

Critical Care Workforce Development Toolkit

[The Adult Critical Care Pharmacy Workforce Strategy](#) produced by NHS England (NHSE), identifies the development of the critical care pharmacy workforce as a high priority. It reiterates the need for adult critical care units to meet commissioned service levels set out in the [NHS England D05 service specification](#) and standards within the [Guidelines for the Provision of Intensive Care Services \(GPICS\)](#) by 2026. The service level and standards include the minimum requirement for a designated (advanced) critical care pharmacist in every organisation across the country, with pharmacy services available to critical care units seven days a week.

At present, there are not enough pharmacists trained in critical care to meet the standards^{1,2,3}. To resolve this, upskilling of the existing critical care pharmacy workforce is needed, as well as routes for more pharmacy professionals to develop critical care capabilities and work within critical care units.

We recognise that pharmacists' critical care learning needs vary widely, so the first stage of this work has been to describe groups of learners in terms of tiers, which are based on their service provision abilities and their expected knowledge/skills. The table below highlights the service that pharmacists in each tier might be expected to provide to critical care, and how further development may be supported.

All Trusts providing critical care services require pharmacists across tiers 1-4 to meet GPICS standards. Larger units require a tier 5 pharmacist. Pharmacists operating at an Operational Delivery Network (ODN) level would also be required to meet tier 5 core skills.

There are national drivers to upskill more pharmacists to be able to work each of the tiers to ensure critical care units across the country are adequately supported.

The table below has been developed to:

- Support clinical service leads to describe the skill mix of their workforce in relation to their critical care capabilities
- Allow service leads to consider how they may support upskilling, using the available educational resources and curricula to meet identified gaps (linked to their service requirements)
- Allow individual practitioners to consider their current level of practice and how they might upskill themselves in relation to critical care practice
- Identify gaps in education provision where additional or new programmes may need to be funded/commissioned.

¹ <https://www.gettingitrightfirsttime.co.uk/wp-content/uploads/2021/08/Adult-Critical-Care-Aug21L.pdf>

² <https://pubmed.ncbi.nlm.nih.gov/27699912/>

³ <https://pubmed.ncbi.nlm.nih.gov/37004069/>

Tier 1			
Pharmacists with no direct critical care experience should have a fundamental understanding of common medicines, indications, doses and routes used in this area to perform a supply function. They should also be able to provide a pharmacy service to patients at transfer from critical care to a base ward during normal working hours. Pharmacists should be aware of problematic polypharmacy in critical care patients such as the continuation of inappropriate medicines while critically unwell, failure to restart important chronic medication and medication transfer errors.			
Examples of core skills at tier 1	Supporting framework / curriculum	Examples of resources to reach tier 1	Examples of how to assure quality at tier 1
<p>Understands Levels of Adult Critical Care definitions.</p> <p>Understands the role of the critical care outreach team.</p> <p>Aware of and accesses resources relevant to critical care, including but not limited to: local critical care guidelines, Renal Drug Database, Medusa, minimum infusion volumes, Enteral drug administration.</p> <p>Fundamental understanding of common critical care treatments including vasopressors, inotropes and sedation</p> <p>Performs medicines reconciliation and medicines review for patients at transfer of care from critical care to base ward, including which medicines should be stopped, started/re-started or reviewed.</p>	RPS Post-registration foundation	<p>Critical care induction</p> <p>Observe & learn from critical care pharmacist</p> <p>Observe & learn from enhanced care pharmacist</p> <p>Observe & learn from critical care outreach team</p> <p>UKCPA Fundamentals of critical care eLearning</p> <p>Critical care teaching as part of the clinical pharmacy postgraduate diploma</p>	<p>Attendance at critical care induction as part of department induction</p> <p>Self-reporting of reading of critical care policies / procedures / guidelines</p>

Tier 2			
Pharmacist is able to safely review patients in enhanced care (patients whose care needs fall into the gap between what can be provided on a normal ward and in critical care) and provide a pharmacy service to critical care patients, including participation in multi-professional ward round, with structured support from members of the established critical care pharmacy team, for example as part of an early careers critical care rotation or during surges of activity (e.g., pandemic).			
Examples of core skills at tier 2	Supporting framework / curriculum	Examples of resources to reach tier 2	Examples of how to assure quality at tier 2
<p>Reviews level 2 and 3 patients in terms of organ function and systems (cardiovascular, respiratory, renal, liver, CNS, GI tract, skin, microbiology)</p> <p>Adjusts medicines according to critical care pathology, considering altered pharmacokinetics, organ function, absorption and drug interactions e.g., dose adjustment in renal function, route of administration change post-operatively</p> <p>Recognises own limitations and seeks advice from more experienced critical care pharmacists when necessary</p>	RPS Post-registration foundation	<p>RPS Covid-19 Critical Care Training Resource</p> <p>RPS/UKCPA Knowledge and capability guide</p> <p>UCL: A practical introduction to ICU</p> <p>Midlands Critical Care Band 7 Training Pack</p> <p>UKCPA Critical Care Foundation Course</p> <p>Critical care teaching as part of the clinical pharmacy postgraduate diploma</p>	<p>Self-assessment RPS Case Study</p> <p>RPS Covid-19 critical care pharmacist development report template</p>

