GIG CYMRU NHS WALES

Rhwydwaith Gofal Critigol, Trawma a Meddygaeth Frys

Critical Care, Trauma and Emergency Medicine Network

National Strategic Clinical Network for Critical Care, Trauma and Emergency Medicine

Census Report 2024

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1. Executive Summary

The 2024 Critical Care Census provides a comprehensive overview of critical care capacity, workforce, and service provision across Wales. This report, the second year of data collection, builds on the baseline assessment conducted in 2023-2024, offering valuable insights into the current state of critical care services, identifies key trends, challenges, and areas for strategic focus.

This report provides a clear and evidence-based overview of critical care provision in Wales. It is intended to support national and local decision-makers by highlighting key capacity pressures, workforce challenges, and service planning needs. The findings will directly inform the Network's priorities and engagement with Health Boards, the Directors Group, and Welsh Government.

Purpose of the Report

The primary purpose of this report is to collect and analyse data on critical care capacity, including bed numbers, workforce allocation, and service provision, to inform future strategic priorities and ensure alignment with the National Clinical Framework. The data reflects the situation at Quarter 3, 2024-2025.

Key Findings

Specialist Services:

There has been no expansion of Primary Percutaneous Coronary Intervention (PCI) services, and current service provision remains unchanged. Continued monitoring is essential to assess future demand.

Enhanced Respiratory Care services remain limited, with no significant expansion in workforce or resources, continuing the reliance on Intensive Care Unit (ICU) support for non-invasive ventilation in many sites.

Bed Capacity:

The total number of Level 3 equivalent beds has decreased from 146 in 2023 to 144 in 2024, reducing the provision to 4.75 beds per 100,000 population. This reduction highlights an ongoing challenge in critical care capacity across Wales.

Surge capacity includes up to 118 beds, but only 54% are within the critical care footprint, and operationalising the beds is highly dependent on staffing availability, which has been a key limiting factor during winter pressures.

Single rooms account for 38% of all critical care beds, but this drops to 29% when excluding the Grange University Hospital, indicating variability across health boards.

Workforce – Nursing:

97% of critical care nursing posts are filled, but smaller units report lower fill rates (93%), highlighting recruitment challenges.

Band 5 nurses make up 71% of staff in post. The operating capacity of several health boards are often above the national standards of critical care capacity, meaning a junior nursing workforce might make them prone to less direct clinical support accentuating burnout, exhaustion and attrition of workforce, Senior nursing roles (Band 7–8) account for 8% of the workforce.

Units with the highest sickness rates are Bronglais General Hospital (12.5%) and Prince Charles Hospital (12%). Units with the highest turnover rates are Bronglais General Hospital (17.88%) and Ysbyty Gwynedd (14.1%).

Recommendations

Specialist Services:

- Continue monitoring Primary PCI service provision and collaborate with key stakeholders to assess future demand and capacity. Initiatives from the Welsh Government such as the Save a Life Cymru (SaLC) campaign might increase the number of survivors from out of hospital cardiac arrests from the community, potentially resulting in a significant increase in the demand for Primary PCI provision and consequently critical care beds in those centres that provide Primary PCI capabilities.
- Investment in workforce and resources to expand non-invasive ventilation services outside of critical care units. The health boards need to ensure collaboration between critical care and respiratory colleagues to ensure non-invasive ventilatory support is available at each site for single-organ respiratory failure patients, especially those that may not be suitable candidates for invasive ventilation in critical care. The *network* will likewise highlight this issue with the respiratory network to ensure plans for non-invasive ventilatory support exist across all acute hospitals.

Bed Capacity:

- Address the reduction in Level 3 equivalent beds by exploring options for increasing critical care bed numbers. In spite of the offset of elective surgical demand to the provision of Post Anaesthetic Care Unit (PACU) beds, a number of critical care units continue to operate above the national standards around the operating capacity. Ways to mitigate this, by improving patient flows and increasing bed capacity, should be developed by health boards.
- Future new builds and refurbishments should consider increasing the number of single rooms to enhance infection control and patient privacy. A minimum of 20% of the capacity should be considered for single rooms in these plans to provide adequate isolation facilities, while maintaining a balance with staffing demands to minimise patient safety risks. However, higher proportions may be appropriate depending on the case-mix of the patient population and the proportion of inter-hospital transfers that the unit receives e.g., the tertiary care provider units.

Workforce – Nursing:

- Invest in Band 6 development and mentorship opportunities to balance the reliance on Band 5 nurses.
- Strengthen senior nursing roles to improve leadership and decision

2. Introduction

Critical care capacity is a fundamental component of any healthcare system, providing life-saving treatment for patients with severe illness or injury. The availability, distribution, and staffing of critical care beds directly impact the system's ability to deliver timely and effective care.

This is the second year of data collection within the network, following the baseline assessment conducted in 2023-2024. The report builds on this foundation, offering a clearer picture of critical care capacity across Wales and helps identify trends, challenges, and areas for strategic focus. Establishing a baseline is essential to inform future strategic priorities and ensure alignment with the National Clinical Framework.

This report provides an overview of critical care capacity across health boards in Wales, including total bed numbers, their distribution, and workforce allocation. All data reflects the situation at Quarter 3, 2024-2025. Post-anaesthetic care unit data is not included due to variations in service provision across health boards and will be part of additional work undertaken in 2025-2026.

While every effort has been made to ensure the accuracy and reliability of the findings, it is important to acknowledge potential limitations, including differences in data quality, information availability, and local policies or practices. Despite these challenges, this report provides valuable insights to support evidence-based decision-making, resource planning, and future service development.

Context – Progress Since 2019

The 2019 Task and Finish Report outlined key recommendations to improve critical care capacity, resilience, and staffing. In response, Welsh Government provided targeted funding, including investment to support 7 additional beds (6 in Cardiff and Vale University Health Board totalling £4.5m and 1 in Betsi Cadwaladr University Health Board with funds allocated of £800,000 and expansion of the advanced critical care practitioner workforce. While progress has been made in strengthening infrastructure and staffing in some regions, many challenges remain — including workforce sustainability, delayed transfers of care, and demand variability across regions. The commencement of the ACCTS (adult critical care transfer service), utilising these recurrent funds, has been extremely useful in the timely transfer and repatriation of critically ill patients in the region. They have helped to offset the capacity constraints within a unit, whenever feasible, via non-clinical transfer requests to other units in the network. Some of the funding has also been utilised to open PACU beds (post anaesthetic care unit) that have helped offset capacity constraints in critical care units and have resulted in reduced elective high-risk surgical cancellations. The funds also have helped fund outreach service in a few health

boards that didn't have outreach team in some or all their sites. This report provides a renewed opportunity to assess those gaps and re-align priorities.

3. Methodology

The 2024 Critical Care Census was conducted to provide a comprehensive overview of bed capacity, workforce, and service provision across Wales. The methodology followed a structured approach to ensure consistency, accuracy, and comparability with previous data collection efforts.

Collecting this data is inherently complex due to variations in local reporting standards and service configuration. As the data was inputted manually by individual units, there is an element of interpretation involved in responding to the questions, which may lead to some differences in how information is reported. Despite these challenges, the data provides a valuable insight into critical care capacity and highlights areas for future focus.

Data Collection

- Microsoft Forms was used as the data collection tool, ensuring a uniformed and structured approach across all health boards.
- The same set of questions was distributed to all participating health boards, covering demographics, nursing workforce, and medical workforce.
- The census was conducted over a defined period to capture a snapshot of critical care capacity at a specific point in time.

Participation and Completeness

- All health boards in Wales participated in the census.
- Two Critical Care Units did not submit responses for the medical workforce questionnaire.

Data Validation and Analysis

- Data submissions were reviewed for completeness and consistency, with cross-checks against previous census data and routine reporting metrics.
- Any discrepancies were flagged and clarified where possible through direct engagement with unit leads.
- Quantitative analysis was performed to identify trends in capacity, workforce, and patient flow.
- Findings were benchmarked against the 2023 stocktake to assess progress and highlight areas requiring strategic focus.
- Findings were reviewed by the network to inform recommendations for future planning.

