Critical Care Nursing Workforce Optimisation Plan and Staffing Standards 2024-2027

Executive summary

This three-year workforce optimisation plan (2024-2027) provides evidence-based standards for critical care registered nurse staffing. We provide the case for change, with a framework to support career development and a sustainable model for staffing, in order to improve nurse retention.

There are several areas addressed:

- Adoption of Critical Care staffing standards
- Implementation of the Adult Critical Care Nursing Career Pathway
- Education minimum standards (including numbers of clinical nurse educators)
- Restorative supervision (through roles such as the professional nurse advocate)
- The role of the wider associate / support staff group
- Regular review of staffing establishments incorporating increased unavailability of registered nurses to deliver safe patient care

We expect that this document will help provide the stability to ensure the future of critical care nursing in the UK.

Introduction

Registered nurse (RN) staffing standards in critical care form a core standard within Guidelines for Provision of Intensive Care Services (GPICS, 2nd edition) [1] and the NHS England and NHS Wales commissioning documents on service specifications[2, 3], with the aim of producing a positive impact on both quality and care for critically ill patients. In Scotland, while there is no specific guidance for critical care, beyond GPICS, health and care staffing is now enshrined in law[4], coming into force from 1st April 2024. Northern Ireland does not currently have specific critical care staffing standards.

This document builds on existing guidance[1] and the following standards have been developed and agreed by Critical Care professional nursing organisational leads, who collectively form the UK Critical Care Nursing Alliance (UKCCNA)*, drawing on current evidence. Where robust evidence is limited in relation to nurse staffing in critical care, professional consensus has been used to develop these standards. There are currently no validated tools to determine Critical Care Nurse Staffing levels applicable to the UK[5]. These standards, which reflect nursing dependency requirements rather than acuity, draw together existing guidance to provide a framework around skill mix, educational standards and leadership for a flexible, agile workforce to deliver high-quality care for all. It is intended for use across the UK.

Reviewing the nursing establishment ensure adequate Registered Nurses (RNs) are available to cover rotas and provide safe levels of care 24/7. This allows the correct number of staff on shift, considering the dependency of patients, skill mix and experience of staff, use of single rooms (where additional critical care

nurses are required for safety controls), patient turnover, bed utilisation, and geographical layout of the unit rather than levels of care which reflect patient acuity[6].

Brief background

Research evidence summary

Lower nurse staffing levels, and high workloads, are linked with poor outcomes at a patient, staff and hospital level[7-13]. A recent systematic review identified that there are clear associations between patient outcomes from critical care such as hospital-acquired infection, mortality, hospital costs and family satisfaction, and the level of nurse staffing in critical care[7]. Recent research emphasised how critical care nurses managed the organisational complexity of staffing to ensure safety, noting how skill mix impacted on education, stress, burnout, moral injury, and staff turnover[14, 15]. The recommended nurse-patient ratios are widely achieved by UK units[16] [17] and support the base for the establishment recommendations but it is recognised that level of care (as defined by the Intensive Care Society (ICS)[6]) is not a predictor of patient dependency[5].
Nurse staffing is used as an all-encompassing term that may include non-registered and registered nurses, as well as allied nursing staff, such as registered nursing associates (England), who are registered under the Nursing and Midwifery Council but are not registered nurses.

There is little clarity in how the term nurse staffing is used. Moreover, nuances within numbers of registered nurses, such as those with a critical care qualification, and the level of skill mix variation are undefined in the literature. This has led to inconsistency in measuring staffing and imprecise use of these terms in practice for defining staffing levels.

There are no interventional studies to guide deployment of staff in critical care, and studies focus on reporting observed variation within otherwise stable systems [7]. Reviews that have consistently shown a link between nurse staffing and patient outcomes [7, 9, 18-21], and nurse outcomes [22, 23] primarily use nurse-patient ratios and nursing hours per patient day to link to patient mortality, and nurse-sensitive indicators. This link has also been demonstrated in critical care units [24] from a small number of epidemiological studies [25-27]. Causal mechanisms between staffing (both critical care and wider) and outcomes are not established [7]. The effect of specific model configurations are unclear [23], with factors including skill mix, acuity, dependency and environment factors [7] having an effect on the impact of varying models, with evidence that skill mix with more RNs was associated with a positive effect on 12 patient outcomes [23]. Similarly, other work has linked low RN levels to increased omissions in care [28]. These factors drive the need for a staffing document that works to these principles. Skill mix is only one factor within staffing models, and does not account for context and how care is organised (e.g. shift patterns/patient flow), and evidence indicates how the proportion of critical care qualified nurses/support staff affects patient outcomes [7].

