SCHEDULE 2 – THE SERVICES

A. Service Specifications

Service Specification No:	D05
Service	Adult Critical Care
Commissioner Lead	*For local completion*
Provider Lead	*For local completion*

1. Scope

1.1 **Prescribed Specialised Service**

This service specification covers the provision of Adult Critical Care services.

1.2 **Description**

Adult Critical Care underpins all secondary and specialist adult services. Critical Care incorporates both intensive and high dependency care (ICU/HDU) stand alone or combined. Specifically this service specification is for adults who have a specialised commissioned pathway which incorporates the need for or availability to Adult Critical Care (level 2 and 3 see 2009 Intensive Care Society: Levels of Care for definition) as a component of their pathway of care.
This specification is not applicable to high care areas provided by specialised services such as Post-Operative Anaesthetic Care Units, Extended Recovery Units, Nephrology, Respiratory or Cardiology.

1.3 **How the Service is Differentiated from Services Falling within the Responsibilities of Other Commissioners**

The Identification Rules for Prescribed Specialised Services state that any adult critical care period that is linked with a specialist spell is considered to be specialised and is commissioned by NHS England.

2. Care Pathway and Clinical Dependencies

2.1 **Care Pathway**

Critical Care services are delivered within discrete locations such as Intensive Care or High Dependency units, or combined units (ICU and HDU collocated). Sometimes these services are dedicated to one speciality e.g. post-cardiac surgery or neurosurgery/neurology but increasingly services are integrated clinically into a single critical care service.

Minimum Standards for Adult Critical Care are consistent across all services irrespective of case-mix. Additional professional standards exist at Network and National level and will not be covered in this specification.

An overview of the Critical Care Pathway is shown below:

Admission to Critical Care

- The provider must implement a standardised approach to the detection and response to deteriorating health on general wards with reference to NICE Clinical Guideline 50
- Admission to Critical Care must be timely and meet the needs of the patient. Admission must be within 4 hours from the decision to admit (unscheduled admissions).
- The provider should ensure appropriate planning of elective surgical admissions to critical care in order to avoid unnecessary postponement of surgery.
- The decision to admit a patient to Critical Care must be made by a Consultant in Intensive Care Medicine
- The transfer of a level 3 patient for comparable critical care at another acute hospital (Non-Clinical Transfer) should be avoided

Critical Care

- Each provider must have a designated Clinical Director/lead Consultant, matron and advanced level pharmacist for Critical Care, all of whom should be actively engaged in their local Adult Critical Care ODN.
- Clinical pharmacists are essential practitioners within the critical care multi-professional team. Pharmacists are vital to the routine delivery in critical care practice of medicines optimisation, a key NHS agenda.
- Care within Critical Care must be led by a Consultant in Intensive Care Medicine (as defined by the Faculty of Intensive Care Medicine). Where providers do not meet this standard consideration should be given as to how this may be achieved through collaboration with their local critical care ODN who can facilitate collaboration between stakeholders
- Consultants must be freed from all other clinical commitments when covering Intensive Care and this must include other on-call duties.
- A Consultant in Intensive Care Medicine must be immediately available 24/7, be able to attend within 30 minutes.
- On admission to Critical Care all patients must have a treatment plan discussed with a Consultant in Intensive Care Medicine
- All admissions to Critical Care must be seen and reviewed within 12 hrs by a Consultant in Intensive Care Medicine
- Patients in Critical Care should receive twice daily ward review by a Consultant in Intensive Care Medicine (in line with 7 day standards) (Domains 1 and 3).
- In addition there should be multidisciplinary 7 day input available from the extended team (eg microbiology, pharmacy, physiotherapy, and where applicable dietetics and speech and language).
- Clinical pharmacists supporting delivery of medicines optimisation in critical care areas must provide patient-centred care, including: medicines reconciliation (on admission and discharge), independent patient medication review with attendance of multiprofessional ward rounds and professional support activities, including: clinical guidelines, medication-related clinical incident reviews and clinical audit and evaluation."
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All providers must provide a nursing establishment determined by the following nurse to patient ratio:

- Level 3 patients have 1:1 nursing ratios for direct patient care
- Level 2 patients have 1:2 nursing ratios for direct patient care