4. Specialities

Critical care services in Wales support a wide range of specialist surgical and medical services. While all health boards provide core critical care that supports general medical and surgical patients, certain highly specialised services are concentrated in specific locations, requiring regional and supra-regional collaboration. This section outlines changes in specialist provision compared to the 2023-2024 baseline assessment and highlights key considerations for future service planning.

Health Board	Unit	Type	Primary PCI Services	Enhanced Respiratory Care
Aneurin Bevan University Health Board	Grange University Hospital	Combined ICU/HDU	Monday to Friday, 9am–5pm	CPAP, HFNO & NIV
Betsi Cadwaladr University Health Board	Ysbyty Glan Clwyd	Combined ICU/HDU	24/7 access	CPAP, HFNO & NIV
	Ysbyty Gwynedd	Combined ICU/HDU		CPAP, HFNO & NIV
	Wrexham Maelor Hospital	Combined ICU/HDU		CPAP, HFNO & NIV
Cardiff and Vale University Health Board	University Hospital of Wales	Combined ICU/HDU	24/7 access	CPAP, HFNO & NIV
Cwm Taf Morgannwg University Health Board	Prince Charles Hospital	Combined ICU/HDU		CPAP, HFNO & NIV
	Royal Glamorgan Hospital	Combined ICU/HDU		CPAP, HFNO & NIV
	Princess of Wales Hospital	Combined ICU/HDU		HFNO & NIV
Hywel Dda University Health Board	Bronglais General Hospital	Combined ICU/HDU		CPAP & NIV
	Glangwili General Hospital	Combined ICU/HDU		CPAP, HFNO & NIV
	Prince Phillip Hospital	HDU (temporary)		CPAP & HFNO
	Withybush General Hospital	Combined ICU/HDU		CPAP & NIV
Swansea Bay University Health Board	Morriston Hospital	Combined ICU/HDU	24/7 access	CPAP, HFNO & NIV

Unit Type

There have been no changes to the overall configuration of critical care units across Wales since the last census. Prince Philip Hospital temporarily operates solely as a high dependency unit (HDU) following changes in July 2022 and has no direct consultant intensivist led care. The unit does not provide care for planned post-operative patients, focusing exclusively on high dependency care and stabilisation of patients prior to step-up to Glangwili General Hospital ICU. The evolving nature of critical care service configuration requires a balance between workforce availability, patient demand, and system-wide capacity. Ongoing monitoring will be important to assess the impact on patient flow and regional critical care resilience.

Primary PCI Services

Compared to the baseline assessment, there has been no change in the distribution of Primary PCI services across Wales. Cardiff and Vale University Health Board, Swansea Bay University Health Board, and Betsi Cadwaladr University Health Board continue to provide 24/7 access, while Aneurin Bevan UHB maintains a Monday–Friday, 9am–5pm service. Service provision remains unchanged, and no additional capacity has been developed within the past year. Continued monitoring will be essential to assess whether current provision meets future demand. Considering the SaLC campaign by the Welsh Government, the number of patients reaching secondary care and subsequently surviving an out of hospital cardiac arrest is expected to significantly increase – as seen from similar programmes implemented in other parts of Europe. This would potentially result in a significant number of comatose survivors to be cared for in our Welsh critical care units, many of whom would also need to have a cardiac intervention (Primary PCI). The aforementioned may potentially increase the demand for critical care with proportionally more increase in the units that can provide Primary PCI services.

Enhanced Respiratory Care

All health boards continue to offer Enhanced Respiratory Care (CPAP, HFNO, NIV) outside of critical care units. However, similar to the 2023-2024 baseline findings, this service remains limited, with no significant expansion in workforce or resources. Critical care units still provide ad-hoc support, highlighting the reliance on ICU for non-invasive ventilation services and the ongoing need for sustainable staffing and resources. During the COVID pandemic, the respiratory support provided to single-organ respiratory-failure patients outside of critical care units was extremely important for the acute hospitals to cope with the surge in demand. A clear need to enhance respiratory support provision in these areas (outside of critical care) remains. This would enable the acute hospitals to cope adequately to:

a) the systems demand during winter surge of respiratory illnesses, especially in those that are deemed not clinically suitable for invasive mechanical ventilation,
b) once-in-a-decade / Swine-Flu like significant surges in the demand
c) once-in-a-generation / COVID-19 like pandemic surges in the demand

Key Findings and Considerations for Future Planning

- While the overall distribution of specialist services remains unchanged, unit-level reconfigurations have occurred, notably the temporary downgrading of Prince Philip Hospital to an HDU-only service (albeit in 2022) and the ongoing refurbishment of the critical care estates in Morriston hospital amalgamating the general critical care unit with the supra-regional Burns & Plastics critical care unit, which serves a significant population of Wales and England
- There has been no expansion of Primary PCI services, and current service provision remains unchanged, requiring continued monitoring to assess future demand and collaboration with key stakeholders in the Cardiovascular network and Welsh Government
- Enhanced Respiratory Care services remain limited, with no additional workforce or resource investment, continuing the reliance on ICU support for non-invasive ventilation in many sites
- Critical care capacity constraints continue to limit the potential expansion of specialist services and require strategic planning to ensure sustainable service development.
- Workforce challenges across the critical care units and learning from amalgamation of the critical care units in some health boards (Aneurin Bevan, Cardiff and Vale and Swansea Bay University Health Boards) should be considered by other health boards in Wales. Plans for consolidation of critical care services should be balanced on the need for support to other specialties within those acute hospitals e.g., emergency surgery.

Conclusion:

While this year's data indicates stability in specialist service provision, it also highlights constraints in resources, reinforcing the need for long-term strategic planning to support future service needs.

5. Bed Capacity

Critical care provision in NHS Wales is spread across 13 sites within 6 health boards, with variations in the number and flexibility of level 3 equivalent beds available for patient care. This section provides a detailed breakdown of current bed capacity in relation to population needs, surge capacity and single room availability.

Health Board	Unit	Total Number of Funded and Unfunded Beds	Level 3 Equivalent Beds - 2023	Level 3 Equivalent Beds - 2024	Surge Beds - Inside Footprint	Surge Bed – Outside footprint	Total Surge Beds (% increase)	Single Rooms
Aneurin Bevan University Health Board	Grange University Hospital	24	21	21	30	0	30 (125%)	24 (100%)
Betsi Cadwaladr University Health Board	Ysbyty Glan Clwyd	16	8	8	3	10	13 (81%)	8 (50%)
	Ysbyty Gwynedd	11	8	8	2	8	10 (91%)	7 (64%)
	Wrexham Maelor Hospital	12	9	9	6	8	14 (116%)	6 (50%)
Cardiff and Vale University Health Board	University Hospital of Wales	38	38	38	6	8	14 (37%)	2 (5%)
Cwm Taf Morgannwg University Health Board	Prince Charles Hospital	12	8	8	2	0	2 (16%)	2 (16%)
	Royal Glamorgan Hospital	12	8	8	2	6	8 (66%)	2 (16%)
	Princess of Wales Hospital	9	6	6	1	2	3 (33%)	3 (33%)
Hywel Dda University Health Board	Bronglais General Hospital	5	3	3	2	0	2 (40%)	3 (60%)
	Glangwili General Hospital	18	11	10	5	4	9 (50%)	9 (50%)
	Prince Phillip Hospital	6	0	0	0	0	0 (0%)	4 (67%)
	Withybush General Hospital	9	5	4	5	2	7 (78%)	4 (44%)
Swansea Bay University Health Board	Morriston Hospital	28	21	21	0	6	6 (21%)	1 (4%)

Level 3 Equivalent Beds

In 2024, there were **144** Level 3 equivalent beds across Wales, a reduction from **146** beds in 2023. This decrease is due to:

- In Hywel Dda University Health Board, both Glangwilli General Hospital and Withybush General Hospital have **1** less bed each following a health board-led restructuring of critical care services.

