed that the evidence, supported by the professional societies, means the status quo cannot continue without a formal assured review.

The current configuration cannot be assumed to be a sustainable long-term baseline until that review is complete. Its sustainability will be assessed through the review's evidence-gathering process, on the same basis as every other model.

The evidence does not yet support choosing a future configuration. It does not establish that a single-site model is required. The societies that addressed this question agree.

Options appraisal begins only after the evidence and assurance gates close, the appraisal criteria are independently reviewed, and the programme returns to the Joint Committee at the evidence-readiness gate. Any option that emerges will go to public consultation and a formal governance decision.

No decision on service configuration is sought through this document. No outcome has been predetermined.

> *"Continuing without a formal review is no longer defensible. Choosing a future configuration now would be equally indefensible."*

20. Evidence Base and Professional-Society Peer Review

This case for change draws on contractual and national standards, provider submissions, external assurance, professional-society input, national-audit data, comparator evidence, Welsh policy and population data. Each source carries its date and evidential status. Provider-

reported improvement is recognised. Incomplete or non-comparable information is an assurance limitation, not evidence of failure.

The case for change distinguishes between:

- verified documentary evidence
- provider-submitted data
- national standards and service specifications
- professional society guidance or opinion
- stakeholder-reported concerns requiring validation
- commissioner interpretation
- comparator service models

No unverified evidence will be treated as determinative of future configuration. However, unresolved gaps in required contractual, workforce, training, outcome or governance data will be escalated to the Project Board as assurance issues.

20.1 Primary evidence sources

Cardiac surgery standards, specifications and benchmarking

- GIRFT Cardiac Surgery Review — Cardiff and Vale UHB, June 2021.
- GIRFT Cardiac Surgery Review — Swansea Bay UHB, June 2021.
- NWJCC Cardiac Surgery Service Specification SS205, July 2025 — contractual standard binding on both providers, including subspecialisation requirements, networked model of care requirements, perfusion requirements, and NACSA data submission and completeness standards.
- NHS England Cardiac Surgery Service Specification, July 2024 — England-specific; external benchmark only, no statutory application in Wales.
- National Adult Cardiac Surgery Audit (NACSA), 2025 Second Edition Annual Report Appendix, NICOR — 2024/25 hospital activity and associated national-audit measures.
- NICOR National Adult Cardiac Surgery Audit interactive report, 2024/25 (NHS providers only), and NICOR National Cardiac Audit Programme published national trend data.
- Society for Cardiothoracic Surgery standards and guidance, including standards relating to aortovascular surgery, mitral valve surgery, specialist teams, governance, audit and outcomes (to be verified against current published versions).
- 2025 ESC/EACTS Guidelines for the management of valvular heart disease. Eur Heart J. 2025;46(44):4635–4736. doi:10.1093/eurheartj/ehaf194. Supersedes the 2021 edition; includes the Heart Valve Centre requirements in Table 5. Relevant ESC/EACTS myocardial revascularisation and coronary guidance.
- Cardiff and Vale UHB NICOR/NACSA field-completeness reports for 2023/24, 2024/25 and 2025/26, generated 31 July 2026 — evidence of data completeness and remaining field-level gaps; not outcome or comparative benchmarking reports.
- Swansea Bay UHB response to the commissioner evidence request, dated 17 July 2026 and received 10 August 2026 — provider-reported workforce, subspecialisation, perfusion, data-submission and cancellation evidence; supporting documentation and comparative assurance remain incomplete.
- Cardiff and Vale UHB and Swansea Bay UHB, Provider Self-Assessments Against the Service Specification, 2026 (123 standards each).
- SCTS National Benchmarking Dashboard data — current submission status, completeness and comparative outputs to be incorporated.

Anaesthesia, intensive care, cardiothoracic critical care and transfer standards

- Guidelines for the Provision of Intensive Care Services, GPICS V3, College of Intensive Care Medicine and Intensive Care Society, with ACTACC as formal endorsing body, January 2026 — including Chapters 1.6 (Intensive Care Ultrasound), 1.8 (Cardiothoracic Intensive Care), 2.1–2.4 and 2.16 (workforce, training and education), 3.2 (Admission, Discharge and Handover), 3.7 (Cardiogenic Shock) and 3.14 (Inter- and Intra-Hospital Transfer).
- Royal College of Anaesthetists, Guidelines for the Provision of Anaesthesia Services for Cardiac Procedures (GPAS Chapter 18), 2025; RCoA cardiothoracic anaesthesia and critical-care training requirements; RCoA workforce analysis (as cited by ACTACC).
- ACTACC cardiothoracic anaesthesia and critical-care syllabus.
- British Society of Echocardiography, Clinical indications and triage of echocardiography: emergency, inpatient and critical care level II studies (PUE006).
- Relevant CICM, ICS and ACTACC guidance on critical care transfer, cardiothoracic intensive care, cardiovascular support and clinical governance; Adult Critical Care Transfer Service and EMRTS arrangements in Wales.