- Nursing staff should be supported by an appropriately sized critical care educational team. The size of the team should be determined locally however should be a minimum of 1 WTE educator per 75 staff.
- There must be a training strategy to achieve a minimum of 50% of nursing staff with a post-registration award in critical care nursing
- Each Critical Care Unit must have a supernumerary shift clinical coordinator 24/7.
- Non-established bank/agency nursing staff must not on average exceed 20% of a shift
- Critical Care services must have an effective Clinical Governance Platform and robust data collection system. This must encompass:
- Participation in National Audit programmes for Adult Critical Care (ICNARC Case Mix Programme including patient reported outcome measures PROMS when available; Public Health England Infection in Critical Care Quality Improvement Programme (ICCQIP), including the nationally agreed dashboard. The Standardised Mortality Ratio is included in this dashboard.
- In addition to the NHS England self-assessment process providers are required to participate in activities of the unit's local Operational Delivery Network for Adult Critical Care, including peer review
- Working towards compliance with NICE Clinical Guideline 83 and Quality Standard 158, including at a minimum benchmarking data and a 'SMART' action plan in place to achieve compliance. Evidence of effective implementation of evidenced based practice within Intensive Care Medicine.
- Evidence of effective engagement with patients and their families and carers.
- Presence of a risk register and associated audit calendar which is regularly updated and acted upon.
- Effective Strategies to minimise hospital -acquired infections within Critical Care and publication of Central Venous Catheter-related Blood Stream Infection rate.
- Avoidance of readmission to Critical Care (ITU and HDU) within 48hrs of discharge.
- Each Critical Care Unit must submit capacity data at least twice a day to the National DOS bed management system.

Discharge from Critical Care

Transfer from Critical Care to a ward must be formalised within the handover. The handover must satisfy the requirements from NICE Clinical Guideline 50 and demonstrate progress towards compliance with NICE Quality Standard 83.

- Transfer from Critical Care to a ward must occur between the hours of 07.00hrs and 21.59 hrs,
- ideally between 0700hrs and 19.59hrs.
- Discharge from Critical Care to ward level care must occur within 4 hours of the decision to discharge.
- Patients undergoing specialist care should be repatriated to a Trust closer to their home when clinically appropriate to continue their re-ablement. Such discharge should occur within 48hrs of the decision to repatriate and the decision to repatriate should not be a reason to delay discharge from critical care to a ward bed.

Critical Care Operational Delivery Networks

Critical Care ODNs now fulfil a number of roles including:

- Supporting Providers with knowledge, expertise and practical support to redesign their services, enhancing patient safety, patient experience, partnership working
- Supporting Commissioners in delivery of their commissioning functions:
    - provide peer review functionality,
    - may assist in service redesign/delivery
    - quality improvement initiatives

- providing the local knowledge to support funding models and commissioning intentions inherent in their STP plans where expertise and funding exist..

- Their role is also increasingly relevant in supporting the very small number of geographically remote critical care units (16 providers with average distance of 80 KM from a neighbouring unit) to develop a model of service which maintains equity of access and breadth of service for their population and addresses sustainable solutions for these rural units.

Assisting providers and commissioners in the delivery of their EPRR plans.

- 2.2 **Interdependence with other Services**

The management of critically ill patients whether commissioned by NHS England or CCGs requires the input of a number of medical and non-medical specialties, and other agencies. Ultimately the nature of core supporting services will be dependent on the patient case mix of the critical care unit. Appendix 1 displays the minimum relationship between services.

3. Population Covered and Population Needs

3.1 Population Covered By This Specification

The service outlined in this specification is for patients ordinarily resident in England or otherwise the commissioning responsibility of the NHS England (as defined in Who Pays? :Establishing the responsible commissioner and other Department of Health Guidance relating to patients entitled to NHS care or exempt from charges).

Specifically this service is for adults who have or are anticipated to require Adult Critical Care as a component of their pathway of care. Adult is defined as 18 years or older and Critical care is defined by the level of care a patient requires as described in "Levels of Care"[16]. This specification relates to patients requiring levels 2 and 3 critical care. Patients aged 16 to 18 years are also included in this specification but there may be occasions when a paediatric critical care service is more appropriate for such patients. Such pathways may have both scheduled and emergency requirements.

3.2 Population Needs :

The demand for critical care will continue to grow due to an ageing population and advances in technology. In particular the need for level 2 and 3 care will increase with the increasing use of specialised services such as complex interventional cardiology, bone marrow and solid organ transplants.

NHS England commissions approximately 43% of the total adult critical care activity in England with clinical commissioning groups commissioning the remainder. In 2016/17 a total of 282,475 bed days were commissioned by NHS England. The majority of patients were aged 50 and over (77%).Since 2014 the average annual increase in activity is about 3.8%.

