



CRITICAL CARE

National Clinical Programme for Critical Care

COVID-19: Principles & Guidance

Supporting the role of Critical Care Nurses in response to an immediate surge in Critical Care capacity and increased requirements of the Critically Ill patient during the pandemic.

This document is meant only as a guide for safe and optimal staffing requirements and the delivery of nursing care for the critically ill patient during the Covid-19 pandemic of 2020/ 2021 and is not a reflection of normal operational Critical Care Guidelines for Safe Critical Care Workforce requirements

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Background

It is evident there is a need for significant scaling up of our critical care capacity. The scaling up of capacity will vary depending on a combination of current baseline capacity, epidemiology and demographics relating to the outbreak. It is estimated that this increase of capacity will range from 100% and up to 300% in some acute hospitals. This scale up of critical care capacity to meet the needs of the critically ill adult during the pandemic requires additional critical care beds, critical care equipment and additional multidisciplinary critical care staff.

While the current world pandemic presents challenges with ordering additional beds, ventilators and other essential equipment, it absolutely limits opportunity to recruit experienced Critical Care Medical & Nursing expertise.

On this basis, if or when Critical Care capacity requirements increase locally and/ or nationally to beyond current operational capacity, in the interest of delivering a patient centred approach to these critically ill patients, the current critical care medical & nursing team will need to be supported by additional healthcare staff to include registered nurses, medical & surgical teams, health and social care professionals, portering and healthcare assistant staff as appropriate.

The proposed guidelines are intended to provide a basis for the provision of best practice nursing care during times of diminished intensive care unit (ICU) nursing staff capacity and resources due to a surge in critically ill patients. The recommendations and strategies issued are intended to specifically support critical care nurses incorporating COVID-19 patients. As new knowledge evidence becomes available, updates can be issued and strategies, guidelines and/or policies revised

Critical Care Major Surge

A critical care major surge is defined as an increase in the volume of critically ill patients in a hospital or hospital group that overwhelms the critical care capacity of a hospital (HSE, 2020). This will require redeployment of nursing, medical, health and social care professionals and potentially other healthcare staff to critical care. The different levels of surge can be found in Appendix 1.

As the COVID-19 pandemic is an unprecedented situation, it is recognised that nursing competency in critical care will vary from novice to expert (Benner Framework, 2004) and will be altered for the duration of the pandemic to preserve life using every available resource. During surge periods it is envisaged that non-critical care staff will be required to deliver nursing care under the supervision of critical care trained nurses.

Aims

This document aims to:

- Facilitate an increase in the number of registered nurses available to redeploy to critical care settings.
- Facilitate the number of healthcare staff to include HSCPs and healthcare assistants (HCAs) to redeploy to a critical care setting. This will allow time for ICU Nurses to monitor more than one patient and supervise Non ICU Nurses as Critical Care capacity requirements increase (see page 9)
- Provide guidance for nursing staff on the professional and workforce issues relevant during this unprecedented time.

Redeployment During the Current Pandemic

There are two important documents linked to redeployment recommendations in this paper:

- HSE Acute Operations Critical Care Major Surge Preparedness Planning Framework 2020 and
- Memo forwarded to all Hospital Groups (HG) Chief Directors of Nursing (CDONs), Directors of Nursing (DONs), Assistant Directors of Nursing (ADONs) over critical care settings and Clinical Nurse Managers (CNMs) in critical care settings on 12th March 2020 on Critical Care Nurse Preparations & available Resources for COVID-19 by the National Clinical Programme for Critical Care.

This redeployment should be of staff, with the following comparable critical care nursing skills:

1. Nurses with critical care experience working in areas other than critical care settings and nurses with specialist experience comparable to critical care e.g. CCU/ Theatre/ Anaesthesia/Recovery/PACU etc (this should include staff in your own hospital, model 2 hospitals/community care, staff working in education roles, nurses specialist roles and advanced practice roles in the area).
 - a. Following discussion, redeploy to critical care, work with a critical care nurse and identify strengths, and gaps in competency which need to be supported.
 - b. Put in place relevant education required locally based on these two criteria (strengths & gaps identified). Some nurses may require minimum education update, some may need critical care specific retraining i.e. medication management etc. The goal is to enable these nurses to work within their potential scope for the care of critically ill patients.
 - c. Allocate to either a senior critical care nursing role or a more junior role as relevant to individuals experience.
 - d. Put in place practical education for redeployed staff, outlined within the available online resource developed by the Office of the Nursing and Midwifery Services Director (ONMSD) & University College Dublin (UCD).

