

Programme Name

National Pharmacy Residency Year 2 (R2) Programme in Critical Care Pharmacy

Introduction

The Critical Care Pharmacy Residency is a comprehensive 12-month specialised programme designed to develop exceptional critical care pharmacists through immersive training in diverse intensive care environments within academic teaching hospitals. This rigorous programme combines essential core experiences that establish a robust foundation in critical care knowledge and clinical skills with carefully selected elective rotations that enable residents to develop specialised expertise and pursue individual areas of interest.

Throughout the residency, participants engage in all facets of comprehensive pharmaceutical care delivery within high-acuity settings. The programme's core curriculum encompasses rotations through medical intensive care, surgical intensive care, neuroscience critical care, cardiology intensive care, cardiothoracic intensive care, and specialised burns units. These foundational experiences are complemented by elective opportunities in Clinical Nutrition, Haematology and Bone Marrow Transplant services, and Infectious Diseases, providing residents with breadth of exposure and the flexibility to tailor their training to their career aspirations.

Upon successful completion of this intensive programme, graduates will possess the advanced clinical competencies, critical thinking skills, and specialised knowledge necessary to excel as specialist pharmacists in critical care settings, positioning them to make significant contributions to patient outcomes in the most challenging healthcare environments.

Programme Overview

The R2 Residency builds upon the broad-based competencies achieved in a R1 Pharmacy Residency to train pharmacists for a clinical specialist role in a critical care practice setting such as medical, surgical, neuroscience, burns and trauma, and cardiology and cardiothoracic intensive care. Residents who successfully complete the programme will possess necessary skills to function as an advanced practitioner and assume clinical leadership role in the area of critical care pharmacy practice.

The programme adheres to the Programme Standards for National Pharmacy Residency Programmes. The Four Competency Areas that the resident will achieve at the end of the residency are as follows:

Competency Area: Patient Care (PC)

Standard PC1: In collaboration with the health care team, provide comprehensive medication management to critically ill patients following a consistent patient care process.

Standard PC2: Ensure continuity of care during critically ill patient transitions between care settings.

Competency Area: Advancing Practice and Improving Patient Care (AP)

Standard AP1: Demonstrate ability to manage formulary and medication-use processes for critically ill patients.

Standard AP2: Demonstrate ability to conduct a quality improvement or research project.

Competency Area: Leadership and Management (LM)

Standard LM1: Demonstrate leadership skills for successful self-development in the provision of care for critically ill patients.

Standard LM2: Demonstrate management skills in the provision of care for critically ill patients.

Competency Area: Teaching, Education, and Dissemination of Knowledge (TE)

Standard TE1: Provide effective medication and practice-related education to critically ill patients, caregivers, health care professionals, students, and the public (individuals and groups).

Standard TE2: Effectively employ appropriate preceptor roles when engaged in teaching students, pharmacy technicians, or fellow health care professionals in critical care.

Programme Structure and Activities

| Rotations | Duration/Descriptions |
|---|--|
| Core rotations | 39 weeks |
| 1. Orientation | 1 week |
| 2. Cardiology Intensive Care (TTSH) | 4 weeks |
| 3. Cardiothoracic Surgery Intensive Care (NUH) | 6 weeks |
| 4. Medical Intensive Care (SGH and NUH) | 8 weeks |
| 5. Neuroscience Intensive Care (SGH or TTSH) | 8 weeks |
| 6. Surgical Intensive Care (SGH and CGH) | 8 weeks |
| 7. Burns Intensive Care (SGH) | 4 weeks |
| Required longitudinal learning experiences | |
| 1. Management | - Medication use evaluation and participation in quality improvement activities pertaining to critical care |
| 2. Operational | - Manage ICU medication verification and distribution - Ward stock review |
| 3. Research / Quality Improvement Projects | - Quality improvement initiative - CITI certification - Complete clinical research project focusing on critical care pharmacotherapy - Present research at a national pharmacy or critical care meeting and prepare a manuscript suitable for publication - 4 weeks of project week |
| 4. Teaching | - Provide lecture(s) in Critical Care SIG meetings - Precept trainees and R1 residents on critical care rotations - Deliver continuing pharmacy education lecture in critical care/ ICU in-service |
| Elective rotations (to select 2) - SGH | 8 weeks |
| 1. Clinical Nutrition | 4 weeks |
| 2. Haematology / Bone Marrow Transplant | 4 weeks |
| 3. Infectious Diseases | 4 weeks |
| Research project week | 4 weeks |
| Christmas & Chinese New Year break | 1 week |
| Total | 52 weeks |

Summary of Learning Experience Evaluations

| Type | How | Evaluator(s) | When |
|-----------------------------------|--------------|----------------------|--|
| Formative | Verbal | Preceptor + Resident | Daily |
| Formative | Care Plan | Preceptor + Resident | Weekly |
| Formative | Snapshot TBD | Preceptor + Resident | Weekly |
| Quarterly Formative and Summative | Summative | Preceptor + Resident | Quarterly for longitudinal rotation |
| Summative | Summative | Preceptor + Resident | End of Rotation |
| Preceptor | Standard | Resident | End of Rotation + Quarterly if longitudinal rotation |
| Learning Evaluation | Standard | Resident | End of Rotation + Quarterly if longitudinal rotation |

Exit Requirements

Meet all R2 Pharmacy Residency requirements including making sufficient progress towards all the required educational outcomes as evidenced by either satisfactory progress or achieved being marked for all competency areas.

In the event that the resident is unable to meet this requirement by the end of residency, the resident will have to complete an extra learning experience up to a maximum of 12 weeks as determined by the RPD to demonstrate sufficient progress.

- Satisfactory completion of all learning experiences as evidenced by all required work assigned being completed to the satisfaction of preceptors.
- Achieve a pass in the portfolio-based exit assessment conducted by the Board of Examiners appointed by Pharmacy Residency Exit Committee.
- Completion of residency major project with a manuscript that is approved by the project supervisor and RPD.
- In the event that the resident is unable to meet this requirement by the end of residency, the resident will be given a grace period of 12 weeks to complete the project.
- Meet the stipulated allowable days of absence.
- Compliance with institutional and departmental policies.

If a resident fails in his/her first attempt in any of the above-mentioned assessments, opportunity will be given for a second attempt within the next 12 weeks immediately after the end of the programme. Any additional fee(s) will be borne by the resident's home institution. Upon successfully passing all assessments, the resident will likewise be awarded the Certificate of Completion in Pharmacy Residency in Critical Care.

However, if a resident fails any of the assessments in the second attempt, he/she will be deemed as unsuccessful and will not be awarded the certificate.

Training Sites

Singapore General Hospital, National University Hospital, Changi General Hospital, Tan Tock Seng Hospital.