In terms of patient flows there is variation across England. For patients in the South East (94%) and the South West (95%) regions the majority of patients who received critical care were registered with a CCG within their region, whereas in London this was 57%.[1]

In 2015-16, ninety-two percent of all critical care activity was for '1 or more organs supported', with two support types being the most common (33.9%). The most common organ support types were cardiovascular (advanced and basic) and respiratory organ,83.6%. [2]

3.3 Expected Significant Future Demographic Changes :

[1] Improving Value "Where to Look" Data Pack Adult Critical Care June 2018

[2] NHS Digital. Hospital Adult Critical Care Activity 2015-16. Published 23 February 2017

The population in England is expected to increase by 5.9% between mid-2016 and mid-2026, an average annual increase of ~1%. The number of older people is expected to double[3]. Both will have an impact on demand for specialised critical care as this is likely to lead to increases in specialised interventions such as arterial thrombectomy and cardiac procedures.

3.4 Evidence Base

This specification is a compilation of existing standards (appendix 2).

4. Outcomes and Applicable Quality Standards

4.1 Quality Statement – Aim of Service

The aims of the service are as follows:

- To ensure equity of access, equitable care and timely admission and discharge to and from adult critical care for all appropriate patients.
- Avoidance of postponement of elective surgery due to lack of a post-operative Critical Care bed.
- To ensure that Critical Care continues to be provided in the discrete traditional locations of Intensive Care, High Dependency Care or combined Intensive care and High dependency Care Units, recognising that in exceptional circumstances it may extend to other high care hospital settings as part of a pre-planned and agreed surge framework.
- To utilise the Critical Care National Dataset (Critical Care Minimum Dataset)(CCMDS) to describe Adult Critical Care activity in one of 7 HRGs determined by the total number of organs supported during a spell of Critical Care (both ITU and HDU).
- To re-enforce the role played by Critical Care Outreach services in supporting provider organisations in the implementation of their strategies to recognise the deteriorating patient, deliver response to deteriorating health on the wards and the delivery of effective follow up of patients post discharge from Critical Care.
- To continue the culture of continual quality improvement underpinned by reliable information and audit.
- To deliver a National Dashboard for Adult Critical Care Services within NHS England's footprint to inform the Clinical Effectiveness debate at local, Network and National levels.
- To improve functionality and increase the quality of life for patients recovering from a period of critical illness (NICE Clinical Guideline 83 and Quality Standard 158).
- All units must participate in National Audits in Intensive Care Medicine, including ICNARC's Case Mix Programme and PHE ICCQIP.

NHS Outcomes Framework Domains

Domain 1	**Preventing people from dying prematurely**	
Domain 2	**Enhancing quality of life for people with long-term conditions**	

[3] Source: Office for National statistics 2016-based subnational population projections for NHS regions and clinical commissioning groups in England

Domain 3	**Helping people to recover from episodes of ill-health or following injury**	
Domain 4	**Ensuring people have a positive experience of care**	
Domain 5	**Treating and caring for people in safe environment and protecting them from avoidable harm**	

4.2 Indicators Include:

No.	Indicator	Data source	Domain(s)	CQC Key Question
Clinical Outcomes				
1.	Proportion of total available critical care bed days utilised for patients more than 24 hours after the decision to discharge	SSQD	1,2,5	Responsive
2.	Proportion of live discharges, discharged within 4 hours post decision to discharge	SSQD	1,2,5	Effective
3.	Proportion of live discharges, discharged greater than 24hrs after decision to discharge	SSQD	1,2,5	Effective
4.	Proportion of live discharges, discharged from critical care between 07:00am and 21:59pm	SSQD	1,2,5	Care
5.	Proportion of live discharges between 07:00am and 19:59pm	SSQD	1,2,5	Responsive
6.	Proportion of elective surgical critical care bed bookings cancelled on the day of surgery due to lack	SSQD	1,2,5	Effective, Safe

	of availability of a post-operative critical care bed			
7.	Standardised mortality ratio (using ICNARC risk adjustment model) for critical care patients	SSQD	1,2,5	Effective, Safe
8.	Standardised mortality ratio (using ICNARC risk adjustment model) for critical care patients with an expected mortality less than 15%	SSQD	1,2,5	Effective, Safe
9.	Rate of blood stream infections	SSQD	1,2,5	Effective, Safe
Patient Outcomes				
10.	The service engages with patients and families to inform service developments	Self-declaration	4	Responsive, Caring
Structure & Process				
11.	There is designated medical and nursing leadership	Self-declaration	1,2,5	Well led
12.	There is consultant led care	Self-declaration	1,2,5	Effective, Safe
13.	There is a nursing establishment to support the patient staff ratios identified in the specification	Self-declaration	1,2,5	Effective, Safe
14.	% of nursing staff holding a recognised critical care qualification	Self-declaration	1,2,5	Effective, Safe
15.	There are pathways in place for admission and discharge of patients	Self-declaration	1,2,5	Effective, Safe
16.	The service participates in the network governance arrangements	Self-declaration	1,2,5	Effective, Safe