The table below provides a breakdown of Level 3 equivalent beds per 100,000 population across Welsh health boards. Powys Teaching Health Board is not included in this table, as it does not have a critical care unit. However, its population (around 5% of the total in Wales) must still be accounted for, as patients from Powys rely on neighbouring health boards for critical care services.

Health Board	Population*	Level 3 Equivalent Beds - 2023	Per 100,000 population	Level 3 Equivalent Beds - 2024	Per 100,000 population
Aneurin Bevan University Health Board	595,412	21	3.52 Beds	21	3.52 Beds
Betsi Cadwaladr University Health Board	691,991	25	3.61 beds	25	3.61 beds
Cardiff and Vale University Health Board	518,269	38	7.33 beds	38	7.33 beds
Cwm Taf Morgannwg University Health Board	446,514	22	4.93 beds	22	4.93 beds
Hywel Dda University Health Board	388,139	19	4.89 beds	17	4.38 beds
Swansea Bay University Health Board	389,640	21	7.2 beds	21	5.39 beds
Totals	3,029,965	146	4.81 beds	144	4.75 beds

*The population figures are taken from StatsWales - Population estimates by local health boards in 2023.

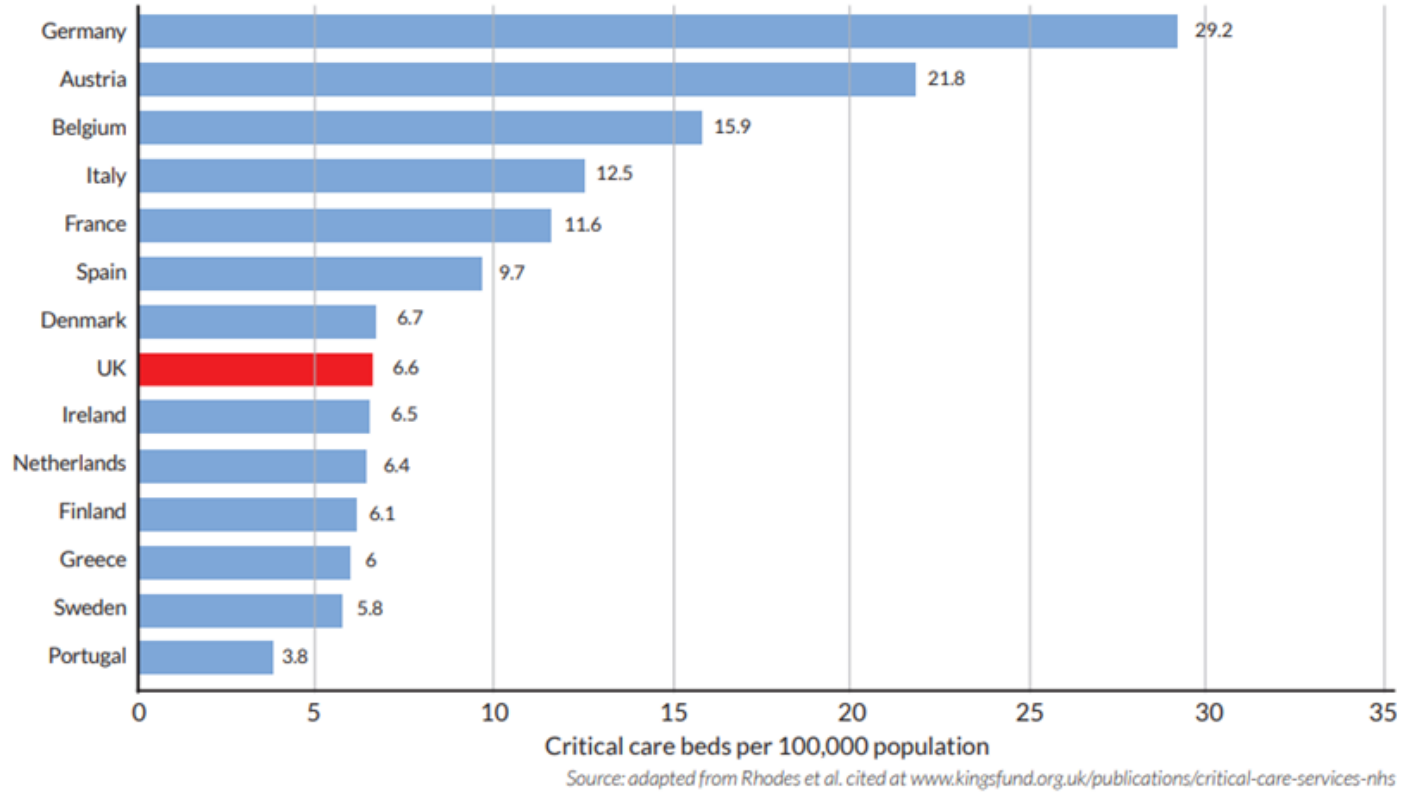
The reduction in Level 3 equivalent beds has lowered the overall provision to **4.75** beds per 100,000 population. For context, GPICS2 (2011) reported **5.7** beds per 100,000, which was already one of the lowest critical care bed ratios in the UK, as detailed in the table below.

Country	Population*	Critical Care Beds	Per 100,000 population
Wales	3,029,965	144	4.75
England	56,000,000	3976	7.1
Scotland	5,400,000	547	10.1

*Welsh Figure derived from Critical Care network census, remaining figures taken from Association of Anaesthetists https://doi.org/10.1111/anae.15466

When compared to the wider European statistics, Wales' provision of critical care capacity falls well below the average with only Portugal having lower critical care capacity per capita.

Figure 3: International comparison of critical care bed numbers



Source: adapted from Rhodes et al. cited at www.kingsfund.org.uk/publications/critical-care-services-nhs

The latest figures indicate a further decline, highlighting an ongoing challenge in critical care capacity across Wales. Additionally, as Powys patients rely on neighbouring health boards, and as health boards bordering England often experience an influx of patients from across the border, the actual demand on these critical care units may be higher than the per capita figures suggest. This is further compounded by seasonal increases in population due to tourism, particularly in rural and coastal regions.

Cardiff and Vale and Swansea Bay University Health Boards provide several tertiary services, requiring a higher number of critical care beds to support these specialties. As a result, their bed-to-population ratios appear higher, but this reflects tertiary demand rather than local need alone. The health boards should consider measures to separate their secondary care from the tertiary care demands to ensure critical care services are appropriately commissioned and expanded, when necessary.

Surge capacity

In addition to the core funded beds, surge beds provide additional capacity during high-demand periods, such as the winter months, but are not typically included in the routine operational bed count. It is acknowledged that whilst the above figures were provided to us, health boards have indicated that they can surge capacity by 100% during periods of need. From the data provided, up to **118** surge beds can be utilised to provide critical care. This is only **59%** of total beds within the health boards. Of these, **64** beds are within unit footprints, while **54** beds are located outside of critical care units in areas identified by local health board surge plans. The opening of these surge beds may affect other services within health boards, and their activation is reflected in local surge plans, which will address any associated risks.

It is to be noted that actioning of the health board surge plans will primarily be dependent on staffing levels – specifically the nursing and medical staffing in the immediate period of surge plan implementation. Additional critical care staff are usually sought via bank and agency, however during times of surge these are unlikely materialise due to staff being affected by illness, and units experiencing persistent additional demand. Hence, the staffing plan for surge capacity needs to be cognisant of the challenges mentioned above with due consideration given to the use of ex-critical care staff and non-critical care trained staff to provide additional cover, as seen during the COVID pandemic. Health boards need to consider maintaining a log of ex-critical care trained staff that can be utilised in times of significant crisis.

Single Rooms for Isolation and Infection Control

Single rooms play a critical role in infection control, isolation, and patient privacy, particularly for high-risk patients. However, their availability varies significantly across health boards. Of the total critical care beds in Wales, **75** are single occupancy rooms, representing **38%** of all beds.

The Grange University Hospital (Aneurin Bevan University Health Board) is unique in NHS Wales, as it exclusively provides single-occupancy rooms. Excluding the Grange, the number of single rooms drops to **51 (29%** of total beds), offering a more accurate reflection of single-room availability across the country. However, the proportion of single beds varies considerably between units in Wales.