Perfusion standards, training and workforce evidence

- NWJCC Cardiac Surgery Service Specification SS205 requirements for a dedicated, qualified, 24/7 clinical perfusion service.
- Current published Society of Clinical Perfusion Scientists and College of Clinical Perfusion Scientists standards, including the SCPS Standards of Practice, monitoring and safety recommendations, relevant joint professional standards, and CCPS requirements for registration, departmental accreditation, education and training.
- College of Clinical Perfusion Scientists, University Hospital of Wales Unit Accreditation Report, 2024, and Cardiff and Vale UHB Perfusion Action Plan, updated July 2026.
- Cardiff and Vale UHB Perfusion Workforce Profile, submitted 31 July 2026 — establishment, vacancy and age-profile evidence, interpreted alongside the College review and action plan.
- Cardiff and Vale UHB covering submission to the Associate Medical Director, 31 July 2026 — current surgical workforce, specialist interests, recruitment, aortovascular cover and provider mitigations.
- Cardiff and Vale UHB Theatre Cancellations, April 2025 to June 2026 — provider-reported cancelled sessions by attributed reason; no planned-session denominator or patient-level impact supplied.

Interventional cardiology, structural heart and dependent cardiovascular services

- BCIS standards, guidance and position statements relevant to interventional cardiology, PCI (PCI in the UK: Recommendations, 2025), complex PCI, TAVI and Mitral TEER (Position Statements, 2025), structural heart intervention, cath lab governance, data submission and outcomes.
- BCIS/NICOR data streams relevant to PCI, complex PCI, TAVI and structural heart activity — to be incorporated where available.
- ESC/ERS Pulmonary Hypertension Guidelines, 2022; NHS England ACHD standards; relevant NHS England MCS, transplantation, pulmonary hypertension and PTE specifications.
- Evidence on the interdependencies between cardiac surgery, interventional cardiology, structural heart intervention, advanced imaging, electrophysiology, heart failure, cardiogenic shock and cardiac arrest pathways.

Training and education evidence

- Health Education and Improvement Wales, Cardiothoracic Surgery — Programme Risk SBAR, 10 September 2024, and Programme Update SBAR, 30 September 2025.
- Health Education and Improvement Wales, Sustainability of Training in Cardiac Surgery in Wales, letter from Professor Tom Lawson, Executive Medical Director, HEIW, to the Medical Directors of Cardiff and Vale UHB and Swansea Bay UHB, 6 November 2025.
- Health Education and Improvement Wales, Medical Deanery Education and Commissioning Quality Committee Report, March 2026.
- HEIW, Quality Visit Report: Cardiothoracic Surgery, University Hospital of Wales, visit 3 June 2026, together with the provider action plan and GMC enhanced-monitoring correspondence supplied in July 2026.
- Relevant JCIE curriculum requirements and training standards; GMC National Training Survey 2024 and 2025.
- JCST, Wales Cardiothoracic Annual Quality Assurance Report 2024; JCST Liaison Member Reports, Wales, 25 October 2024 and June 2025; JCST Wales Cardiothoracic Regional Review 2025 — programme-level evidence; not site-specific provider assessments.

Provider service and operational evidence

- Provider evidence submissions: Cardiff, received 31 July 2026; Swansea, received 10 August 2026 — incorporated with their respective limitations.
- Surgical, anaesthetic, cardiothoracic intensive care and perfusion workforce data from both Health Boards.
- Theatre utilisation and cancellation evidence from both Health Boards.
- Waiting-time data reported by both Health Boards, August 2026, and NICOR waiting-time measures.
- Independent Stage 1 demand-and-capacity modelling to be commissioned through a compliant procurement route, subject to financial and contractual approval. A commissioner-owned brief and transparent assumptions will establish the baseline and ten-year capacity gap. The modeller will not recommend a configuration.

Welsh commissioning, policy and statutory context

- NWJCC Population Needs Assessment.
- Office for National Statistics, Healthy life expectancy, UK: between 2011 to 2013 and 2022 to 2024 (released 19 February 2026).
- Office for National Statistics, General health, England and Wales: Census 2021 (released 19 January 2023).
- NWJCC commissioning arrangements for adult congenital heart disease through the South Wales and South West congenital heart disease network.
- South Wales and South West Congenital Heart Disease Network, Our Centres: https://www.swswchd.co.uk/en/page/our-centres (accessed 29 September 2026).
- NWJCC/CVUHB Cardiac Services Risk and Assurance action log, meeting 19 May 2026, including the 2025–2026 data-manager recruitment history. Reconciliation requested through pre-circulation factual review.
- AMD confirmation, 29 September 2026: Swansea Bay is not in GIRFT escalation; its waiting list is managed through the Risk and Assurance process.
- NWJCC Annual Plan 2026–27, including designation of cardiac services as a named strategic review and relevant cross-border commissioning dependencies.
- NWJCC Cardiac Review & Implementation, Critical Pathway, July 2026; NWJCC Cardiac Stage 1 D&C Pre-Tender Brief v1.5, 20 July 2026; JCC Report Version 11.

- Cardiac Surgery and Cardiovascular Services Review — South Wales, Joint Committee presentation, 22 September 2026.
- South Wales Cardiac Surgery Service Model Project — Project Initiation Document v0.10, October 2025.
- Health and Social Care (Quality and Engagement) (Wales) Act 2020 — Duty of Quality and associated Health and Care Quality Standards.
- Well-being of Future Generations (Wales) Act 2015.
- A Healthier Wales: Our Plan for Health and Social Care, Welsh Government, 2018.
- National Clinical Framework for Wales; National Clinical Plan (in development).
- Welsh Government guidance: How to Make Changes to Health Services.
- Relevant equality, health impact and consultation guidance.