4.3 Commissioned providers are required to participate in annual quality assurance and collect and submit data to support the assessment of compliance with the service specification as set out in Schedule 4A-C

4.4 Applicable CQUIN goals are set out in Schedule 4D

5. Applicable Service Standards

5.1 Applicable Obligatory National Standards
The provider must comply with the following:

NICE

- 2007 NICE Clinical Guideline 50 :Acutely ill Patients in Hospital
- 2009 NICE Clinical Guideline 83: Rehabilitation after Critical Illness*
- 2010 NICE Clinical Guideline 103 :Delirium :diagnosis, prevention and management
- 2011 NICE Clinical Guideline 135 : Organ Donation for transplantation: improving donor identification and consent rates for deceased organ donation

**demonstrates progress towards compliance* including at a minimum benchmarking data and a 'SMART' action plan in place to achieve

NHS Estates

- NHS Estate Guidance 2013 HBN 04/02

Department of Health/NHS England

- 2006 Critical Care Dataset launched (CCMDS)
- 2008 The National Education and Competence Framework for Advanced Critical Care Practitioners
- 2010 Information Standards Notice amendment: CCMDS version 8
- Seven Day Services Clinical Standard, September 2017, NHS England (www.england.nhs.uk/publication/seven-day-services-clinical-standards/)

National Audit programmes in Intensive Care Medicine:

- ICNARC Case Mix Programme, National Dashboard for Adult Critical Care
- PHE ICCQIP

5.2 Other Applicable National Standards to be met by Commissioned Providers
The provider should comply with:

- 2009 Intensive Care Society: Levels of Care
- 2011 Guidelines for the transport of the critically ill adult (3rd Edition).
- 2015 Guidelines for Provision of Intensive Care Services (FICM/ICS)*

**demonstrates progress towards compliance* including at a minimum benchmarking data and a 'SMART' action plan in place to achieve

5.3 Other Applicable Local Standards
ODN and sub speciality standards may apply

6. Designated Providers (if applicable)

Not applicable

7. Abbreviation and Acronyms Explained

The following abbreviations and acronyms have been used in this document:
CCMDS: Critical Care Minimum Dataset

FICM: Faculty of Intensive Care Medicine
ICNARC: Intensive Care National Audit and Research Centre
ICS: Intensive Care Society
ODN: Operational Delivery Network

Date published: *<insert publication date>*

Appendix 1: Minimum interdependencies for Adult Critical Care

Co-located Services – to be provided on the same site and to be immediately available 24/7	• Competent resident medical th advanced airway skills (anaesthetist/Intensive Care Medicine) • General Internal Medicine • Radiology: CT, Ultrasound, plain xray • Echocardiography/ECG • General Surgery for any site with surgical admissions. • Access to Theatres • Transfusion Services • Essential haematology/ biochemistry service and point of care service • Speciality Intensive Care Units must have their speciality specific surgical service co-located with other interdependent services e.g. vascular surgery with interventional vascular radiology, nephrology and interventional cardiology; obstetrics with general surgery. • Informatics support. • Physiotherapy • Pharmacy • Medical Engineering Services
Interdependent Services, available 24/7. The response time to these specialities will depend on the case mix of the patient population and will range from available within 30mins to a maximum of 4 hours. **For services not immediately available on site service level agreements need to specify response times.**	• Interventional Vascular and non-vascular Radiology • Neurosurgery • Vascular Surgery • General Surgery (only applies to a site which does not admit surgical patients) • Nephrology • Endoscopy • Coronary Angiography • Cardiothoracic Surgery • Trauma and Orthopaedic Surgery • Plastic Surgery • Maxillo-facial Surgery • Ear, Nose and Throat Surgery • Obstetrics and Gynaecology • Organ Donation Services • Acute/Early Phase Rehabilitation Services • Additional laboratory diagnostic services
Interdependent services - available during daytime hours (Monday – Sunday) • **Where applicable to extend from 5 to 7 day service**	• Occupational Therapy* • Dietetics* • Speech and Language Therapy* • Bereavement Services • Patient Liaison Service*
Interdependencies with operational delivery networks	• Adult Critical Care Networks • Burns Networks • Major Trauma Networks • Paediatric Critical Care
Interdependencies with Strategic Clinical Networks	• Cardiovascular Network • Maternal and Paediatric Networks
Interdependencies with CCG	• Emergency General Surgery

commissioned pathways and services	• Emergency Medicine • Clinical Psychology • Mental Health • Rehabilitation, Re-ablement and Recovery Services
Related services – services available following the critical care phase of the patient journey	• Local Hospital and Community Rehabilitation Services • Specialised Rehabilitation Services • Critical Care Follow Up • Clinical Psychology • Spinal Cord Rehabilitation Services • Primary Care • Burns Services • Voluntary Support Services