Backdrop

Coupled with these issues, a national (England, Wales and Northern Ireland) survey by CC3N (Critical Care National Nurse Network Leads) has indicated the ongoing issue with retention, which has been compounded by the COVID19 pandemic. 1 in 2 adult critical care nurses reported expecting to leave their current unit in the next 3 years [29], with some units reporting turnover rates reaching 42%, and a significant number at 20%, national averages stand around 10% [30]. There is a wide range of ongoing issues following the pandemic impacting on critical care nurse retention. NHSE Adult Critical Care Stocktake census (2021-2022)[17] and CC3N workforce surveys consistently demonstrates variable turnover [30], with an international meta-analysis showing a 27.7% intention to leave (turnover intention) in critical care nursing [31]. Several historic reports including The Francis Inquiry [32], the Berwick Report [33], and the RCN Nursing Workforce Standards (2021)[34] have identified the need to determine safe staffing levels and the provision of strong and consistent nursing leadership.

An exodus of trained critical care staff, in possession of a post-registration qualification in critical care, has led to a novice workforce not yet trained to deliver quality critical care. In addition, the rapid expansion into recruitment of internationally educated nurses (25,000 in the past year according to 2023 data from the

NMC)[35] has led to a relatively 'new' and variably skilled workforce, requiring greater levels of support and supervision from the diminishing, existing critical care nurse workforce. The adoption of new staffing solutions such as trainee and registered nurse associates (in England only) has also created additional supervision requirements, but no associated increase in capacity.

A recent NHSE census of critical care staff [17] highlighted significant variation in RN establishments in terms of proportion at each band, proportion with a critical care qualification (award), and the number of WTE nurses per Level 3 bed.

Achieving a stable and competent workforce that is able to respond to daily demands requires effective leadership, adequate numbers of appropriately remunerated speciality trained RNs and an acknowledgement that staff health and well-being, and, both mandatory and optional education, are priorities. All these elements must be incorporated within workforce planning in order to retain expertise at the bedside. These establishment standards, alongside the UKCCNA Career pathway (Appendix 1), provide a framework to cultivate and nurture a sustainable workforce for the future.

The case for change

The case for change in critical care is largely driven by evidence which demonstrates inequity across the UK in RN establishments in terms of RN numbers per level 3 equivalent bed, the proportion of band 5, 6 and 7 RNs along with the percentage of RNs who have completed the required level of academic and competence attainment as defined by Health Education England Adult Critical Care Course Framework and CC3N Step Competencies [36, 37]. Of the 207 critical care units participating in the national Adult Critical Care Stocktake census in 2022 [17], less than half (n=72) met the required standard of 50% trained staff, this variation ranges from units with 0% to 85%.

Achievement of these standards supports delivery of equitable critical care and assures patients of high standards of care delivered by suitably trained RNs at a time when they need it the most.
It is also acknowledged there has been a positive increase in minority ethnic nurses recruited across the country in recent years and critical care has benefitted from this initiative. What is also evident is the disparity seen when looking at career development and promotion for these staff groups. It has been shown that minority ethnic nurse representation is highest at Band 5 for RNs, progression above that level falls dramatically when looking at the bands 6 & 7 [38]. It is essential that this imbalance is redressed when planning our future workforce.

The minimum standards, career pathway and guidance on calculating headroom to cover staff unavailability, provides a pragmatic response to unit leaders seeking to retain and support nursing staff working in critical care.

UKCCNA Minimum Standards for Critical Care Nurse Staffing

There should be a twice-yearly establishment review as per National Quality Board guidance [39]