While there is no agreed standard on the minimum proportion of single rooms required, it has been accepted by the clinical community that a minimum of 20% of the total bed base within a unit should have isolation facilities. The University Hospital of Wales in Cardiff and Morriston Hospital in Swansea have some of the lowest number of single rooms relative to their total bed capacity in Wales. The complexity of the case mix, including

higher proportion of immunocompromised patients and the inter-hospital transfer of patients seen in these tertiary units warrants further increase in the proportion of their single room capacity.

Future new builds and refurbishments of critical care units should consider increasing the number of single rooms as part of their design. However, the optimal proportion of single rooms should be tailored to the specific case mix and clinical needs of each unit.

Delayed Discharges and Cross-Border Pressure

Delayed transfers of care (DTOCs) continue to impact the overall availability of Level 3 equivalent beds in Wales. While the census did not directly capture the number of bed days lost, local intelligence and feedback from units indicate that multiple sites consistently operate with patients remaining in critical care beyond their clinical need. In some cases, this results in several bed days per week being lost, particularly where ward bed availability, rehabilitation capacity, or ongoing care needs cause discharge delays. The poor flow of patients through the critical care units in Wales costs the taxpayers millions of pounds every year.

This has a direct effect on patient throughput, with some units regularly relying on escalation areas or surge beds to accommodate new admissions. The consequence is a reduced effective bed base, limiting access for planned procedures and decreasing flexibility during periods of peak demand.

Cross-border flows also influence demand on Welsh critical care services. Health boards located near the Welsh–English border, particularly in North and Southeast Wales, regularly admit patients from neighbouring English regions. Likewise, patients from Wales — including those in Powys Teaching Health Board and other areas without local provision of tertiary services — are often treated in English critical care units. These bidirectional flows are not reflected in the census population figures but contribute meaningfully to demand and capacity pressures on both sides of the border.

Moving forward, the network will explore mechanisms to better capture the impact of DTOCs and cross-border activity, including estimated bed day loss, in future reports. Understanding the true demand on the critical care bed base — including patients from outside of health board or national boundaries — will be essential to support equitable resource allocation and realistic service planning.

Key Findings & Considerations

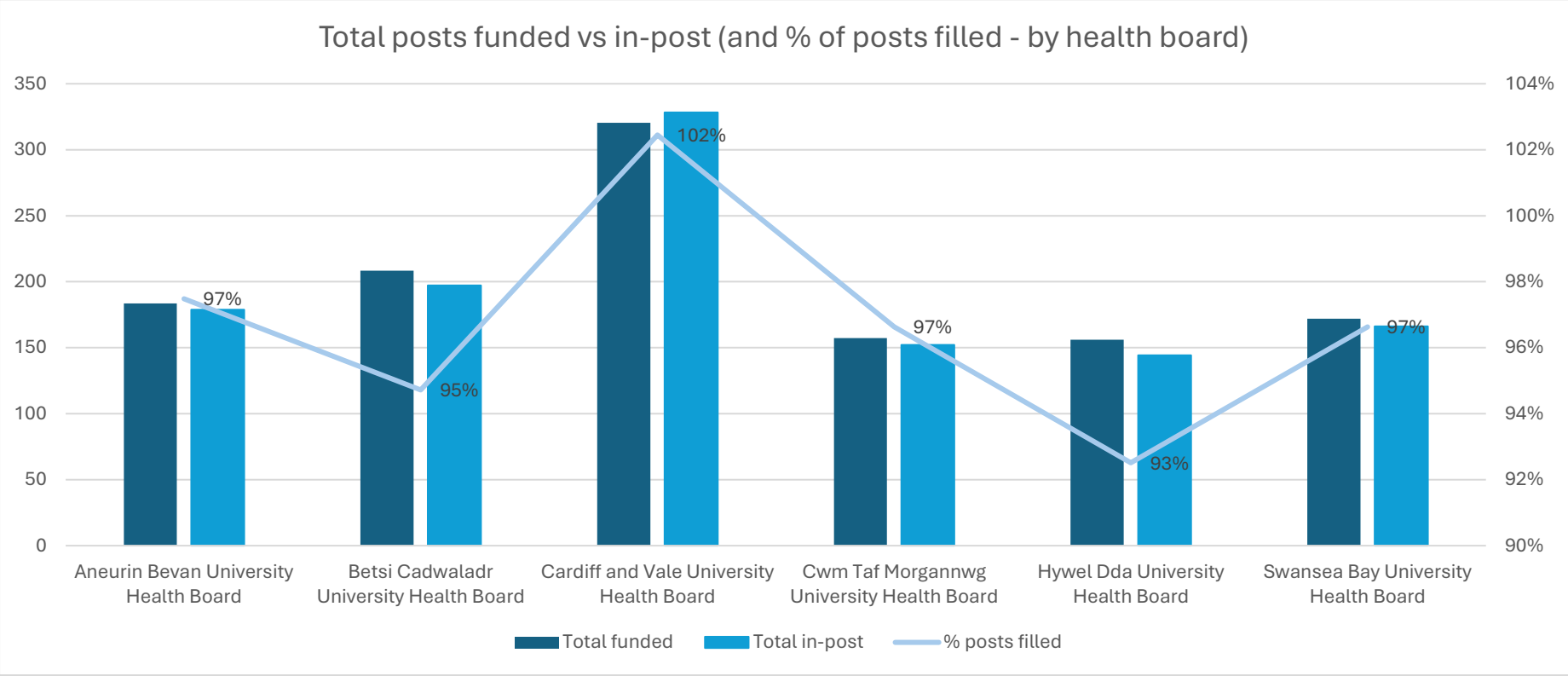
- The total number of Level 3 equivalent beds has decreased from 146 in 2023 to 144 in 2024, reducing provision to 4.75 beds per 100,000 population.
- It is highly likely that Wales continues to have one of the lowest critical care bed ratios in Europe, with regional variations in availability and demand.
- Up to 118 surge beds are identified across Wales, but only 54% are within the critical care footprint, and activation is highly dependent on staffing availability.
- Reliance on bank and agency staff may not be sufficient during peak demand, necessitating contingency planning, including the use of ex-critical care and redeployed staff.
- 38% of all critical care beds are single rooms, but this drops to 29% when excluding the Grange University Hospital, indicating variability across health boards.
- New builds and refurbishments should assess the proportion of single rooms required, balancing infection control needs with operational efficiency.
- Future planning should consider separating secondary and tertiary critical care bed data to provide a more meaningful comparison across health boards. This distinction would help better assess capacity needs and ensure appropriate resource allocation for both secondary and tertiary critical care.

Conclusion:

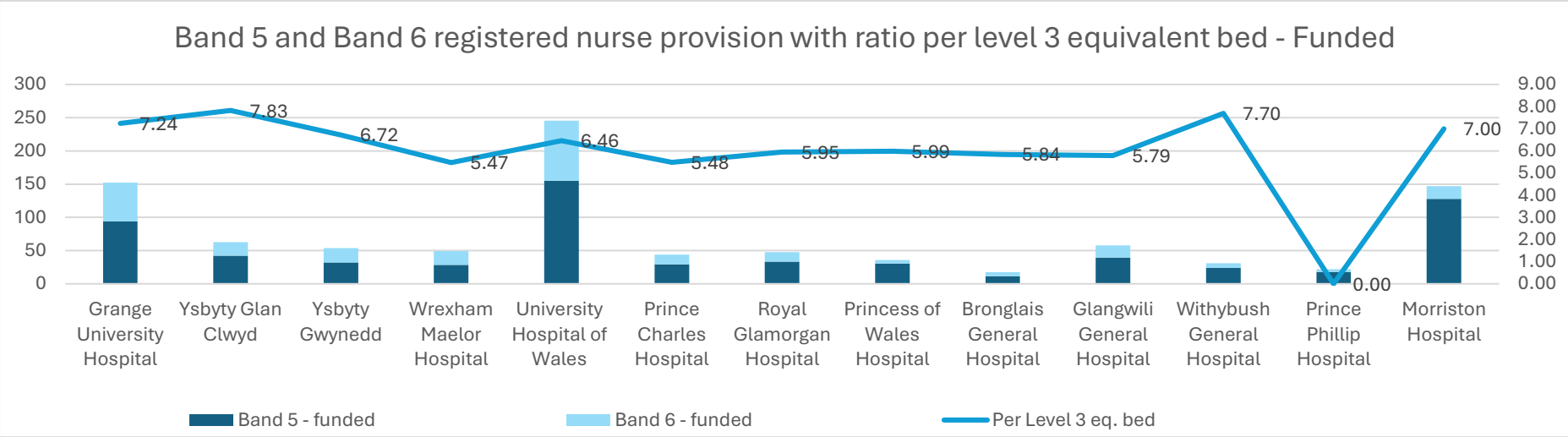
Looking ahead, maintaining a balance between funded bed numbers, surge capacity, and single-room availability will be essential for sustaining effective and safe critical care across Wales. Workforce planning remains a key challenge for surge activation, requiring a strategic approach to staffing solutions. Future planning should prioritise optimising critical care resources to meet both seasonal pressures and long-term healthcare demands. Additionally, projected demographic trends indicate an increasing need for Level 2 beds rather than Level 3, which should be factored into future capacity planning.

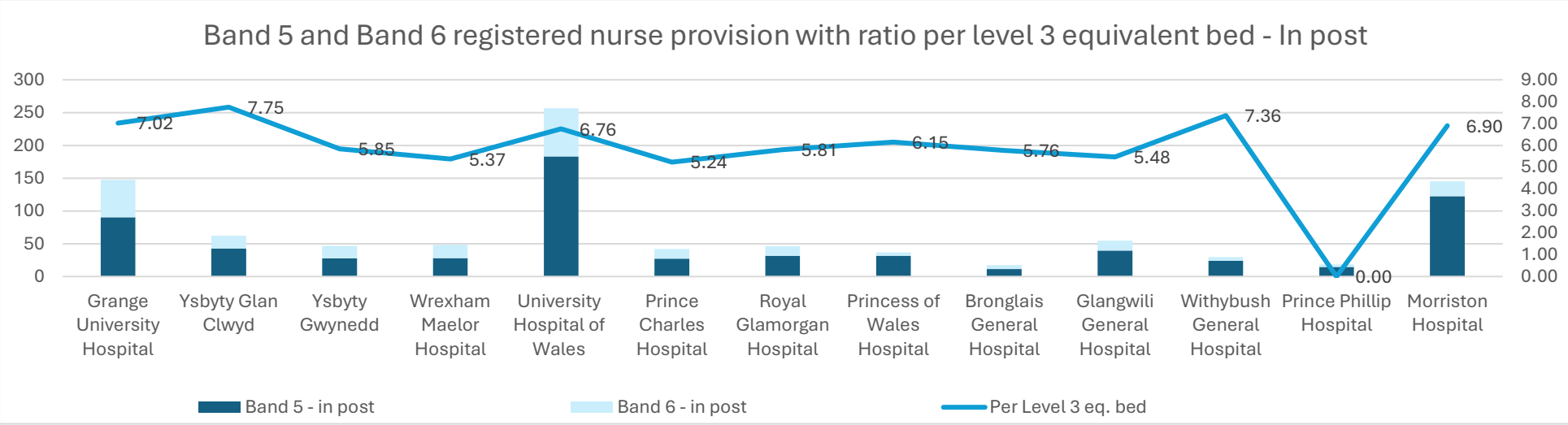
6. Workforce – Nursing

The total number of funded nursing posts (Registered and unregistered from Band 3 – Band 8c) is **1197.53**, while the actual number in post is slightly lower at **1166.97**. Overall, **97%** of critical care nursing posts are filled across Wales, though this varies by unit size. Smaller units report the highest vacancy rates, with an average fill rate of **93%,** while larger units operate at full staffing capacity (**100%**)."



Band 5 and Band 6 registered nurse provision





The total number of Band 5 and Band 6 nursing posts in critical care across Wales is **965.85**, with **951.91** nurses actually in post. This equates to an average of **6.71** funded nursing staff per Level 3 equivalent bed, with **6.61** actually in post; indicating that staffing levels are generally close to planned figures. The University Hospital of Wales stands out, with more Band 5 nurses in post (**183.1**) than funded (**154.97**), but fewer Band 6 nurses than funded.

Across Wales, **69%** of funded nursing staff are Band 5, while **31%** are Band 6. In reality, **71%** of nurses in post are Band 5, with **29%** at Band 6. This signifies a significant proportion of critical care nursing staff are on the lower grade. Health boards need to consider increasing the proportion of band 6 staff, to ensure more direct clinical support to junior staff and lowering any patient safety risk. The distribution of Band 5 and Band 6 nurses also varies between hospitals. For example, Morriston Hospital has a much higher proportion of Band 5 staff (**87%)** than Band 6 (**13%**), reflecting a different staffing approach compared to other sites.

The nurse-to-bed ratio also differs across hospitals. Morriston Hospital has the highest nurse-to-bed ratio for Band 5 and Band 6 staff, with **6.9** nurses per bed in post, whereas Prince Charles Hospital has the lowest ratio at **5.24** per bed in post. However, it is important to acknowledge that Band 7 nurses may also be covering clinical shifts, and Band 4 staff may be supporting patient care. These factors contribute to the overall workforce providing bedside care, which may not be fully captured by Band 5 and Band 6 figures alone.

The increasing reliance on Band 5 nurses may have implications for skill mix and leadership within teams. Some hospitals may need to review their Band 6 recruitment strategies to ensure the right balance of experience and seniority. Additionally, with some hospitals operating with fewer nurses per Level 3 bed, there may be concerns about staffing pressures, service sustainability, and overall workforce resilience in critical care units across Wales.

Skill mix and workforce sustainability

Registered Nurses (Band 5 and 6) make up **81%** of the critical care workforce across Wales, highlighting a strong reliance on these grades for staffing. However, senior roles (Band 7-8) account for **8%**. The distribution of nursing grades varies significantly between hospitals, with Morriston Hospital having the highest proportion of Band 5 nurses **(85%)**, while Bronglais Hospital maintains a more balanced mix (**72%** Band 5, **28%** Band 6). This variation in skill mix may influence team dynamics, mentorship opportunities, and the overall resilience of staffing models. A workforce model with a higher proportion of Band 5 nurses may place greater pressure on senior staff for clinical supervision and decision-making, while a more balanced skill mix could enhance mentorship and support for less experienced staff."