Professional-society responses to drafts of the Clinical Case for Change

- Society for Cardiothoracic Surgery in Great Britain and Ireland — position statement, Mr Giovanni Mariscalco, Mr Cha Rajakaruna and Mr Hari Doshi, September 2026.
- Association for Cardiothoracic Anaesthesia and Critical Care — Response to the Clinical Case for Change, Professor Aamer Ahmed, President, August 2026; ratified by the ACTACC Executive Committee.
- British Cardiovascular Intervention Society — letter from Professor Daniel Blackman, President, and Dr Helen Routledge, Honorary Secretary, 1 September 2026.
- College of Intensive Care Medicine — letter from Dr Matt Williams (Vice President), Dr Dale Gardiner (Chair, Professional Affairs and Standards Committee), Dr Sarah Clarke (Chair, Training, Assessment and Quality Committee) and Dr Jack Parry-Jones (President), 3 September 2026, with conflict-of-interest declaration.
- Society of Clinical Perfusion Scientists of Great Britain and Ireland, with CCPS input where relevant — formal response from Jacqui Simmons, SCPS Chair, following the SCPS Executive discussion of 11 September 2026. SCPS asked that this be recorded as the formal SCPS response for this stage of the professional-society assurance process; it supersedes the SCPS email of 14 August 2026.

20.2 Comparator and methodological references

Comparator evidence will inform the service model appraisal. Comparator models will be assessed for relevance to South Wales, population size, geography, network structure, clinical dependencies, workforce model, ICU model, access impact and transfer requirements.

- North East London Specialised Cancer and Cardiac Reconfiguration — Case for Change and Equality Impact Assessment, NHS England, 2014.
- Children’s Congenital Cardiac Services — Safe and Sustainable Review pre-consultation business case, 2012.
- Essex Cardiothoracic Centre: Mid and South Essex NHS Foundation Trust service information (https://www.mse.nhs.uk/essex-cardiothoracic-centre) and “Heart and lung centre celebrates 15 years of delivering a world-class service” (2022). Operational arrangements and contemporary activity require confirmation before use in appraisal.
- East Sussex Healthcare NHS Trust — Acute Cardiology Services Transformation Decision-Making Business Case, 2022.
- Relevant GIRFT comparator evidence, where available.
- Relevant international guidelines (ESC, EACTS) and peer-reviewed literature on cardiac surgery, structural heart, interventional cardiology, anaesthesia, intensive care, perfusion and volume-outcome relationships.

20.3 Evidence and assurance gates before options appraisal

Options appraisal will not commence until the following evidence and assurance requirements have been completed, validated and incorporated. The Cardiff and Swansea submissions partially complete several domains but differ in scope and supporting documentation and do not remove the requirement for comparable evidence, independent reconciliation and assurance. The gates incorporate the eleven evidence gates recommended by ACTACC and the additional evidence identified by SCTS, CICM and SCPS; the same evidence standards apply to both centres.

#	Evidence and assurance gate	Source of requirement
1	Comparable surgical workforce evidence from both Health Boards, with specialty split, establishment, vacancies, SAS and trainee numbers, subspecialist roles and succession assumptions sufficient for independent modelling and assurance	v0.24; SCTS
2	Comprehensive cardiothoracic anaesthesia workforce plan, including vacancies, retirement projections and five- and ten-year requirements	ACTACC gate 1
3	Cardiothoracic critical-care workforce and capacity assessment against GPAS, GPICS V3 and relevant ACTACC standards, including consultant intensivist staffing, skill mix and ACCPs, bed-days, emergency resternotomy capability, PACS image storage and discharge practice	ACTACC gate 2; CICM
4	Perioperative medicine assessment linking pre-operative capacity, cancellations, length of stay and waiting-list performance	ACTACC gate 3
5	Training assessment covering surgical, anaesthetic (RCoA/ACTACC), ICM (including College Tutor and Training Capacity Assessment), ACCP and perfusion training — trainees, trainers, curriculum access, case mix, supervision and future workforce production — with completed HEIW/external assurance, including delivery of the open requirements from the June 2026 Cardiff review	ACTACC gate 4; CICM; v0.24
6	Contemporary operative activity by procedure, complexity and specialist team, and theatre utilisation (cases relative to available sessions; cancelled and unused sessions) with comparable cancellation data	ACTACC gate 5; SCTS
7	Contemporary, validated, reconciled, risk-adjusted operative outcomes (current NACSA/NICOR data sufficient to assure completeness, case ascertainment and coding accuracy), and SCTS National Benchmarking Dashboard status, for both units	ACTACC gate 6; SCTS; v0.24
8	MDT structure, activity and governance evidence: MDT terms of reference, M&M minutes and action logs, referral and pooling pathways, and consultant/subspecialist designation	SCTS
9	Advanced TOE workforce, competency, workload, training and succession assessment	ACTACC gate 7
10	Coagulation monitoring, patient blood management and major-haemorrhage capability assessment	ACTACC gate 8