Link here: <https://rise.articulate.com/share/BDSZkwB-l50YUj2c9K6bWldCMQx4zYVC>

Provide the orientation booklet developed collaboratively by ONMSD, Clinical Care Programme (CCP) & senior critical care nurses nationally available here:

<https://www.hse.ie/eng/about/who/cspd/ncps/critical-care/#COVID-19%20Critical%20Care%20Nursing>

2. There will also be a requirement for additional registered nurses who may have acute care experience but do not have prior training or experience in critical care. These nurses will be required to work with the support of the qualified and experienced critical care nurse. Responsibilities may include implementation of vital signs monitoring, preparation for procedures, assisting with patient positioning and management of infection prevention and control guidelines.
 - a. Please see 1(d) for redeployment educational resources
3. Physiotherapists who are familiar with the care of the critically ill patient should be freed up from other clinical responsibilities to support the care of the critically ill patient. Physiotherapists should be allocated to individual teams and assist with the respiratory and other patient needs and as part of the dedicated 24/7 critical care team.
4. HCAs should be incorporated into the critical care team to assist with supporting some of the fundamentals of care i.e. patient positioning, holistic care and also to facilitate access to resources where individual staff may be working in an isolation room requiring assistance with donning and doffing.

It is advised that a single roster linked to the care of critically ill patients should be in place for all units with a tiered skill mix incorporating a variety of staff working with the experienced critical care nurse.

Normal advanced planning of staff rosters and skill mix should continue to be supported on an assessment and reviewed on a shift by shift basis with allocation of patients the continued responsibility of the Senior Critical Care Nurse in overall charge.

This rostering may require shorter shift patterns and potentially the avoidance of working consecutive shifts, however this must be agreed locally. It is however imperative that shifts allow for breaks to occur within a timely fashion

A flexible pragmatic and staged approach with an emphasis on teamwork rather than a ratio approach should be considered. Healthcare staff deployed to critical care surge areas will be required to work outside their normal practice area and this may cause additional pressure for many, including the critical care nurses who will be supervising the team. Any changes in working practice will need to be supported to ensure safe practice, safe patient care and staff wellbeing, appropriate supervision and delegation of care. Orientation to and support in the critical care environment are key (NHS, 2020).

Scope of Practice

The Scope of Nursing and Midwifery Practice Framework (NMBI, 31 October 2015) has a specific section dealing with Emergency Situations. Section 4.9 states that *“The guidance presented in this document supports a nurse or midwife taking appropriate action in emergency and/or life threatening situations. At all times, the overall benefit to the patient must be served in these situations.”*

Guidance for scope of practice during this pandemic is available through the NMBI here:

<https://www.nmbi.ie/News/News/Information-for-nurses-and-midwives-on-scope-of-pr>

Guidance on the scope of cover of the Clinical Indemnity Scheme (CIS) is here:

https://stateclaims.ie/uploads/publications/State-Claims-Agency-Indemnity-Advices-COVID-19-Coronavirus_April-2020.pdf

Critical Care Nurse Led Team Approach

During peak periods of this COVID-19 surge in critical care capacity requirements, it is envisaged that non-critical care staff will be required to deliver nursing care 1:1 under the supervision of critical care trained nurses.

The literature on nursing ratios in ICU has confirmed the relationship between ICU nurse staffing and patient outcomes. The reviewed studies confirm that a higher number of registered nursing staff to patient ratio (1:1 or 1:2) is highly associated with improved patient safety and better outcomes (Maves et al 2020). As capacity requirements increase, there may be a requirement that a team nursing approach is taken with critical care nurses leading this as per table 1.

This approach is described as a **‘Critical Care Nurse Led Team Approach’** to care delivery (HSE Acute Operations Critical Care Major Surge Preparedness Planning Framework 2020). Team based approaches like these have been developed internationally during this current pandemic (Al Mutair et al 2020).

The care of a critically ill patient is multi-disciplinary. The recommendation for delivery of safe care in a critical care setting is a nurse patient ratio of 1:1. In surge the aim is to still provide 1:1 care. However in order to respond to the increasing number of patients requiring critical care, the ratio may be 1:1 for healthcare worker to patient, with supervisory role of a critical care nurse to patient of 1:1 or increasing to 1:2 or 1:4 as critical care settings reach maximum capacity.