Standards

1. **Level 3 patients must have a minimum registered nurse/patient ratio of 1:1 to deliver direct care.**	There should be professional judgment and flexibility when applying these ratios to accommodate higher nursing dependency (such as level 2 patients[6] who might require more than 1:2 nursing care), and it should be reviewed on a shift by shift basis[5, 14, 15, 40], and within shift. Additional supernumerary registered nurses will be required in areas with a high number of single rooms (in addition to clinical shift leader), during infection outbreak and when in surge.
2. **Level 2 patients must have a minimum registered nurse/patient ratio of 1:2 to deliver direct care.**	
3. **Each critical care unit must have an identified supernumerary Critical Care Matron/Lead Nurse, dedicated solely to managing critical care, who has overall responsibility for the nursing elements of the critical care service**[34, 40, 41]	This nurse must hold the same specialist critical care nurse educational standards as direct care staff providing care to critically ill patients and families[40, 41] (see career framework in Appendix 1). This person will have: - undertaken leadership/management training - possession of a post-registration Adult Critical Care Nursing award - possession or working towards post-graduate study in relevant area This person will be supported by a tier of **Team Leaders/Ward Managers** who will collectively manage human resources, health & safety, equipment management, research, audit, infection prevention & control, quality improvement, staff development and wellbeing.
4. **A supernumerary Clinical Shift Leader on duty 24/7 in all critical care units**[40]. See career framework (Appendix 1)	Supernumerary means that staff member will not be rostered to deliver direct patient care. All Clinical Shift Leaders should be working towards completion of CC3N STEP 4 Competencies[37] and hold a post-registration critical care award. The responsibilities of **Clinical Shift Leaders** include: - Providing clinical nursing leadership, supervision and support to teams to optimise safe standards of patient care on each shift - Coordinate and supervise nurse staffing - Continuity of patient care - Facilitate admissions and discharges to ensure efficient and effective patient flow - Communicate with the multidisciplinary team and liaise with other departments to ensure efficient, effective, safe care is delivered in a timely manner - Be visible and accessible to staff, patients and relatives - Ensure effective use of human and non-human resources
5. **Units with more than 10 beds and/or units with large numbers of single rooms, additional infection prevention control requirements or a wide geographical unit footprint, must have an additional supernumerary Enhanced Critical Care Nurse (band 6 with the critical care course and step 3 competency [37]).**	This is in addition to the Clinical Shift Leader (see standard 4)**,** and direct care nurses[41]. There is a requirement for 1 additional **Enhanced Critical Care Nurse** for each multiple of 10 beds (i.e. 11-20 beds =1, 21-30 beds +2, etc.). Pod models might be appropriate to consider with units with high numbers of single rooms, so a nurse-in-charge is allocated across a pod area within the footprint.
6. **A minimum of 50% of registered critical care nurse must be in**	Adult Critical Care post-registration courses should follow the National Standards for Critical Care Nurse Education[36] and include both academic