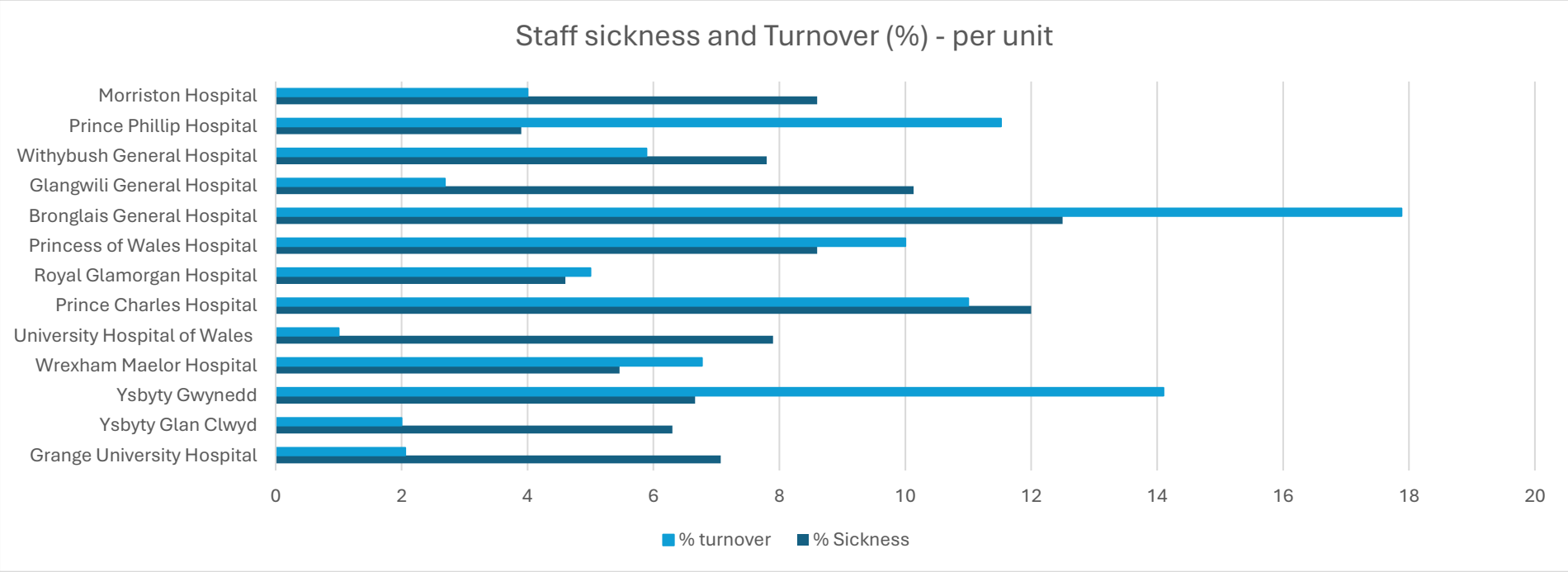
Healthcare support worker (Band 4) reliance also differs across sites, often reflecting unit-specific needs. Grange University Hospital has the highest proportion of healthcare support workers **(12%)**, likely due to its single-room model requiring more direct patient care assistance. Smaller units, such as Prince Philip and Withybush, appear to depend more on Band 4 staff, potentially offsetting lower numbers of registered nurses. In contrast,

larger units like University Hospital of Wales and Morriston Hospital have a higher proportion of Band 5 nurses but fewer Band 6+ leadership roles, which could pose challenges in clinical decision-making and supervision. Interestingly, smaller-sized units report the highest vacancy rates, with an average fill rate of 93%, compared to 100% in larger units, suggesting potential staffing pressures in this group, perhaps due to their generally more rural locations.

These findings suggest that some hospitals may need to reassess their workforce planning, particularly in balancing Band 5 and Band 6 recruitment and ensuring leadership capacity at senior levels. Future workforce strategies could focus on targeted Band 6 development programmes and improving retention in rural units.

Sickness Absence and Turnover Rates

The data reveals notable variations in sickness absence and staff turnover across critical care units in Wales. While some units maintain relatively stable staffing levels, others experience high rates of sickness or turnover, potentially impacting workforce resilience and patient care.



Units with the highest sickness rates are Bronglais General Hospital (**12.5%**), Prince Charles Hospital (**12%**) and Glangwili General Hospital (**10.13%**). Prince Philip Hospital has the lowest sickness rate of **3.9%.** Hospitals with higher sickness rates may experience increased reliance on temporary staff, higher workloads for remaining staff, and potential service delivery challenges.

Some sites have significantly higher rates: Bronglais General Hospital (**17.88%),** Ysbyty Gwynedd (**14.1%**), Prince Philip Hospital (**11.52%**) and Prince Charles Hospital (**11%**). Units with the lower rates of annual turnover are the University Hospital of Wales (**1%**), Ysbyty Glan Clwyd (**2%**) and the Grange University Hospital (**2.06%**). High turnover may reflect staff retention challenges, workload pressures, or dissatisfaction, whereas lower turnover could indicate workforce stability or limited external opportunities.

Bronglais General Hospital has the highest sickness and turnover rates, raising concerns about sustainability, recruitment, and staff retention strategies. Ysbyty Gwynedd, Prince Charles, and Prince Philip Hospitals also report high turnover, which may impact workforce continuity, training, and delivery of patient care. The University Hospital of Wales and Ysbyty Glan Clwyd have the most stable workforce, with low turnover and moderate sickness rates.

Units with both high sickness and turnover may require targeted workforce strategies, including retention initiatives (such as mentorship and leadership development), enhanced health and well-being support (including occupational health interventions), and more flexible working arrangements.

The smaller units may be disproportionately affected by sickness / turnover of even a few staff, when compared to the bigger units. Hence, each unit should consider tracking their sickness and turnover rates annually to put in remedial measures as appropriate. It is noted from the units that some of the staff who have been on long-term sickness might very well be the ones that ultimately resign are included in the ‘staff turnover’ figures.

Key Findings & Considerations

- 97% of critical care nursing posts are filled, but smaller units report lower fill rates (93%), highlighting recruitment challenges.
- Band 5 nurses make up 71% of staff in post, exceeding the planned 69%, indicating a shift towards less experienced staff.
- Senior nursing roles (Band 7–8) account for only 8% of the workforce, which may impact leadership capacity.
- Nurse-to-bed ratios vary, from 6.9 per bed at Morriston Hospital to 5.24 per bed at Prince Charles Hospital, affecting workload distribution.
- Units with the highest sickness rates are Bronglais General Hospital (12.5%) and Prince Charles Hospital (12%) among the highest.
- Turnover rates for Bronglais General Hospital (17.88%) and Ysbyty Gwynedd (14.1%) are higher than most, raising retention concerns.
- Due to service models some units rely more on Band 4 healthcare support workers, such as Grange University Hospital (12%).

Conclusion:

Ensuring a sustainable and well-balanced critical care nursing workforce across Wales will require ongoing attention to skill mix, workforce stability, and leadership capacity. The increasing reliance on Band 5 nurses may necessitate greater investment in Band 6 development and mentorship opportunities to maintain high standards of care. Addressing higher sickness and turnover rates in certain units will also be critical, with a need for improved staff well-being initiatives and flexible working arrangements. Future workforce planning should focus on balancing experience levels, supporting smaller and rural units, and strengthening senior leadership roles to enhance resilience and service sustainability. Continued investment in training, retention, and workforce development is essential to maintain safe staffing levels and protect against burnout and attrition in the existing workforce.

7. Workforce – Medical

The consultant numbers in Welsh critical care units vary from **5** (in the smaller units) to **27** (in the largest unit). There is proportionately more locum than substantive consultants in the rural units within Hywel Dda University Health Board. The total number of consultant DCC (direct clinical care) sessions that are required to run the critical care service vary depending upon the size of the unit, up to a maximum of **172** sessions per week is needed at the University Hospital of Wales unit in Cardiff and Vale University Health Board. This is probably due to the unit's unique arrangement within Wales of resident consultant cover provision across day and night shifts, whereas the remaining units offer a non-resident Intensivist cover during the nights.

In terms of the out-of-hours cover provided to the critical care units, most of the units in Wales have the same core consultant intensivists that provide the daytime consultant sessions and provide the out-of-hours service. However, the three critical care units in Bronglais General Hospital and Withybush General Hospitals in Hywel Dda University Health Board and Ysbyty Gwynedd in Betsi Cadwaladr University Health Board have their out-of-hours consultant service provided by anaesthetic consultants. The GPICS section on 'smaller, remote and rural critical care units' provides the context to the potential difficulties in staffing these units and the suggested sustainable solutions to maintain equity of access to the local populations. The critical care services must be led by consultants trained in ICM and daytime critical care services must be provided by a consultant trained in ICM and dedicated to the unit with no other commitments. Where out-of-hours care is provided by non-intensivists there must always be appropriate advice available to them from a consultant in Intensive Care Medicine at all times. This advisory service should be agreed locally within the health board.

The total number of consultant sessions that are provided for service leadership roles, such as the clinical director or clinical lead, varies from **1 session** per week to **4 sessions** per week depending upon the size of the unit.

The specialty doctors and associate specialists form a relatively small cohort of staff within critical care, ranging from **0** to **7** specialty doctors between the units and only **7** associate specialists across Wales. Most of these roles are in rural areas. This could be reflective of the historic recruitment challenges that we have faced in Wales.