An example of how this team approach functions is as follows:

Critical care nurse team lead:

- Will take handover and co-ordinate the daily care of multiple critically ill patients with a team of healthcare staff (non-critical care nurses)

- Do a full daily assessment on their patients, alongside their non-critical care nurse colleague
- Set all alarm limits for all equipment monitors/ventilators etc, safety checks on all critical care equipment including suction etc.

Non-Critical Care Nurse in 1:1 care or within a team approach where 1:1 critical care nursing is not possible

- Recording vital signs, urinary & drain output, ventilator readings & all general documentation relating to the patient.
- Monitoring of the patient's condition and alarms (ventilator, monitor, infusion pumps etc), alert critical care staff to any clinical alteration in the patients in particular; falling/increasing blood pressure/heart rate/saturation levels/urinary output.
- Ensure patients are appropriately sedated with analgesia as prescribed. Administer and monitor medications as prescribed.
- Patients in critical care settings require constant supervision for a number of reasons such as the potential to clinically deteriorate quickly, become agitated and potentially dislodge vital support equipment. The support staff will be required to provide patient supervision.

All care should be aggregated across teams within the critical care setting, meaning that at times when proning, turning, washes are being done, all other relevant care should take place as well. Ensure safety by working as a team for donning & doffing Personal Protective Equipment (PPEs) as per Infection Prevention and control (IP&C) guidelines.

Rationale:

Staff working outside their normal practice area will require support from critical care nurses to allow safe patient care to be delivered to the best of their abilities. This supervision by their critical care colleagues will also ensure correct delegation of tasks and for supervision of the delivery of that care.

Below (table 1) is an example of a surge nursing workforce response and should be calculated based on the available number of critical care nurses per patient, nurses with critical care skills or experience, non-critical care registered nurses, HSCPs and HCAs.

It is recommended that the 'team' approach includes a number of support assistants on each shift for turns/washes etc.

All critically ill patients, should have 1:1 nursing care across all shifts. In normal operational circumstances, this would be a critical care nurse, but as capacity within a critical care setting is reached then this will need to be adjusted accordingly.

Each designated critical care setting (established and newly formed surge units) should provide a designated critical care trained nurse-in-charge for each shift. This nurse should not have a designated patient for the effective provision of supervision, advice, support and co-ordination and possibly lead an ICU Nurse Led Critical Care Delivery team as Surge escalates.

Table 1; **An example** of Critical Care Nurse Staffing, skill mix and HSCP support Assistants (to be adapted as per surge requirements). This ensures 1:1 Nursing care, supervised by an ICU Nurse

Redeployment & ICU Nurse Led Critical Care Delivery Teams to maintain 1:1					
	Patient	Critical Care Nurse	Nurse With comparable Critical Care Experience/ Skills	Non ICU Nurse	Support Assistants/ HSCP
Critical Care Capacity	1	1			
Double Capacity	2	1	1	1	Team of 4
Treble Capacity	3	1	2	1	
Quadruple Capacity	4	1	3	1	

Adapted from NHS 2020, COVID-19: principles for increasing the nursing workforce in response to exceptional increased demand in adult critical care.

Support teams

Additional support teams comprising of four assistants, whose role will be for turning & proning, washing may be helpful.

Any appropriate professional bodies working within a hospital have potential to be a part of this support team

Where possible simulation and practical training should take place prior to the surge occurring to cover the above tasks and for orientation to the critical care settings. These support teams can be multi-disciplinary as required and available.

NICE Guidelines (2009) recognise the essential role of Health and Social Care Professionals (HSCP) and the contribution of the physiotherapist to overall patient recovery. The role of pharmacists, physiotherapists and all HSCPs should be further adapted to the patient care team during the pandemic.

Support Teams

Pharmacists

Pharmacy staff may be able to provide a vital supporting role during this surge in critical care capacity with the preparation of medicines.

Where capacity allows a hospital might choose to have intravenous medicines prepared by suitably competent members of the pharmacy team on an individual patient basis or explore the possibility of drawing up intravenous infusions required continuously; such as inotropes, analgesia, sedation, muscle relaxants etc (Shulman et al 2015).

Both the preparation and administration of medicines are time consuming. Pharmacy staff supporting this essential patient need may free up significant nursing time to focus on other patient care needs.