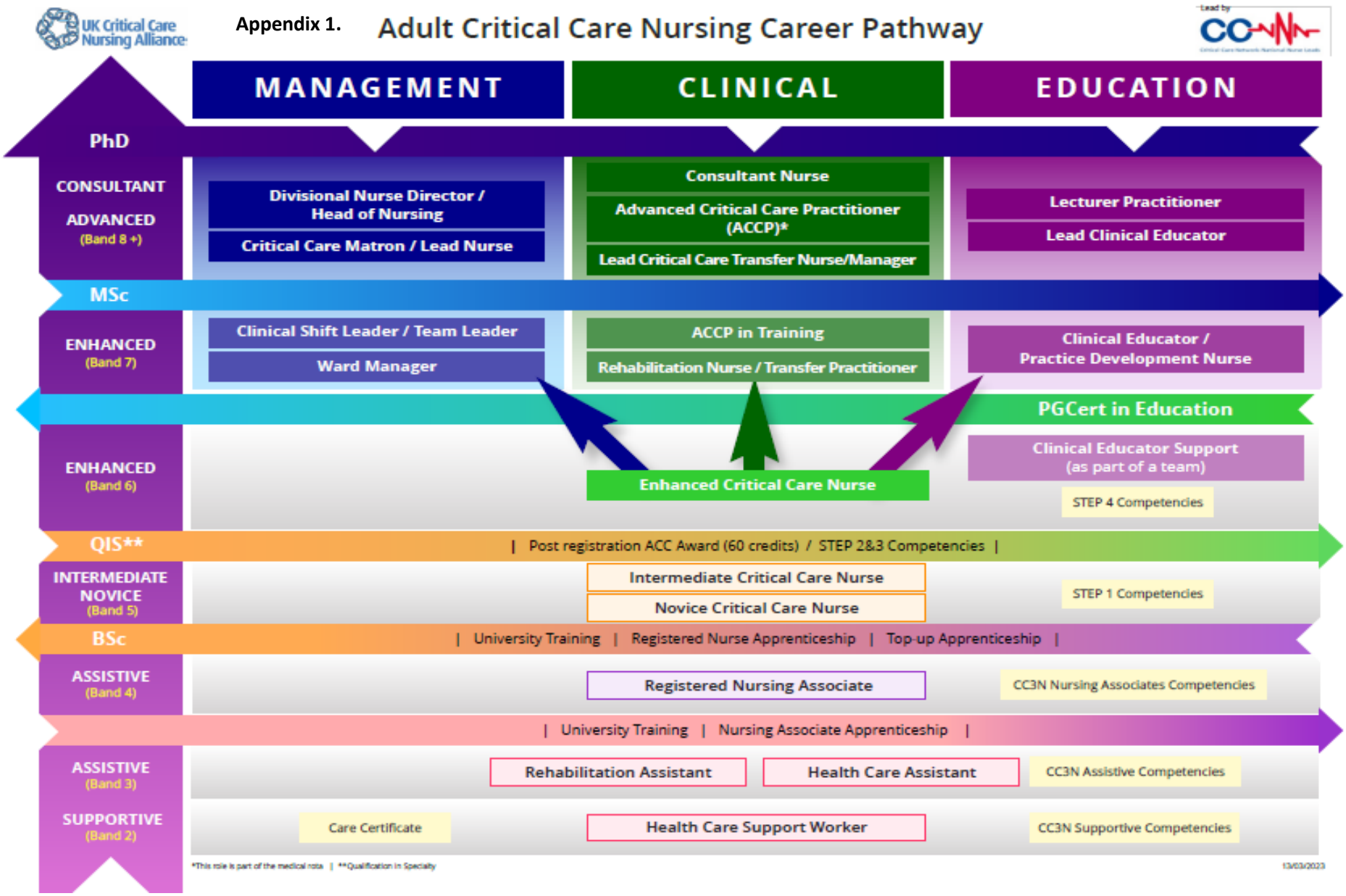
	possession of a post-registration critical care award**. See career framework (Appendix 1)	and clinical competence assessment (CC3N Step 2 & 3 competencies).[37] These nurses are regarded as Enhanced Critical Care Nurses. The career framework outlined in Appendix 1 recommends that these enhanced critical care nurses should be banded at Band 6 (Agenda for Change). It is recognised that Enhanced critical care nurses are highly trained and skilled staff, the role they undertake includes coordinating clinical shifts; quality improvement; research; coaching and mentorship; supervision of staff etc. Critical Care Band 7 positions include shift leader, team leader and ward manager. Band 7s in addition will require some dedicated non-clinical time (20% minimum) for management responsibilities. This should be considered and applied across the band rather than individual staff members.
7.	**Each critical care unit must have a dedicated supernumerary Clinical Educator responsible for coordinating the education and training of critical care staff[41].**	**Clinical Educators** are responsible for coordinating training and education which includes post-registration critical care course qualifications, STEP Competency Framework for Adult Critical Care Nursing Staff, training and CPD (Continuous Professional Development) and pre-registration student support and allocation. This should equate to a minimum of 1 WTE (whole time equivalent) per 50 registered nurses and non-registered healthcare support workers (headcount)[36, 41]. The ratio of 1:50 may need adjustment based on current/actual recruitment volumes, and the current ratios of Enhanced Critical Care Nurses against the whole critical care nursing workforce.
8.	**Clinical Educators must be in possession of post-registration Adult Critical Care Award [36, 40], National Competencies for Adult Critical Care Nurses Step 4 [37] and an appropriate post-graduate certificate in education or equivalent [36]** (see Appendix 1)	Clinical educators in critical care must hold both clinical acumen and post-graduate education skills[41]. These staff should be a part of the critical care team[41].
9.	**Assistive and supportive staff must not be used to replace RN roles. The role of a Registered Nursing Associate (NAR, England only) is assistive in care delivery and should not be used as a substitution for Registered Nurses[42, 43].**	This includes registered and unregistered nursing assistive roles who should only support RNs to deliver direct care[40, 42, 44]. These roles must be underpinned by appropriate training and assessment of basic specialist competency (using the national competency frameworks[45-47]) is required[40, 41, 43]. **Registered Nursing Associates** in England require supervision and support in the delivery and planning of patient care The supervision required should not impact on the care of other patients under the direct care of other RNs respecting the recognised nurse patient ratios[40, 41, 43]. Registered Nursing Associate supervision should be provided by the supernumerary Enhanced Critical Care RNs in units with >10 beds; in units with less than 10 beds this will need to be agreed locally. It might be more appropriate in those smaller units to have the NAR supporting the supernumerary Enhanced Critical Care Nurse at the bedside. Where staff undertaking assistive and supportive roles that involves direct care, specific critical care training and assessment is required. (CC3N Registered Nursing Associate and Health Care Support Worker in Adult Critical Care Assistive Level (Band 3) and Supportive Level (Band 2) Competencies)[45-47]