The health boards that have difficulty in staff recruitment and retention due to multiple sites and multiple on-call rotas for middle grade and consultant grade doctors should actively look at the feasibility of alternatives such as the consolidation of critical care services within their health board (especially in the context of wider centralisation in acute specialties within the health board), restructuring of elective and emergency care with stabilisation bays and step-up / escalation of care protocols to critical care services in different sites, use of telemedicine to enable remote-

working and multiple-site working that are routinely practised elsewhere. However, this has to be balanced against the geographical remoteness of the unit / hospital and the need to support other specialties within that hospital.

The ACCPs (advanced critical care practitioners) are an ever-increasing group of staff in critical care and play a huge role in the provision of additional support to the junior medical tier in many critical care units in Wales. They range in numbers from **3** per unit (in the north Wales units) to **8** per unit (in University Hospital of Wales and Grange university Hospital in South Wales). A number of those ACCPs have Faculty of Intensive Care Medicine (FICM) membership and seem to support the resident doctors rota in the majority of units at a core-level of resident doctors rota. Only the University Hospital of Wales and Grange University Hospital units have them on a separate ACCP rota tier in addition to their resident doctor tiers. All the ACCPs within the Welsh units participate in both night and weekend shifts. It is also worth noting that a number of critical care units in Wales do NOT currently have ACCPs. These units are those that face recruitment challenges with resident doctors hence the need to actively consider training or recruiting ACCPs to supplement their resident medical cover.

Two of the units surveyed were involved in formal Certificate of Eligibility for Specialty Registration (CESR) portfolio training, a successful completion of portfolio training by these doctors, leading to an award of Certificate of Completion of Training (CCT), will enable then to take up consultant jobs.

With regards to resident training grade doctors), more senior-level doctors (ST 5-7) are seen in the largest critical care units and proportionately more junior-level doctors (CT 1 – 3) in the smaller units. The total numbers vary but vacancies of even a single post can lead to difficulty in staffing the rota tiers, affecting the resilience of the rotas in these units. The foundation-level doctors also vary from **0** to **2.5** across the units. The University Hospital of Wales and Ysbyty Gland Clwyd offer academic foundation training posts in their units. Ysbyty Glan Clwyd unit in Betsi Cadwaladr University Health Board also offers an academic clinical fellow in their unit.

In relation to the resident: patient ratios in their unit, the critical care units at both Ysbyty Gwynedd in Betsi Cadwaladr University Health Board and Royal Glamorgan in Cwm Taf Morgannwg University Health Board have a resident doctor rota that exceeds the suggested resident: patient ratios (**1:8**) as recommended by GPICS. These units should actively be looking at increasing their resident doctors in training or non-training doctors or ACCPs practitioners, to ensure that they are able to safely provide for the care in their units and provide an additional rota tier to ensure that the resident: patient ratio is kept at 1:8 or lower frequency.

In summary, there are challenges with regards to recruitment to consultant and non-consultant grade doctors, especially in our rural and remote units. Where this is a perennial problem, the health boards need to look at alternative solutions to the provision of critical care services, some of which are outlined above. It is imperative that health boards continue to actively address variations in the provision of GPICS standards of care to their population.

Key Findings & Considerations

• Consultant numbers range from 5 to 27 per unit, with larger units like University Hospital of Wales requiring significantly more DCC sessions due to resident consultant cover.
• Rural units continue to rely on locum consultants, particularly within Hywel Dda University Health Board, reflecting ongoing recruitment challenges.
• Out-of-hours cover varies; some units depend on anaesthetic consultants rather than intensivists, requiring robust advisory arrangements from consultant intensivists in line with GPICS.
• Resident:patient ratios exceed the 1:8 GPICS threshold in at least two units, raising concerns about rota resilience and safe staffing.
• Specialty and associate specialist doctors are unevenly distributed, with rural units having more middle-grade staff and fewer senior clinical leads.
• ACCP numbers vary significantly, with some units lacking any, despite facing recruitment difficulties that ACCPs could help address.
• Academic training opportunities and CESR support are limited, concentrated in just a few units, reducing opportunities for workforce development.
• Health boards with multiple on-call rotas and sites should explore models such as service consolidation (where feasible and aligned with the wider service reconfiguration), remote working, and telemedicine to improve sustainability.

Conclusion

Medical workforce challenges persist across Wales, particularly in rural and smaller units. Variability in consultant presence, resident medical cover, and use of ACCPs has a direct impact on service sustainability and patient safety. Health boards must actively address these disparities and explore innovative workforce solutions, from telemedicine to enhanced training pathways to ensure safe, equitable, and resilient critical care across the country. Consistent delivery of GPICS standards must remain a strategic priority. Ensuring consistent access to consultant-led and resident medical cover is critical to maintaining safe, sustainable staffing across all units — particularly in rural and high-demand settings.

8. Key Findings and Trends

Specialist Services:

Primary PCI Services:

There has been no change in the distribution of Primary PCI services across Wales since the baseline assessment. Cardiff and Vale University Health Board, Swansea Bay University Health Board, and Betsi Cadwaladr University Health Board continue to provide 24/7 access, while Aneurin Bevan University Health Board maintains a Monday–Friday, 9am–5pm service.

Continued monitoring is essential to assess whether current provision meets future demand, especially considering the potential increase in demand due to the Save a Life Cymru (SaLC) campaign by the Welsh Government.

Enhanced Respiratory Care:

All health boards continue to offer Enhanced Respiratory Care (CPAP, HFNO, NIV) outside of critical care units. However, this service remains limited, with no significant expansion in workforce or resources.

Critical care units still provide ad-hoc support for non-invasive ventilation services, highlighting the ongoing need for sustainable staffing and resources. Limited non-invasive respiratory capacity outside critical care units can lead to avoidable ICU admissions, undermining progress against Goal 2 of the Six Goals for Urgent and Emergency Care.

Bed Capacity:

Current Status:

As of 2024, there are 144 Level 3 equivalent beds across Wales, a reduction from 146 beds in 2023. This decrease is due to the reduction of 2 beds in Hywel Dda University Health Board following a health board-led restructuring of critical care services.

The distribution of Level 3 equivalent beds per 100,000 population varies across health boards, with Cardiff and Vale University Health Board having the highest ratio at 7.33 beds per 100,000 population, and Aneurin Bevan University Health Board having the lowest at 3.52 beds per 100,000 population. However, tertiary provision at Cardiff and Vale University Health Board and Swansea Bay University Health Board make direct comparisons difficult per population needs.

Surge Capacity:

Surge capacity includes up to 118 beds, which is 59% of the total beds within the health boards. Of these, 64 beds are within unit footprints, while 54 beds are located outside of critical care units in areas identified by local health board surge plans.

The activation of surge beds is highly dependent on staffing availability, particularly nursing and medical staff. During periods of high demand, additional critical care staff are usually sought via bank and agency staff, but this may not be sufficient due to staff illness and persistent demand across units.

Single Rooms:

Single rooms play a critical role in infection control, isolation, and patient privacy. Of the total critical care beds in Wales, 75 are single occupancy rooms, representing 38% of all beds. However, excluding the Grange University Hospital, which exclusively provides single-occupancy rooms, the number of single rooms drops to 51 (29% of total beds).

The availability of single rooms varies significantly across health boards, with University Hospital of Wales and Morriston Hospital having the lowest number of single rooms relative to their total bed capacity.

Delayed Transfers of Care:

DTOCs limit critical care throughput and timely discharge, posing a barrier to achieving Goal 4 of the Six Goals for Urgent and Emergency Care.

Workforce – Nursing:

Staffing Levels:

The total number of funded nursing posts (registered and unregistered from Band 3 to Band 8c) is 1,197.53, while the actual number in post is slightly lower at 1,166.97. Overall, 97% of critical care nursing posts are filled across Wales, though this varies by unit size. Smaller units report the highest vacancy rates, with an average fill rate of 93%, while larger units operate at full staffing capacity (100%).