Appendix 2: Evidence supporting the standards for Intensive Care Medicine

- NICE Quality Standard Rehabilitation after Critical Illness in Adults 2017
- NICE Clinical Guideline 83: "Rehabilitation after Critical Illness" 2009.
- 2009 Intensive Care Society: Levels of Care
- 2009 "Evaluation of modernisation of adult critical care services in England: time series and cost effectiveness analysis" British Medical Journal
- 2009: NCEPOD "Adding insult to injury". A review of the care of patients who died in hospital with a primary diagnosis of acute kidney injury (acute renal failure)
- 2011: NCEPOD Knowing the Risk : a review of the peri-operative care of surgical patients. This report identified that recognition of an individual patient's risk by surgical, anaesthesia and critical care teams were implicated in not designing the optimal clinical pathway for higher risk surgical patients. It was recognized that a much greater use of Critical Care would be appropriate for such patients.
- Royal College of Obstetricians and Gynaecologists/DH 2011: "Providing Equity of Critical and Maternal Care for the Critically Ill or recently Pregnant Woman".
- Royal College of Surgeons /DH 2011 :"Higher Risk General Surgical Patient: Towards Improved Care for a Forgotten Group ".
- National Confidential Enquiry into Peri-operative Deaths 2011: "Knowing the Risk".
- NICE Clinical Guideline 135 : Organ Donation for transplantation: improving donor identification and consent rates for deceased organ donation 2011.
- 2011 Guidelines for the transport of the critically ill adult (3rd Edition).
- 2012 Prospectively defined indicators to improve the safety and quality of care for critically ill patients: a report from the Task Force on Safety and Quality of the European Society on Intensive Care Medicine ICM 2012
- 2015 Guidelines for Provision of Intensive Care Services (FICM/ICS). This document has collated all relevant standards which apply to Adult Critical Care in the UK. Some of the recommendations are aspirational and as such provide a framework for teams to develop their services over several years.
- NICE Guideline 5 "Medicines optimisation: the safe and effective use of medicines to enable the best possible outcomes" (March 2015).
- Faculty of Intensive Care Medicine /Intensive Care Society "Guidelines for Provision of Intensive Care Services 2015"
- "Operational productivity and performance in English NHS acute hospitals: Unwarranted variations" (Feb 2016) (Carter Review).
- "Transformation of seven day clinical pharmacy services in acute hospitals" (Sept 2016).

Appendix 3.Quality standards specific to the service using the following template:

Number	Indicator	Data Source	Outcome Framework Domain	CQC Key question
Clinical Outcomes				
101	Proportion of total available critical	SSQD	1, 2,5	responsive
102	Proportion of live discharges, discharged within 4 hours post decision to discharge	SSQD	1, 2,5	effective
103	Proportion of live discharges, discharged greater than 24hrs after decision to discharge	SSQD	1,2,5	effective
104	Proportion of live discharges, discharged from critical care between 07:00am and 21:59pm	SSQD	1, 2,5	caring
105	Proportion of live discharges between 07:00am and 19:59pm	SSQD	1, 2,5	caring
106	Proportion of elective surgical critical care bed bookings cancelled on the day of surgery due to lack of availability of a post operative critical care bed	SSQD	1, 2,5	responsive
107	Standardised mortality ratio (using ICNARC risk adjustment model) for critical care patients	SSQD	1, 2,5	effective, safe
108	Standardised mortality ratio (using ICNARC risk adjustment model) for critical care patients with an expected mortality less than 15%	SSQD	1, 2,5	effective, safe
109	Rate of blood stream infections	SSQD	1, 2,5	effective, safe
Patient Experience				
201	The service engages with patients and families to inform service developments	Self declaration	4	responsive, caring
Structure and Process				
001	There is designated medical and nursing leadership	Self declaration	1,2,5	Well led
002	There is consultant led care	Self declaration	1,2,5	Effective , Safe
003	There is a nursing establishment to support the patient staff ratios identified in the specification	Self declaration	1,2,5	Effective , Safe
004	All staff are trained in critical care	Self declaration	1,2,5	Effective , Safe
005	There are pathway in place for admission and discharge of patients	Self declaration	1,2,5	Effective , Safe
006	There are clinical guidelines in place	Self declaration	1,2,5	Effective , Safe
007	The service participates in the network governance arrangements	Self declaration	1,2,5	Effective , Safe