10. **Registered Nursing Associates will be provided with a supernumerary period of supported induction and training required to undertake the assistive role.**	It is acknowledged that **NARs** appointed to critical care will come with varying degrees of critical care experience[42]. As such there should be a minimum supernumerary period of 3 months supported induction and training for any NAR appointed.
11. **All Novice Critical Care nursing staff (staff new to critical care, including internationally educated nurses) must be allocated a period of 12 weeks supernumerary practice to enable achievement of basic specialist competence[48]. This can be split over more than one period if required. Following assessment, where staff have transferrable skills, this overall period may be reduced.)[37]**	**Novice Critical Care** registered nurses, who are undergoing critical care training, will be considered to be in training until completion of an accredited post-registration award in Adult Critical Care Nursing[37]. In preparation for accessing the post-registration Adult Critical Care Course all new staff are to complete the National Critical Care Step 1 Competencies[37]. When staff are recruited from either another critical care area or where they have substantial transferrable skills, the supernumerary period may be negotiated locally.
12. **No more than 20% of registered nurses from bank/agency who are NOT substantively employed by the unit should be on any one shift [8, 49].**	All registered nursing staff supplied by bank/agency should be able to demonstrate using documented evidence that they are competent to work in a critical care environment. All agency/bank staff are to be provided with unit orientation.
13. **Each Critical Care Unit should have dedicated Professional Nurse Advocates (PNAs) within the establishment, who are given designated time to deliver the role[50, 51]. The national aspiration is 1:20 Registered Nurses to deliver Restorative Clinical Supervision[52].**	**PNAs** should receive a minimum of 15 hours per month (protected) to support staff well-being and to deliver restorative clinical supervision sessions[52]. All staff should be given the opportunity to attend sessions. It is acknowledged that additional models are utilised to provide staff with clinical supervision, such as peer support, hot and cold debriefs that might need alternative staffing support.
14. **Each Critical Care Unit should support and encourage the continuous professional development of nursing staff**	The Adult Critical Care Nursing Career Pathway (Appendix 1) has been created to support the development of a working environment that encourages staff retention and growth. The aim is to slow down the turnover of enhanced nurses, stabilise the service, thereby providing high quality, safe effective patient care.

Applying some of these standards in isolation is not supported by the evidence, all standards and recommendations should be adhered to in order to optimise staffing.

**UKCCNA is made up of the professional organisations representing Critical Care Nursing:*
British Association of Critical Care Nurses; CC3N (Critical Care National Network Nurse Leads); Intensive Care Society Nursing & AHP (Allied Health Professional) Forum; RCN Critical Care Forum; NOrF (National Outreach Forum); PCCS (Paediatric Critical Care Society)

Appendix 1.



