EPICentre Acute Medicine Rotation

Background

The Royal Brisbane & Women’s Hospital (RBWH) is a 900 adult bed quaternary and tertiary referral centre based in the inner city suburb of Herston. It has a broad geographic catchment and is home to a number of highly specialised statewide services, such as Burns and Bone Marrow Transplant units. The RBWH receives a large number of emergency admissions and inter-hospital transfers 24h a day, 7 days a week, many of high complexity and acuity. The hospital maintains 24h access to emergency operating theatres, diagnostic imaging, interventional radiology and cardiac catheterisation services. A 30 bed Intensive Care Unit (ICU) manages a diverse caseload of trauma, burns, surgical and medical patients, with a dedicated Elective Surgical High Dependency Unit to support high risk postoperative care.

Like many similar facilities across Australia and internationally, there is a discrepancy in clinical outcomes for patients who are emergently admitted or experience clinical deterioration after-hours. The RBWH has undergone iterative clinical redesign since 2015 to address this imbalance, beginning with the Emergency Department (ED) interface but now culminating in a comprehensive and multidisciplinary hospital-wide after-hours team. There are 4 key components to the redesign process that will be integrated in 2018:

- **EPICentre** (Early Patient Intervention Centre – also abbreviated as “EPIC”). This acute medical unit commenced in 2015 to address discrepant outcomes and access for emergently admitted medical patients. Successful outcomes have been achieved through frontloaded senior decision-making, increased nursing resources, proactive multidisciplinary teams and rapid access to diagnostic services. There has been an evolution over time into a broader acute medical service that also aims to improve outcomes for ward patients who are at risk of clinical deterioration. This has included contribution to novel Medical Emergency Response (MER) training programs and 7 day consultant review to Patients of Concern across the RBWH. A dedicated telemetry capacity for diagnostic cardiac monitoring has been successfully implemented in 2017, with access to point-of-care ultrasound planned for 2018.

- **Patients of Concern**. A comprehensive strategy of identification, staff education and improved clinical handover for patients at high risk of clinical deterioration. Integration into existing handover processes and IT systems has occurred, in particular Patient Flow Manager, which facilitates multidisciplinary handover and visibility on the wards.

- **Patient Flow Manager - Task Management System**. An electronic system that enables nurses to efficiently request medical tasks after-hours, which are then directed to a role-specific iPad carried by the after-hours medical officers covering the wards. Senior medical and nursing staff can oversee the work demands of the hospital and reallocate tasks, assisting with the efficiency and prioritisation of workflow. Such systems have been effectively implemented in other jurisdictions, leading to a team-based rather than siloed approach to after-hours clinical concerns.

- **Hospital 24/7 After-Hours Team – UP LATE**. A multidisciplinary team led by senior training registrars (general medicine, critical care) and senior nurses (Nurse
Navigator level) that will integrate with existing after-hours resources to improve patient outcomes. This will be achieved through earlier senior decision-making for Patients of Concern, better staff support, smoothing of workload through the use of the Task Management System and the delivery of education programs targeted at after-hours clinicians to assist in the management and prevention of clinical deterioration. This will be in contrast to a currently fragmented after-hours team led by a large number of frequently rotating registrars with competing clinical demands, and minimal senior clinical nurse experience on the general wards on the evening or night shift.

The EPICentre team will expand in 2018 to provide leadership to the after-hours services, 7 day on-site consultant support and consistent processes to prevent clinical deterioration for Patients of Concern across the RBWH. This is an innovative acute medical service that will cross interfaces with the ED, ICU and ambulatory care for a broad cohort of acute inpatients. Senior trainees in General Medicine, ICU and Emergency Medicine will be key members of the team and have opportunities to not only develop high-level clinical skills and knowledge, but also leadership, research and educational skills for their future consultant practice.

**Role**

You will lead a diverse team of more junior registrars, resident medical officers and senior nurses in two roles – EPIC Registrar and STAR (Senior Trainee After-Hours Registrar). During your EPIC shifts you will be focussed on emergency admissions and inter-hospital transfers at the ED interface, while as the STAR you will be the clinical lead for the general wards with a focus on proactive management for Patients of Concern. These roles will provide a broad experience in managing both acute medical illness and clinical deterioration for a diverse patient population across the RBWH. Specific duties for these two roles are outlined below.