Tier 3

Pharmacist is able to provide a regular clinical pharmacy service to critical care patients, including active contribution to multi-professional ward rounds, for example, as part of a 12-month critical care rotation for experienced pharmacists, or caring for critical care patients as part of a role in another specialty, e.g., surgery. They should be practising at a level equivalent to [advanced stage I of the Advanced Pharmacy Framework](#), with access to a critical care pharmacist practising at advanced stage II or mastery for support when needed*.

*as per GPICS V2.1 all pharmacists providing a regular service to critical care should be working at advanced stage I and have access to a critical care pharmacist working at least at advanced stage II

Examples of core skills at tier 3	Supporting framework / curriculum	Examples of resources to reach tier 3	Examples of how to assure quality at tier 3
Be working towards or qualified as an independent prescriber with competence to prescribe medicines in a critical care setting. Understands and follows local and national guidance related to the care of critically unwell patients.	RPS Post-registration foundation RPS Critical Care Expert Professional Practice Curriculum	UKCPA Critical Care Foundation Course UKCPA Critical Care Advanced Course	Credentiailling at post-registration foundation level Mapping to Advanced Stage I of the RPS Critical Care Expert Professional Practice Curriculum

Tier 4 (Advanced specialist critical care pharmacist)			
<p>Pharmacist in a non-rotational critical care role leading the critical care pharmacy service (or, in large organisations, a subdivision of it) and fully integrated into the multi-professional critical care team, including attendance on multi-professional ward rounds. They should be working at advanced stage II and/or credentialled to RPS Advanced Core and Specialist (critical care) level and should provide support to more junior and rotational members of the critical care team with succession planning in mind. They should be working across all four pillars of advanced practice: clinical practice, leadership and management, education and research.</p>			
Examples of core skills at tier 4	Supporting framework / curriculum	Examples of resources to reach tier 4	Examples of how to assure quality at tier 4
<p>Routinely advise the multi-professional critical care team on complex medication-related issues</p> <p>Provide education to the multi-professional critical care team.</p> <p>Collaborates with the multi-professional team to create a culture of medicines safety. Taking a proactive role in the development of writing guidelines, policies and procedures which relate to medication treatment of critical care patients, as well as medication safety and governance.</p> <p>Active member of regional/national networks, e.g. UKCPA Critical Care Pharmacist Group; Operational Delivery Network</p> <p>Active independent prescriber</p>	<p>RPS Core Advanced Curriculum</p> <p>Advanced Specialist Critical Care Curriculum</p> <p>RPS Critical Care Expert Professional Practice Curriculum</p>	<p>UKCPA Critical Care Advanced Course</p> <p>PGCert/PGDip/Masters or Level 7 modules in Critical Care/Leadership/Education</p> <p>Engagement/contribution to specialist conferences e.g. UKCPA Advanced level symposium</p> <p>Specialist advanced practice courses, e.g. Edinburgh Critical Care Research Methods Courses</p>	<p>Credentialling at Core/Specialist Advanced level</p> <p>Mapping to Advanced Stage II of the RPS Critical Care Expert Professional Practice Curriculum</p>

Tier 5 (Consultant level critical care pharmacists)			
Pharmacist has developed and demonstrated high level expertise in critical care and across the four pillars of advanced practice, is credentialed by the RPS as working at consultant pharmacist level. Pharmacists should be actively involved in workforce development and succession planning.			
Examples of core skills at tier 5	Supporting framework / curriculum	Examples of resources to reach tier 5	Examples of how to assure quality at tier 5
<p>Provides expert care to patients with the most complex medication needs and provides advice to the pharmacy and multi-professional team caring for critical care patients.</p> <p>Leads research to generate new knowledge to address identified gaps; publishes research in peer reviewed journals</p> <p>Collaborate and negotiates with other multi-professional critical care leaders to shape the strategy for effective delivery of the critical care pharmacy service.</p> <p>Contributes to network-wide, regional or national critical care guidelines</p>	RPS Consultant pharmacist curriculum	<p>PGCert/PGDip/Masters or Level 7 modules in Critical Care/Leadership/Education</p> <p>DPharm</p> <p>PhD</p>	Credentiailling at consultant pharmacist level

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