#	Evidence and assurance gate	Source of requirement
11	Blood-product stock, laboratory and supply-chain resilience assessment	ACTACC gate 9
12	Comparable perfusion workforce, training, accreditation and rota evidence, distinguishing individual registration, departmental accreditation, training-centre status and service resilience; references checked against current SCPS/CCPS standards	v0.24; SCPS
13	BCIS, TAVI and structural heart activity, data submission and governance evidence	v0.24; BCIS
14	Independent reconciliation of provider self-assessments against SS205 and of provider evidence on appointments, vacancies, subspecialist capability, retirement intentions and training-to-consultant recruitment	v0.24
15	Completed independent Stage 1 demand-and-capacity baseline, ten-year forecast and capacity-gap analysis, including material pathway dependencies and critical-care bed-days	JCC decision 3; CICM
16	Mapping of cross-border highly specialised pathways: volume, destinations, transfer arrangements, outcomes and patient impact	JCC (slide 18)
17	Emergency transfer and critical-care transfer modelling, incorporating ACCTS and EMRTS	ACTACC gate 10; CICM
18	Patient travel, equality, and family/carer impact assessment, including closure of the ethnicity data gap	ACTACC gate 11; v0.24
19	Engagement with the Regional Advisor for ICM, the Welsh Intensive Care Society, the Wales Critical Care, Emergency and Trauma Network and the clinical lead for the regional long-term ventilation and weaning service	CICM
20	Clinical Reference Group scrutiny of the evidence and modelling; completed local clinical assurance and external professional assurance with findings incorporated	JCC decision 2
21	Evidence-derived appraisal criteria agreed by the Project Board and independently reviewed; return to the Joint Committee at the evidence-readiness gate	JCC decisions 2 and 5
22	Phase 2 modelling of credible future configurations, if required and separately authorised, potentially with health-economic input	v0.24
23	Financial, estates, capital, revenue and deliverability assessment	v0.24

20.4 Pre-circulation checks and subsequent assurance requirements

This version is for pre-circulation factual accuracy review by both provider Medical Directors and HEIW, and for closure of residual standards-verification actions with the relevant professional bodies. Corrections, unresolved differences and the basis for resolution must be logged before final issue. The checks below also identify the wider evidence required before

options appraisal and consultation; issuing the final CFC will not, by itself, close those later gates.

- Professional-society responses: all **five received and incorporate**d (Section 20.5). Receipt of responses is distinct from closure of verification actions.
- Before final issue: factual accuracy review by both Health Boards, including current escalation and assurance status, the Cardiff data-manager chronology, and dated activity and workforce statements.
- Before final issue: HEIW factual review of training and education matters and confirmation of the current monitoring position.
- Before final issue: commissioner review of sources and evidential status, with current SCTS and SCPS/CCPS standards verification completed and recorded.
- Confirmation that unverified stakeholder concerns are clearly labelled and not presented as established findings.
- Equality and health impact assessment.
- Travel and access analysis.
- Finance, workforce and deliverability assessment.
- Confirmation of how any outstanding evidence gaps have been handled.
- Project Board agreement of evidence-derived appraisal criteria following independent review of those criteria.

20.5 Professional-society peer review — outcome

Drafts of the Clinical Case for Change were submitted to five professional bodies. Each was asked whether the evidence warrants a formal, independently assured review and whether the cited standards were represented correctly. SCPS was also asked whether the evidence remains insufficient to determine a preferred configuration. All five responded. CICM's letter identifies v20 as the draft reviewed; the other responses form part of the subsequent drafting and assurance record. Appendix B records the material comments and the commissioner's response.

Society for Cardiothoracic Surgery (SCTS)

SCTS agreed with much of the evidence and noted the document's acknowledged reliance on GIRFT 2021. It concluded that the evidence "supports further assurance work but falls short of demonstrating that service reconfiguration is required". It judged the workforce and training concerns real but not, in themselves, proof that reconfiguration is necessary. SCTS did not explicitly endorse the formal review threshold. On standards it answered "broadly yes, subject to verification against the current published SCTS standards" and called the interpretation "appropriately cautious". Section 6.2 adopts its principles. Sections 15 and 20.3 incorporate the evidence it requested.

Association for Cardiothoracic Anaesthesia and Critical Care (ACTACC)

ACTACC agreed that the evidence warrants a formal, independently assured review, and that safety, timeliness, effectiveness and equity justify it. It judged the evidence base incomplete for cardiothoracic anaesthesia, perioperative medicine, critical care, advanced TOE, perfusion, coagulation and patient blood management. It recommended that no configuration decision be made until these domains match the surgical evidence in detail and assurance. It set out eleven evidence gates. All are adopted (Section 20.3). ACTACC's Executive Committee ratified the response.

British Cardiovascular Intervention Society (BCIS)

BCIS agreed it is appropriate to consider a change in cardiac surgical services in South Wales. It judged the relevant evidence appropriately considered and BCIS guidance correctly quoted

and interpreted. It strongly supported the recognition that several interventional cardiology services are inextricably linked to a surgical unit. It recommended considering ESC and EACTS guidelines; Sections 9, 12 and 14 now do so.