**EPIC Registrar**

- Single point of contact from DEM for general medicine admissions, as well as subspecialty medicine patients after-hours.
- Liaise with ED staff in the acute investigation/management of critically unwell medical patients, including those that may potentially require ICU versus ward disposition.
- Facilitate acute management/investigation for other referrals, including early review of inter-hospital transfers, with handover to the most appropriate admitting medical registrar or delegation to EPIC Senior House Officers (SHOs).
- Ensure appropriate clinical handover for after-hours admissions to teams responsible for their ongoing care the following day. This requires familiarity with a number of information systems (e.g. HBCIS, Patient Flow Manager) to which you will be introduced in your orientation program.
- You will supervise admissions and maintain registrar responsibility for short-staying patients expected to discharge within 24h from EPICentre. You will also be required at times to assist with the supervision of other admissions, dependent on the workload and capacity of the admitting registrars (see below).
• Attend the Rapid Review Clinic – a consultant-led service to provide ambulatory care to patients who otherwise would have required an acute admission to facilitate rapid investigation and management.
• Lead the MER Team from 0800-1000h Monday-Friday.
• There will be one day shift (0800-1800h) and one evening shift (1200-2200h) covered 7 days/week.
• Your team will consist of:
  o EPIC Nurse Unit Manager/Shift Coordinator – you will liaise frequently with this key position to ensure the timely and safe transition of patients from DEM to the EPICentre unit. At times they will escalate clinical concerns for patients in the EPICentre unit to you as well, when usual escalation processes have failed or senior medical assistance is required.
  o EPIC SHOs – 5 SHOs who undertake day, evening and night shifts 7 days a week. They assist where needed with the emergency admission workload and have responsibility for the ward care and discharge of shorter-staying patients in EPICentre.
  o New Case Medical Registrar – primarily responsible for newly referred longer-staying general medicine patients. They in turn supervise 2 medical interns who can assist with admissions and other ongoing care for these patients.
  o Old Case Medical Registrar (OMR) – primarily responsible for subspecialty medicine patients referred after-hours. There is a second OMR present from 1200h on the weekends and public holidays. They may also be required to assist with ward reviews, at the discretion of the STAR.

STAR

• Provide clinical leadership to the on-site after-hours medical staff servicing all non-critical care wards (medicine, surgery, haematology/oncology, gynaecology, obstetrics and mental health).
• Lead clinical handover to better identify and clarify escalation plans for Patients of Concern from Day to Evening, Evening to Night and Night to Day.
• Collaborate with the UP LATE Nurse Navigator to proactively review Patients of Concern, preventing significant clinical deterioration where possible and progressing complex care 24h a day, 7 days a week.
• Utilise the Task Management System to have oversight of the after-hours team activities, reallocating workload where necessary in collaboration with the UP LATE Nurse Navigator.
• Lead the MER Team after 1600h Monday-Friday and on weekends/public holidays.
• Non-clinical time will be provided for dedicated education sessions (as learner and teacher), completion of research/project requirements for training programs and other professional development activities (see “Education”, “Research/Quality Improvement” and “Competencies” below).
• There will be one evening shift (1330-2330h) and one night shift (2300-0900h) 7 days a week. 1330-1600h on Monday-Friday will be quarantined non-clinical time relating to the educational, professional development and research expectations for this rotation.
• Your after-hours UP LATE team will consist of:
o UP LATE Nurse Navigator (Evenings and Nights) – this senior nurse will have critical care experience, providing clinical leadership and mentoring to nurses on the general wards after-hours. Given there are already senior After-Hours Nurse Managers on-site they will have a clinical focus, proactively reviewing Patients of Concern and contributing to the MER Team.

o Old Case Medical Registrar (OMR) (Evenings) – primarily responsible for subspecialty medicine patients referred for admission from the ED after-hours, but they may assist with ward reviews where required. There is a second OMR present from 1200h on weekends and public holidays.

o Night Medical Registrars (Nights) – there is a dedicated Night Medical Registrar available for ward reviews, while another Night Medical Registrar is responsible for ED admissions.

o Surgical Registrar (Evenings and Nights) – this is a general surgical registrar whose responsibilities include the supervision of new admissions from the ED to general surgery, emergency operations for these patients and the ward review of other patients requiring urgent general surgical input after-hours. They are assisted by one of the surgical ward calls, when required, to assist with admissions or operations.

o Ward Call Residents (Evenings and Nights) – there are 6 evening ward calls (3 medicine, 3 surgery) and 4 night ward calls (2 medicine, 2 surgery). They receive nursing requests via the Task Management System and handover from the day team medical officers as well. They all contribute to the MER Team. There is also a psychiatry ward call in the evenings and an obstetrics & gynaecology ward call on the evening and night shift, who are supported by on-site registrars from these disciplines.

**Supervision**

EPIC Consultants are present 0730-1600h Monday-Friday and 0800-1200h weekends/public holidays. An EPIC Consultant will also be present on some evenings from 1600-2000h. These consultants will provide direct clinical supervision and be readily accessible for advice and support, with a combination of ward rounds and rolling review undertaken to provide timely consultant review for newly admitted patients. These consultants will also review patients who have undergone a MERT activation after-hours Monday-Friday, as well as review Patients of Concern and old case general medicine admissions on weekends/public holidays when primary teams may not have on-site senior support. After-hours there is always a general physician on-call to provide phone advice and attend hospital, if required. ICU and ED consultants are present in the evening, and may provide clinical support/advice when relevant circumstances arise.