Skill Mix:

The total number of Band 5 and Band 6 nursing posts in critical care across Wales is 965.85, with 951.91 nurses actually in post. This equates to an average of 6.71 funded nursing staff per Level 3 equivalent bed, with 6.61 actually in post.

Band 5 nurses make up 71% of staff in post, exceeding the planned 69%, indicating a shift towards less experienced staff. Senior nursing roles (Band 7–8) account for only 8% of the workforce, which may impact leadership capacity.

Sickness and Turnover Rates:

Units with the highest sickness rates are Bronglais General Hospital (12.5%) and Prince Charles Hospital (12%). Prince Philip Hospital has the lowest sickness rate of 3.9%.

Units with the highest turnover rates are Bronglais General Hospital (17.88%) and Ysbyty Gwynedd (14.1%). Units with lower rates of annual turnover include University Hospital of Wales (1%) and Ysbyty Glan Clwyd (2%).

Workforce – Medical:

Medical staffing levels vary across health boards, with the majority of sites meeting daytime and weekday rota expectations. However, challenges remain with out-of-hours cover, particularly in smaller units where consultant presence is more limited.

Locally employed doctors and SAS (Specialist and Associate Specialist) doctors form a significant proportion of the workforce in some units, and their availability is a key factor in maintaining safe staffing, especially during periods of increased demand.

Consultant cover remains compliant with critical care service specifications in larger units, but smaller or rural hospitals have unique challenges outlined above.

9. Strategic Implications and Recommendations

Specialist Services:

Primary PCI Services:

Continue monitoring service provision and collaborate with key stakeholders to assess future demand and capacity. This may involve exploring opportunities for expanding service hours or increasing the number of units offering Primary PCI services.

Enhanced Respiratory Care:

Invest in workforce and resources to expand non-invasive ventilation services outside of critical care units. This will help reduce the reliance on ICU support and improve the overall resilience of the healthcare system. Consider development of surge plans for enhanced respiratory care units, to cope with predictable demands during winter period.

Bed Capacity:

Increase Bed Numbers:

Address the reduction in Level 3 equivalent beds by exploring options for increasing bed numbers and improving surge capacity. This may involve reallocating resources, optimizing existing space, and investing in new infrastructure.

Enhance Single Room Availability:

Future new builds and refurbishments should consider increasing the number of single rooms to enhance infection control and patient privacy. The optimal proportion of single rooms should be tailored to the specific case mix and clinical needs of each unit.

Workforce – Nursing:

Skill Mix Improvement:

Invest in Band 6 development and mentorship opportunities to balance the reliance on Band 5 nurses. This will help ensure a well-rounded skill mix and improve the overall quality of patient care.

Leadership Enhancement:

Strengthen senior nursing roles (Band 7–8) to improve leadership and decision-making capacity. This may involve targeted recruitment, professional development programs, and succession planning.

Retention Strategies:

Implement targeted retention initiatives, particularly in units with high sickness and turnover rates. This could include mentorship and leadership development programs, enhanced health and well-being support, and more flexible working arrangements.

Workforce – Medical:

Rota Sustainability:

Ensure compliance with national service specifications for consultant cover, including out-of-hours and weekend provision. Where gaps exist, explore options for rota redesign or cross-cover arrangements to maintain safe and consistent medical oversight.

Support for Locally Employed and SAS Doctors:

Recognise the essential role of locally employed and SAS doctors in maintaining service delivery, especially in smaller units. Invest in their ongoing development and integration into rota planning to strengthen stability.

Recruitment and Retention:
Prioritise recruitment into consultant and middle-grade roles, particularly in rural or smaller hospitals where attracting staff remains a challenge. Develop initiatives to retain experienced staff through role flexibility, career development, and enhanced job planning.

ACCP and Trainee Support:
Expand ACCP roles and ensure access to appropriate supervision and training. Maintain strong links with training programmes to ensure consistent exposure and education for critical care trainees, supporting the future workforce pipeline.

Future Workforce Considerations

Wales is facing a demographic shift with an ageing critical care workforce and a shrinking working-age population, which is likely to intensify existing recruitment challenges, particularly in rural areas. As demand for critical care services grows, proactive workforce planning will be essential, including succession planning, investment in training and development pathways, and expanding roles such as ACCPs and SAS doctors to ensure long-term service sustainability.

Estate Issues and Service Impact

Many critical care units are located in ageing estates that present increasing challenges to service delivery, including outdated infrastructure, limited flexibility, and the need for regular maintenance. These issues can result in temporary unit relocations, disrupt patient flow, and constrain future expansion. Strategic investment in modern, adaptable critical care facilities is needed to support safe, sustainable care and reduce the operational risks associated with older infrastructure.

10. Conclusion

The 2024 Critical Care Census highlights both stability and constraints in critical care capacity across Wales. While there have been no significant changes in specialist service provision, the reduction in Level 3 equivalent beds and ongoing workforce challenges underscore the need for strategic planning. Ensuring a sustainable and well-balanced critical care workforce, enhancing single-room availability, and addressing resource limitations in specialist services will be essential for future service development. By prioritising these areas, NHS Wales can better meet the demands of critical care and improve patient outcomes.

Both nursing and medical workforce sustainability must be prioritised to maintain safe staffing, rota compliance, and service resilience across all units. Supporting professional development, retention, and consistent rota coverage is critical to ensuring high-quality care. To maintain resilience and safe service delivery, strategic investment in sustainable staffing models must remain central to future critical care planning.

Encouraging stakeholders to collaborate on implementing the recommendations to improve critical care services across Wales is crucial. This will involve coordinated efforts from health boards, government agencies, and clinical networks to ensure the effective and efficient delivery of critical care services. Through such collaboration, the healthcare system can address current challenges and build a more resilient and responsive critical care infrastructure for the future.

The Network intends to use this report not only as a planning tool but as an engagement mechanism with senior NHS Wales leadership. By presenting a unified picture of current challenges and future risks, the report supports strategic dialogue and timely action across all levels of the system.

The findings from this report will be shared with Chief Executives, Directors of Planning, and Welsh Government to support wider engagement. The evidence gathered provides a robust foundation to inform future planning, secure investment, and highlight priority areas for improvement across the critical care pathway.

11. Next steps and Actions

The 2024 Critical Care Census Report provides a detailed overview of critical care provision across Wales and identifies key areas requiring further attention. Moving forward, the network will use these findings to inform its annual plan and shape ongoing and future work priorities.

The table below outlines the key actions that will be taken in response to the findings of this report:

Action (What)	Rationale (Why)	Planned Approach (How)	Timescales (When)
Support improvement of workforce skill mix and resilience	Workforce data shows a heavy reliance on Band 5 nurses, with limited senior leadership roles (Band 7–8), and fragile medical staffing in some areas.	Collaborate with health boards to review skill mix plans, develop Band 6 nurse development pathways, and encourage recruitment of ACCPs and CESR candidates in under-resourced units.	2026-2027 annual plan

Improve consistency and validation of data collection	Inconsistent data between years limits comparability and reliability.	Provide clearer guidance and definitions ahead of the 2025 census, explore options for audit tool and utilisation of available data, and increase local validation support.	Preparation by Q2 2025-2026, ahead of next census launch.
Separate secondary and tertiary critical care beds in future reporting	Tertiary units (e.g. UHW, Morriston) serve larger regional populations, skewing beds-per-population figures.	Work with health boards to categorise and report bed data accordingly, enabling fairer benchmarking and better planning for population-based needs.	Changes embedded in 2025 Census.
Escalate capacity and workforce risks to national decision-makers	The reduction in Level 3 beds, DTOCs, and variable staffing highlight system-wide risks to service resilience.	Use the census report to brief Welsh Government, Chief Executives, and Directors of Planning. Present findings through the Clinical Reference Group and Directors' Group to support coordinated action.	Annual reporting and escalation to WG policy lead/Directors/NCF Board

These actions will support the network's commitment to improving the safety, sustainability, and equity of critical care provision across Wales.