College of Intensive Care Medicine (CICM)

CICM confirmed that the evidence justifies a review, commenting on intensive care medicine only. It confirmed that the document represents GPICS V3 accurately and in good faith and distinguishes minimum standards from recommendations correctly. It raised specific points of precision: the Standard 3 wording; the face-to-face ward round; PACS image storage; transfer infrastructure; discharge timing; the 60-minute echocardiography target; ICM and ACCP training; the England-only status of the NHS England specification; ICU terminology; and engagement with WICS, the Wales Critical Care Network, the Regional Advisor for ICM and the regional long-term ventilation and weaning service. All are incorporated. CICM has offered to assist a formal review within its remit, on formal request and at cost. Dr Jack Parry-Jones subsequently confirmed that the final text incorporates the College's points and records his declared interest correctly. He emphasised improved patient outcomes, financial sustainability, value-based healthcare, and a sustainable staffing model covering training, recruitment, and retention. These principles inform Section 14.

Declared conflict of interest (as submitted by CICM): Dr Jack Parry-Jones, President of CICM and a signatory, is a consultant adult intensivist in Cardiff. He has been Clinical Lead for the South Wales Critical Care Network and Chair of the FICM Small and Specialist Units Advisory Group, which includes cardiothoracic ICUs. In December 2024, as Vice Dean of FICM, he met Welsh Government and HEIW about developing an ECMO service in Wales. The AMD's own declaration appears in the front matter.

Society of Clinical Perfusion Scientists (SCPS), with CCPS input

After its Executive met on 11 September 2026, SCPS answered **"Yes"**: the evidence warrants a formal, evidence-led, independently assured review, and it cannot yet determine a future configuration. SCPS stressed that this supports progression to review and options appraisal; it does not endorse reconfiguration or any model. On standards, it answered **"Yes, broadly"**: nothing materially alters the conclusions. It asked that references be checked against current SCPS and CCPS standards and that different forms of perfusion assurance be kept distinct. SCPS called the document a very important and well-structured piece of work, welcomed the treatment of perfusion as integral to configuration, and offered, with CCPS, to assess the perfusion implications of options once demand-and-capacity work is available.

All five bodies support further review or assurance. Four explicitly support the formal review threshold. Professional assurance supports review, not configuration.

This pre-circulation final draft is issued for factual accuracy and standards verification before wider distribution. We have incorporated all five professional-society responses, with qualifications retained. Outstanding verification must be completed and recorded before the first evidence gate closes. Options appraisal, public consultation and a configuration decision remain subject to the agreed evidence and assurance pathway and return to the Joint Committee. This draft does not authorise an exception to that pathway.

Appendix A. The Evidence-Gated Pathway to Options Appraisal

Approved by the Joint Committee, 22 September 2026. Indicative timing updated in v1.1 (Appendix C); the approved sequence is unchanged.

Stage	Indicative timing	Status	Key elements
Evidence gate 1 — Clinical Case for Change	September 2026 draft; closure follows verification	PRE-CIRCULATION REVIEW	All five society responses received and incorporated. Complete provider and HEIW factual review and residual standards verification, record corrections and confirm final issue before this gate closes.
Evidence gate 2 — Independent Stage 1 D&C modelling	At least 10–12 weeks from mobilisation	PENDING	Procurement, financial and contractual approvals are required before mobilisation. The independent commission will include ten-year demand projections. Configuration-neutral; separate Phase 2 modelling may later be required.
Assurance and criteria gates	Following closure of the evidence and assurance gates; the Joint Committee determines readiness	GATE	CRG scrutiny plus local and external clinical assurance. Incorporate findings; agree and independently review appraisal criteria. Return to the Joint Committee at the evidence-readiness gate.
Robust options development	After the evidence-readiness gate	PENDING	Develop future service configurations. Apply evidence-derived appraisal criteria. Phase 2 modelling / health-economic input if required.
Public consultation	Timing follows options appraisal	SUBJECT TO APPROVAL	Consult on developed options before any final decision. Includes stakeholder, public and patient input.
Final decision & implementation planning	Post-consultation	PENDING	Final recommendations to Joint Committee. Decision informs implementation planning and IMTP route.

Dates depend on evidence readiness. If a new service model is selected, implementation is not expected before 2029–2030. Sources: NWJCC Cardiac Review & Implementation, Critical Pathway, July 2026; NWJCC Cardiac Stage 1 D&C Pre-Tender Brief v1.5, 20 July 2026.

The pathway is sequential. Timing follows evidence readiness; a delayed gate moves every later date. Options appraisal begins only after the Clinical Case for Change, Stage 1 modelling, CRG scrutiny, local and external assurance, incorporation of findings and independent review of the appraisal criteria are complete.

Appendix B. Peer-Review Log: Society Comments and Commissioner Response

Every material comment is logged with the commissioner's response and the location of the change in this version. "Adopted" means the comment has been incorporated in full; "Carried

forward" means it is recorded as an evidence requirement or verification action for the next stage.