Physiotherapists

Physiotherapists, as highlighted, above play a key role in the delivery of care in a critical care team. During the pandemic their normal role will be vital both through their input into the respiratory care of patients but also through their care with regard the mobilisation of critically ill patients.

There may be a need to have a physiotherapist permanently allocated to critical care settings for the reason outlined above during this pandemic for inclusion both in teams approach and for their input into ongoing treatment.

Health Care Assistants/Porters/Ancillary staff

HCA's role as highlighted above play a key role in the delivery of care within the critical care team.

Portering staff, administrative support and the essential roles of catering and cleaning staff to assist with the support required for patients in the current pandemic in all the complex aspects of care in a Critical Care Unit

Accountability and responsibilities

It is acknowledged that a period of pandemic such as COVID-19 will place pressures on and challenges to providing safe, effective, quality care to the critically ill patient. The Scope of Nursing and Midwifery Practice Framework (NMBI, 31 October 2015) has a specific section dealing with emergency situations. Section 4.9 states that *"The guidance presented in this document supports a nurse or midwife taking appropriate action in emergency and/or life-threatening situations. At all times, the overall benefit to the patient must be served in these situations."* At any time when concerns are raised about the practice of a nurse or midwife, the context and circumstances that prevailed at the time will always be taken into consideration. This would be particularly so in the context of the current public health emergency (NMBI statement March 2020).

Staff health and wellbeing

It is important to be aware of the wellbeing of staff both physically and mentally. This pandemic will be physically and mentally challenging for all staff and it is vital that they feel supported and cared for throughout. Ensure all staff are aware of guidance to self-isolate and inform their management if they feel unwell. It is highly likely that staff will spend long periods wearing personal protective equipment (PPE) and it is therefore crucial that staff welfare focuses on regular breaks to remove PPE, rehydrate and eat. A list of staff supports is available via <https://www.hse.ie/eng/staff/workplace-health-and-wellbeing-unit/>

A supportive team approach should also be used within critical care settings; regular and where possible shift round up - what went well ... what didn't go well etc.

A suite of wellbeing information within Critical Care is available here:

<https://www.ics.ac.uk/>

Shift handover and or specific designated times during the day should be set aside for staff debrief or reflective time. There should also be a discussion/agreement between senior nursing and medical staff in each critical care setting (preferably before surge) that this is the approach and that decisions taken on all shifts will be supported.

Additional Points on this document:

- This document has been produced in the recognition that each critically ill patient requiring critical care will be under the clinical care of a named consultant.
- The document is to assist with health service workforce planning to support the role of critical care medical & nursing teams in response to the planned surge in critical care capacity and the increased numbers and requirements of the critically ill patient during the pandemic.
- **This document is viewed as a guide and is for use in the context of the COVID – 19 pandemic only.** It is acknowledged that depending on the situation, a dynamic response may be required, and this document may require review and updating.
- This document is underpinned by a number of critical care guidance documents and publications on international standards of practice in critical care units defining levels of care, classification of hospital beds and international standards for staffing in critical care units (JFICMI 2019, BACCN 2010, RCN 2003 West 2007, Francis R 2013, HSE 2014).
- In addition, it is based on the premise that during an emergency scenario, nurses and all healthcare professionals are required to be flexible. During a pandemic, this may entail working in unfamiliar circumstances or surroundings or working in clinical areas outside of their usual practice for the benefit of patients, individuals and the population as a whole. Any deployment must be done within the basic principles of best practice and with a rational, pragmatic approach to varying practice to cover this emergency (Scope of Nursing and Midwifery Practice Framework 2015) whilst acknowledging that any increase in Critical

Care capacity cannot guarantee the same levels of care as possible in normal circumstances due to dilution of Critical Care Multi-Disciplinary skills.

- Based on the rate of spread of COVID-19 and its impact on critical care capacity, this document is to be used to ensure staffing matches the increased requirement for surge capacity and that a multidisciplinary team at the patient's bedside continue to support the needs of the critically ill patient.
- This document should also be used in line with direction from the senior critical care nurse responsible for the department or the individual patients care. Normal advanced planning of staff rosters and skill mix should continue to be supported on an assessment and reviewed on a shift by shift basis with allocation of patients the continued responsibility of the Senior Critical Care Nurse in overall charge.
- The purpose of this guidance is to maximise the safety of patients who need critical care during the COVID -19 pandemic, while protecting the staff that scale up services and provide the care to patients.
- There is a presumption inherent within this document that elective surgery and non-critical surgery has been reduced/stopped in order for these redeployments to take place.