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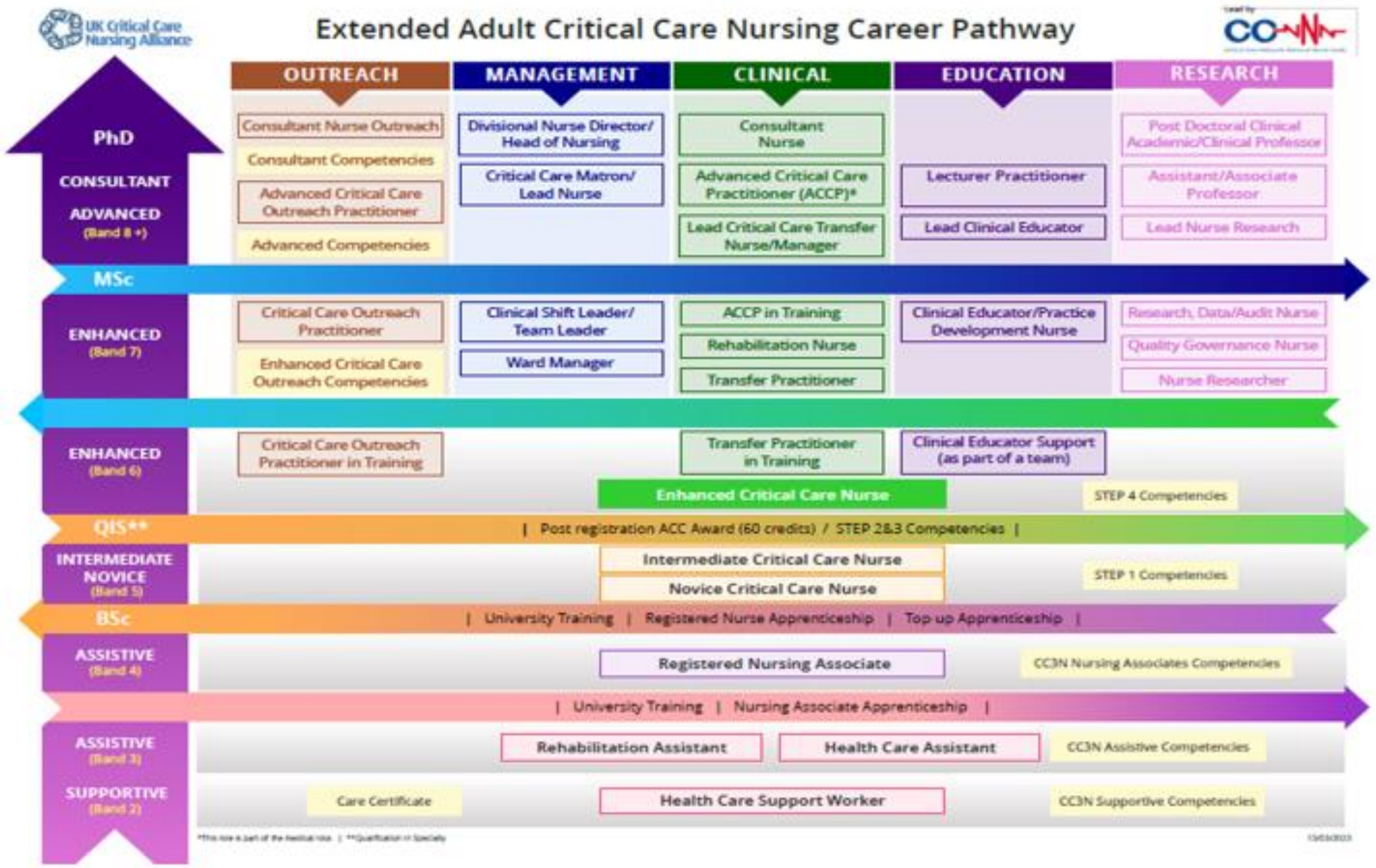

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Appendix 2 - Increased unavailability requirements to provide adequate RNs in Adult Critical Care

Calculating registered nursing establishment is key to having an adequate workforce to deliver safe care. By adhering to the standards described in this document, it will determine numbers of registered nurses required to cover a service. There are however additional requirements that need to be calculated for critical care and these are not always covered by general headroom provided by some organisations.
Headroom, also known as planned allowance for absence, is a budgeted allowance to cover annual leave, sickness, study leave, non-clinical working days and carer leave. This needs to be realistic to ensure non-working time is aligned to headroom percentages [51].

Evidence suggests general headroom provided by NHS Trusts generally falls between 22 – 24%[53]. We now understand that this level of headroom is inadequate to cover the "unavailability" of RNs and to provide adequate staffing for critical care services. It has been suggested that adopting an institution-wide headroom (e.g. 22%) may increase spending on bank/agency staff, and potentially jeopardise patient safety [53]. Additional headroom for the critical care speciality has therefore been calculated taking into consideration three elements of critical care nursing that require additional hours to be built into the establishment to provide sufficient numbers of RNs to deliver safe care.
These elements include:

1. RNs new to Adult Critical Care (ACC) -the period required to support staff new to critical care
2. Critical Care Award - the period required to undertake academic study to meet workforce standards. The NHSE Adult Critical Care Service Specification[2] require 50% of RNs working in the speciality have a critical care post-registration qualification (award)
3. Specialist Annual Training - to ensure staff are up to date with specialist training requirements.
4. PNA time has not been included in the unavailability calculation but should be added at a local level. There should be 1 PNA per 20 staff, each PNA having 15 hours allocated time per month.