SCTS — September 2026

Ref	Comment	Commissioner response / location
SCTS-1	Comparative clinical evidence derives largely from GIRFT 2021 and requires confirmation using contemporary audited outcome data.	Adopted. Contemporary risk-adjusted outcomes are evidence gate 7 (Section 20.3); Section 5 updated.
SCTS-2	Workforce and training concerns are real but do not in themselves establish that structural reconfiguration is necessary; they may be remediable within the existing model.	Agreed. The document makes no claim that reconfiguration is required (Sections 6.3, 19). Position recorded verbatim (Sections 6.2, 20.5).
SCTS-3	Underlying data from both units required; analyse current activity and outcomes with MDT ToRs and minutes, referral and pooling pathways, consultant/subspecialist designation, M&M processes, training arrangements and network agreements.	Adopted. Sections 15 and 20.3 (gates 1, 6, 7, 8).
SCTS-4	Distinguish a service that lacks a structure from one where the structure exists but has not been demonstrated.	Adopted. Sections 6.2 and 6.7.
SCTS-5	Specified evidence: NACSA/NICOR outcomes; risk-adjusted mortality and morbidity; mitral repair rates; aortic outcomes; cases relative to theatre sessions; case mix; cancelled/unused sessions; consultant, SAS and NTN numbers; MDT activity by type; governance documentation; training programmes; independent D&C modelling.	Adopted in full. Section 15; Section 20.3.
SCTS-6	Standards broadly correctly interpreted, subject to verification against current published SCTS standards.	Carried forward. Verification against current published versions recorded as an evidence-log action (Sections 14, 20.1).
SCTS-7	Absence of evidence ≠ evidence of non-compliance; networked models recognised; individual expertise ≠ formal designation; volume not a surrogate for quality in isolation; standards do not prescribe a single organisational model.	Adopted as governing principles. Section 6.2; reflected in Sections 11 and 13.

ACTACC — August 2026

Ref	Comment	Commissioner response / location
ACTACC-1	Evidence base incomplete: anaesthesia, perioperative medicine, cardiothoracic critical care, advanced TOE, perfusion, coagulation and patient blood management not considered in the same depth as surgery. These should be mandatory evidence gates.	Adopted. Evidence gates 2–5, 9–11 (Section 20.3); Sections 9, 14, 15.
ACTACC-2	Workforce planning must not begin only after a preferred configuration is selected; workforce availability determines what is clinically deliverable. RCoA-predicted shortage ~2,147 consultant/SAS anaesthetists (~15%).	Adopted. Sections 6.3 and 14 (workforce resilience criterion).
ACTACC-3	Full cardiothoracic anaesthetic pathway to be assessed (pre-op to transfer).	Adopted. New criterion, Section 14.
ACTACC-4	Training scrutiny must extend to cardiothoracic anaesthesia and critical care, assessed against RCoA curriculum and GPAS, ACTACC, GPICS V3.	Adopted. Section 6.3; Section 14; gate 5.
ACTACC-5	Raw operative numbers insufficient; activity by procedure, complexity and specialist team; reconcile NACSA figures.	Adopted. Sections 11, 15; gate 6.
ACTACC-6	Historical outcomes neither to be treated as current nor dismissed; contemporary risk-adjusted outcomes for listed measures; incomplete data neither evidence of poor performance nor unwarranted assurance.	Adopted. Sections 6.1, 7, 15; gate 7.
ACTACC-7	Advanced TOE is a workforce and expertise issue.	Adopted. Section 9 table and rationale; Section 14 criterion; gate 9.
ACTACC-8	Coagulation monitoring and patient blood management — important omission.	Adopted. New Section 9 dependency; Section 14 criterion; gate 10.
ACTACC-9	Blood-product stock and resilience.	Adopted. New Section 9 dependency; Section 14 criterion; gate 11.
ACTACC-10	Cardiothoracic critical care assessment list (beds, consultants, nursing, re-sternotomy, shock, MCS, surge, transfer, training).	Adopted. Sections 14, 15; gate 3.
ACTACC-11	Aortic and mitral services are multidisciplinary; presence of surgeons with an interest is insufficient.	Adopted. Section 6.2.

Ref	Comment	Commissioner response / location
ACTACC-12	Patient travel, family/carer burden and emergency transfer from the patient's perspective.	Adopted. Sections 8, 18; gates 17–18.
ACTACC-13	Comments on each model family (two-centre; integrated network worthy of detailed appraisal; single centre must demonstrate, not assume, critical mass and resilience).	Adopted. Section 13 model boxes.
ACTACC-14	No configuration decision until all listed evidence brought to the same level of detail and assurance as surgical evidence.	Agreed; consistent with the evidence-gated pathway (Appendix A).

BCIS — 1 September 2026

Ref	Comment	Commissioner response / location
BCIS-1	Agrees it is appropriate to consider the case for a change in the delivery of cardiac surgical services.	Recorded. Sections 1, 20.5.
BCIS-2	Strongly supports recognition that a number of interventional cardiology services are inextricably linked to the presence of a surgical unit.	Recorded. Sections 4.3, 9.
BCIS-3	Relevant evidence appropriately considered; ESC and EACTS guidelines should also be considered.	Adopted. The current 2025 ESC/EACTS VHD Guidelines have been verified and incorporated (Sections 9, 12, 14 and 20.1), including the Heart Valve Centre requirements in Table 5. The 2021 wording used in the Joint Committee presentation is retained only as evidential history.
BCIS-4	BCIS guidance correctly quoted and interpreted.	Recorded. No change required.

CICM — 3 September 2026

Ref	Comment	Commissioner response / location
CICM-1	Sufficient evidence to justify review (comment confined to ICM). Seek views of the Regional Advisor for ICM, network leads and the regional long-term ventilation and weaning lead.	Adopted. Gate 19.
CICM-2	Bed-days (Level 2/3), general ICU capacity, long-term ventilation and weaning, rehabilitation and follow-up are key considerations.	Adopted. Sections 8, 9 (D&C scope), 14, 15.