List of Useful Resources

1. Online resource developed by the ONMSD & UCD for redeployed Nurses
Link here: <https://rise.articulate.com/share/BDSZkwB-I50YUj2c9K6bWldCMQx4zYVC>
2. Orientation Booklet developed collaboratively by ONMSD, CCP & Senior Critical Care Nurses
Nationally available here: <https://www.hse.ie/eng/about/who/cspd/ncps/critical-care/#COVID-19%20Critical%20Care%20Nursing>
3. Suite of Online resources for Critical Care Nurses for education and redeployment
<https://ucc.instructure.com/courses/22984/pages/modified-basic-icu-course-13-03-20>
4. NICE Critical care guideline COVID 19
<https://www.nice.org.uk/guidance/ng159/resources/covid19-rapid-guideline-critical-care-pdf-66141848681413>
5. Emergency Induction for non-critical care staff working in Critical Care to support the escalation process in times of surge
https://www.cc3n.org.uk/uploads/9/8/4/2/98425184/covid-19_non-critical_care_staff_in_critical_care_-_best_practice_guidelines_-_final_edited.pdf
6. New to ICU resource sheet – very simple and easy to use links available on this page
<https://www.whatwouldflorencedo.com/new-to-icu/>
7. Quick look care flash card links for staff redeployed to ICU
<https://www.baccn.org/about/covid-19-nurse-educational-resource-centre/resources-1/>
8. HSPC Guidelines for Infection Control <https://www.hpsc.ie/a-z/respiratory/coronavirus/novelcoronavirus/videoresources/>
9. BACCN Covid 19 Critical Care and Non ICU Nurse Educational Resource centre
<https://www.baccn.org/about/covid-19-nurse-educational-resource-centre/>

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Shulman R, et al. (2015) Pharmacists’ review and Outcomes: Treatment Enhancing Contributions Talled, Evaluated and Documented, Journal of Critical Care 30 (4): 808-813

National Institute for Health and Care Excellence (NICE) CG83 (2009)Rehabilitation after critical illness in adults’ Clinical guideline. National Institute for Health and Care Excellence, Published:25 March 2009, London

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Appendix 1:

Critical Care Major Surge Levels as per HSE Acute Operations Critical Care Major Surge Preparedness Planning Framework 2020

Each Hospital and Each Hospital Group is required to outline plans for each level of Critical Care Major Surge requirements outlined below.

Existing capacity - Current critical care facility staffed with capacity for operational surge to 100% occupancy of current opened commissioned and staffed beds.

Major Surge 1 - Opening of all commissioned and non-commissioned critical care beds irrespective of reasons for current closure.

Major Surge 2 - If transmissible disease, critical care beds accessible but isolation no longer an option due to patient numbers and cohorting the next option

Major Surge 3 - Acceptance that neither isolation nor in-ICU care an option. Need to utilise potential to provide critical care outside walls of ICU, but in areas of high dependency - e.g. High Dependency Units, Special Care Units, Theatre Recovery / PACU.

Major Surge 4 - Further Critical Care expansion into non-ICU areas having exhausted above potential. May include Theatres if deemed appropriate, specific wards, commissioning of temporary or modular critical care facilities.

Appendix 2:

Critical Care Nursing Quality Requirements for normal operational capacity

- The requirements for safe staffing relating to Critical Care Nursing can be found in the Model of Care for Adult Critical Care (HSE, 2014).
- Internationally agreed best practice for Critical Care Nursing workforce is 1:1 Qualified Critical Care Nurse per patient with Educators, Shift Leaders, Audit Nurses and overall Managers additional requirements.
- There is a minimum requirement of 5.6 WTE S/N per Level 3 bed which enables 1:1 care, 24/7/365 for all Level 3 Patients and 2:1 care for all HDU Patients (HSE, 2014).
- 5.6 WTE posts are required for all other roles required for Shift cover, 24/7/365 (CNM 2 Shift Lead) (HSE, 2014).
- It is a recommendation that 70% of all Critical Care Nursing Staff should have a qualification in Critical Care Nursing at Level 9, Post Graduate Diploma (HSE, 2014).
- A National Foundation Education Module in Critical Care Nursing should be completed prior to completion of the Post Graduate Diploma, both requiring supervised clinical and academic attainment, whilst working Full Time in a Critical Care Unit.