Staffing Requirements
Based on the NHSE Adult Critical Care Stocktake[17] census data, the average annual turnover is 10% and this has been used to demonstrate staffing requirements as follows.

1.Registered Nurses New to Adult Critical Care

Each **Novice Critical Care Nurse (See career pathway, Appendix 1)**, without critical care experience, requires a 12-week supernumerary period. This figure will be less for new staff with critical care experience and more for RNs requiring preceptorship. All staff new to critical care are required to complete Step 1 Competencies[37] during the first 12 months, as such, in addition to the 12 weeks supernumerary period, 2 hours a week for the remaining 33 weeks (excluding annual leave) are required for this activity.

For the 10% of RNs who are considered Novice Critical Care Nurses, a 12-week supernumerary period (450 hours) is required.
In addition, this group of staff require 2 hours a week for the remaining 33 weeks of the first year in order to complete the Step 1 Competencies (excluding annual leave) this equates to 66 hours, giving a total of 516 hours.

- Total hours provided by 1 x Whole Time Equivalent (WTE) RN per year = 37.5 x 52 =1950 hours
- Novice RN requires 516 hours competency training in first year.
- As a proportion of 'unavailability' this equates to 0.265 (516/1950)
- Applied to 10% of the RN establishment = 2.65% (0.256 x 10)

This is the additional allowance to be added to existing headroom to account for unavailable time at the bedside.

2.Critical Care Award

The NHSE Critical Care Service Specification requires 50% of RNs working in critical care to be in possession of a post-registration critical care award[2]. Information has been gathered from the 14 providers on the Health Education England Critical Care Framework which shows the average number of taught hours to complete the 60 credits at a minimum of Level 6 study is 120*. Sufficient resource should be included in establishments to allow staff time to attend the taught component of the course that is mandated. The proportion of RNs undertaking the ACC award at any one time varies and a point prevalence survey carried out indicated that on average, 7% of the RN establishment is on the course in a 12-month period.

- Total hours provided by 1 x Whole Time Equivalent (WTE) RN per year = 37.5 x 52 =1950 hours
- Post-registration Critical Care Award requires 120 study time
- As a proportion of 'unavailability' this equates to 0.061 (120/1950)
- Applied to 7% of the RN establishment = 0.43% (0.061 x 7)

This is the additional allowance to be added to existing headroom to account for unavailable time at the bedside.

This does not include the hours required for self-directed study which for 60 credits would equate to 480 study hours.

3. Specialist Annual Training

Each Critical Care Nurse is required to undertake critical care specific training annually, this would cover annual equipment training; roll out of new equipment; training required to underpin new treatment modalities*. This excludes mandatory training which all RNs are required to do and will be covered in general headroom.* This has been estimated at 22.5 hours annually and excludes the 10% of staff who are in their first year. (Data gathered from point prevalence survey)

- Total hours provided by 1 x Whole Time Equivalent (WTE) RN per year = 37.5 x 52 =1950 hours
- Specialist Annual Training requires 22.5 hours additional training each year.
- As a proportion of 'unavailability' this equates to 0.011 (22.5/1950)
- Applied to 90% of the RN establishment = 1.04.% (0.011 x 90)

This is the additional allowance to be added to existing headroom to account for unavailable time at the bedside.

Adult Critical Care Registered Nurse – Additional Headroom					
	Hours per week available from each WTE RN	**Hours per year available from each WTE RN**	**Hours per year required for activity**	**Applied to percentage of RN staff**	**Percentage**
Existing Trust headroom*					24%
New starter requirements	37.5	1950	516	10	2.65
Critical Care Award	37.5	1950	120	7	0.43
Training Days/ Professional Development	37.5	1950	22.5	90	1.04
Total Percentage					28.12

* *Please note existing trust headroom will vary between organisations and should be taken into consideration when calculating overall requirements. A starting headroom, to ensure unavailability in critical care is addressed, should be a minimum of 24%. Below this level is deemed costly for organisation, by increasing use of bank and agency and inadequate to deliver safe care [51].*

Recommendations on nursing staff establishment for adult critical care are based on the best available evidence, professional judgement and individual patient's nursing needs to include both patient acuity and patient dependency.

Please contact UKCCNA @UKCCNA or see ficm.ac.uk/UKCCNA for any queries regarding this guidance

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