Ref	Comment	Commissioner response / location
CICM-3	GPICS V3 represented accurately and in good faith; minimum standards and recommendations correctly distinguished.	Recorded. Section 6.5.
CICM-4	GPICS V3 Chapter 1.6, Standard 11 (ultrasound image storage in PACS) not considered; live and material safety matter.	Adopted. Sections 6.5, 9, 14, 15; gate 3.
CICM-5	Standard 3 does not define "on-site" for the surgeon or state "at all times"; caution advised.	Adopted. Wording corrected, Section 6.5.
CICM-6	Consultant ICM staffing is distinct from cardiothoracic anaesthetists; ICM staffing, rota and skill mix incl. ACCPs (Chapters 2.1–2.4) needed before GPICS compliance can be assessed.	Adopted. Sections 6.3, 14, 15; gate 3.
CICM-7	Standard 9 paraphrase omits face-to-face ward round and access to multidisciplinary input.	Adopted. Section 6.5.
CICM-8	Transfer criterion should reference ACCTS and EMRTS (GPICS V3 Chapter 3.14).	Adopted. Section 14; gate 17.
CICM-9	GPICS V3 Chapter 3.2 discharge-timing standard relevant to weekend discharge concerns.	Adopted. Section 6.4.
CICM-10	BSE PUE006 target of TTE within 60 minutes in suspected cardiogenic shock not referenced.	Adopted. Sections 6.5, 9, 14.
CICM-11	Training discussion omits ICM residents, portfolio pathway and ACCP training; College Tutor and Training Capacity Assessment required.	Adopted. Section 6.3; Section 14; gate 5.
CICM-12	NHS England specification is England-specific with no statutory application in Wales; distinguish consistently.	Adopted throughout. Sections 3, 6.2, 10, 11, 14, 17, 19, 20.1.
CICM-13	"ITU" should be "ICU".	Adopted. Section 6.4; glossary.
CICM-14	WICS and the Wales Critical Care, Emergency and Trauma Network should be engaged.	Adopted. Gate 19.
CICM-15	Conflict of interest declared by Dr Jack Parry-Jones.	Recorded in full. Appendix D.
CICM-16	Any formal CICM involvement in review should be formally requested and would carry a cost.	Noted for programme planning.

SCPS (with CCPS input) — formal response following the SCPS Executive, 11 September 2026

Ref	Comment	Commissioner response / location
SCPS-1	Yes: evidence sufficient to warrant a formal, evidence-led and independently assured review; not sufficient to determine or support a preferred future configuration. Agreement is support for progression, not endorsement of reconfiguration or any model.	Recorded verbatim in substance. Sections 1, 16, 20.5. Supersedes the 14 August 2026 email.
SCPS-2	Perfusion aspects to be explicitly assessed within any option: workforce resilience, training capacity, maintenance of competencies, emergency/out-of-hours provision, specialist expertise, complex extracorporeal support.	Adopted. Sections 6.3, 14.
SCPS-3	Yes, broadly: perfusion standards appropriately represented; nothing materially alters the conclusions.	Recorded. Section 20.5.
SCPS-4	Check references against current published SCPS and CCPS standards (Standards of Practice; monitoring and safety; joint standards; CCPS registration, departmental accreditation, education and training).	Carried forward. Sections 15, 20.1; gate 12. SCPS will work with CCPS to provide updates or clarification of references.
SCPS-5	Distinguish individual accreditation/registration, departmental accreditation, training-centre status and service/workforce resilience.	Adopted. Sections 6.3, 14, 15; gate 12.
SCPS-6	Clinical perfusion is an integral component of configuration, not a workforce consequence of decisions made elsewhere; SCPS/CCPS offer re-engagement once D&C work is available.	Recorded. Section 6.3.

Appendix C. Version and Change Record

Area	Change
Status	v1.0 consolidated the society responses and Joint Committee decisions. v1.1 is a pre-circulation final draft dated 29 September 2026; it is not a newly approved configuration or a completed assurance gate.
New Section 0	Joint Committee decisions (seven actions, verbatim), agreement of the critical dependencies and the inclusion of cross-border pathways within scope; framing statements from the Joint Committee presentation.
Section 1	Presentation key findings (health comparison now sourced to ONS), programme phases and peer-review outcome table added.

Area	Change
Section 2	Chronology extended to Mar 2024, May 2026, peer review and Joint Committee.
Section 3	NHS England specification identified as England-specific with no statutory application in Wales; SS205 identified as the Welsh contractual standard (CICM).
Section 4	NACSA 2024/25 rankings, emergency aortic volumes and data-manager update added to 4.2; new 4.3 (national volume, pandemic recovery and TAVI) from the presentation; 732 vs 863 averages reconciled.
Section 6	SCTS principles (6.2); anaesthetic/ICM/ACCP training and workforce, RCoA shortage, SCPS assurance distinctions (6.3); ITU→ICU and GPICS 3.2 (6.4); GPICS Standard 3 and 9 wording corrected, PACS and BSE 60-minute standard added (6.5); new 6.6 (current performance, waits, DOSA) and 6.7 (provider self-assessments).
Section 7	Cardiff data-manager recruitment and 97% 2025/26 NACSA submission added.
Section 8	Incorrect cross-reference to Section 17 corrected to Section 18; patient-travel burden (ACTACC) and bed-days (CICM) added.
Section 9	Replaced with the twelve-item interdependency table agreed by the Joint Committee (adds blood-product resilience and coagulation/patient blood management; extends training beyond surgery); ESC/EACTS 2025 note; new 9.1 on cross-border pathways, now within scope.
Section 10	Population-health comparison added and sourced (ONS Healthy Life Expectancy 2022–2024; ONS Census 2021 general health); CICM ICU-capacity context added.
Sections 11–13	SCTS volume principle; Safe and Sustainable lesson restated and updated with peer-review outcome; international evidence (ESC/EACTS 2025); model summaries and ACTACC tests added.
Section 14	New criteria: anaesthesia/perioperative, advanced TOE, coagulation and blood resilience, cross-border pathways; transfer criterion updated for ACCTS/EMRTS; GPICS, SCPS and ESC/EACTS references updated.
Section 15	SCTS, ACTACC and CICM evidence requirements added; peer-review questions replaced by outcome.
Sections 16–19	Known/uncertain table, Why Review Now and Summary updated. Section 17 corrected: "frozen elephant truck" → "frozen elephant trunk"; statement that cross-border dependency is "a direct consequence of the current configuration's limitations" replaced by the Joint Committee position that cross-border dependency is not, by itself, evidence of service failure.
Section 20	Society responses added as sources; evidence gates expanded to 23 (incorporating ACTACC's eleven gates); 20.5 replaced with peer-review outcome and CICM conflict-of-interest declaration.
Front matter	Joint Committee date (22 September 2026) added; author's declaration of interest added.
ACHD	Cardiff Level 2 and Bristol Level 1 network roles recorded. The review covers interfaces and dependencies; relocation of congenital cardiac surgery is not proposed.

Area	Change
Assurance	Swansea's confirmed position distinguished from GIRFT escalation: waiting-list oversight continues through Risk and Assurance. Unverified meeting-attendance detail removed. Provider evidence asymmetry is not interpreted as relative performance.
Style	Prose tightened to short, active, declarative sentences; repeated statements about configuration neutrality reduced; "So what?" boxes removed and essential content kept in the text.
Appendices	A — evidence-gated pathway; B — peer-review log; C — this change record.
v1.1 pre-circulation review	Confirmed author title and Swansea status; corrected perfusion training/registration terminology and historical attribution; qualified volume and network claims; identified the data-manager chronology for factual reconciliation; clarified gate closure, publication status and ACHD scope; recorded CICM draft provenance and subsequent confirmation; added patient-outcome, value and workforce principles; limited Essex claims to published evidence; tightened prose and improved navigation. Word remains editable.
v1.1 SRO review (13 October 2026)	Scope: governing statement added to Section 9 that interdependencies are considered only in terms of the safety, sustainability and deliverability of cardiac surgical services; the twelve dependencies and Section 9.1 pathways agreed by the Joint Committee are unchanged. Section 14 criteria for interventional cardiology, electrophysiology and devices, cardiac arrest, district general hospital cardiology and inherited cardiac conditions limited to their interface with cardiac surgery; Section 15 mapping aligned. Neutrality: volume and population-benchmark wording (Sections 4.3, 6.3, 6.5, 10, 11), precedent framing (Section 12), Model 3 summary (Section 13) and the Section 19 conclusion revised so that the sustainability of the current model is assessed, not presumed. Timing: indicative checkpoint date removed from Appendix A; checkpoints follow closure of the evidence and assurance gates, with readiness determined by the Joint Committee. The approved sequence is unchanged.

Appendix D: Declarations of Interest

Dr Joseph Riddell — Author

Dr Joseph Riddell, AMD, NWJCC Cardiac Specialised Services, is employed by Cardiff and Vale University Health Board as a Consultant in Intensive Care Medicine at the University Hospital of Wales. Cardiff and Vale UHB is one of the two providers considered in this review.

Dr Jack Parry-Jones — Professional-Society Reviewer

Dr Jack Parry-Jones, President of the College of Intensive Care Medicine and a signatory to its response, is a consultant adult intensivist in Cardiff. He has been Clinical Lead for the South Wales Critical Care Network and Chair of the Faculty of Intensive Care Medicine's Small and Specialist Units Advisory Group, which includes cardiothoracic intensive care units.

In December 2024, as Vice Dean of the Faculty of Intensive Care Medicine, he met Welsh Government and Health Education and Improvement Wales about developing an ECMO service in Wales. These interests were declared in the College's response. Dr Parry-Jones subsequently confirmed that they are represented correctly in this document.

Review Safeguards

The review is site-neutral. Safeguards include independent, configuration-neutral demand-and-capacity modelling, Clinical Reference Group scrutiny, and independent review of evidence-derived appraisal criteria. Five professional bodies have reviewed the case, with their qualifications recorded.

Commissioning decisions rest with the Joint Committee within the Health Boards' delegated arrangements, not with the AMD alone. These safeguards do not remove the declared interests; they provide independent challenge and transparent decision-making.

Clinical Case for Change v1.1 — Pre-circulation final draft — Dr Joseph Riddell, AMD, NWJCC Cardiac Specialised Services — 29 September 2026. For factual accuracy and standards verification before final issue. Not for public consultation or service-configuration decision-making.