At least one of the EPIC Consultants will provide overall supervision for your rotation. This supervisor will assist with orientation to the unit, progressive feedback throughout the rotation and end-of-term assessments. They will work with other supervisors, according to your College guidelines, in completing other mandatory assessments as well. Apart from on-the-floor clinical learning, case based discussion will be undertaken with this supervisor on a regular basis to address complex medical decision-making. For ICU and ED trainees, nominated consultants from these departments will assist with the supervision of your
overall training year at the RBWH and ensure adequate progression through College training requirements.

Rostering and Leave Arrangements

You will work 4x10h shifts per week, rotating between EPIC and STAR shifts as outlined previously. A sample roster is provided in Appendix A. Shift swaps will require approval of the EPICentre/After-Hours Clinical Director or their delegate to ensure appropriate cover is provided for all required duties. Leave may be granted during this rotation and will be coordinated via the RBWH Chief Medical Registrar to ensure adequate relief arrangements are in place – details on how to request leave will be provided prior to your commencement at the RBWH in 2018.

Orientation Program

You will receive orientation to the unit and your role from the EPICentre/After-Hours Clinical Director at the commencement of your rotation. There will be time to discuss individual learning objectives for trainees based on their current progression through training and experience to date. Attendance at hospital-wide orientation and completion of outstanding mandatory training will be required for registrars that were not employed at the RBWH in the previous year.

There will be a comprehensive orientation program completed within the first fortnight of commencement to ensure ALS competency, provide education regarding the MER system/escalation procedures at the RBWH and develop skills in crisis resource management. You will also be orientated to the Task Management System, systems of handover for Patients of Concern at the RBWH and other relevant communication tools/strategies for your role. Trainees will be asked to provide proof of previous relevant training (e.g. ALS) to assist with scheduling of the orientation program and recognition of prior learning.

Education

This rotation will provide trainees a number of educational opportunities, both as learner and facilitator. Over the course of the 6 month rotation, formal training sessions by expert facilitators will be provided in a number of domains:

- Higher-level acute care technical skills, e.g. advanced airway management/non-invasive ventilation, point-of-care ultrasonography.
- Management of behavioural crisis, including physiologically vulnerable patient groups.
- Simulation training, with the potential opportunity to gain a formal simulation qualification.
- Other skills in the design and delivery of clinical education.
- Advanced care planning and end-of-life care, including their ethical dimensions.
- Clinical leadership, teamwork, communication and supervisory skills.
- Research and quality improvement skills.
You will contribute to a number of formal education programs delivered to more junior medical staff in acute care skills, including:

- ALS/BLS.
- Specific programs to develop important skills relevant to MER/clinical deterioration, e.g. cardiac rhythm interpretation, basic airway management.
- Basic point-of-care ultrasound, e.g. for difficult vascular access.

You will be released to attend a number of important medical education sessions during rostered hours, including Medical Grand Rounds (Monday 1300-1400h), the Ferrier Meeting (interactive case based discussion of complex medical cases, Tuesday 1300-1400h) and GAMES (General & Acute Medicine Education Session, Friday 1300-1400h). Trainees may also be asked to participate as a facilitator/presenter in these sessions over the course of their rotation.

**Research/Quality Improvement**

During your allocated non-clinical time you will be able to participate in existing research/quality improvement programs, or complete such work initiated by yourself for College project requirements. There will be an expectation that trainees contribute to important research work being undertaken at the RBWH relating to the characteristics and outcomes for Patients of Concern. Skills in undertaking such work will be developed through a formal education program and mentorship from relevant lead clinicians in general medicine, ED and ICU. Trainees who are yet to formulate a research/quality improvement project for their College training requirements are encouraged to contact the EPICentre/After-Hours Clinical Director prior to commencing their rotation, as a number of potential projects relating to the service are available.

**Competencies**

This rotation aims to develop competency across a broad range of domains relevant to your consultant practice. Alignment with key domains of the RACP framework “Supporting Physicians’ Professionalism and Performance” is outlined below:

- **Collaboration & Teamwork** – team-based approaches to care for complex medical admissions and the high-risk/deteriorating patient will be developed over the rotation.
- **Leadership & Management** – you will receive mentorship, education and experience in leading diverse multidisciplinary teams across key
clinical interfaces.

- **Decision Making** – exposure to complexity and diverse consultant decision-making will inform your future practice, as well as opportunities for formal case based discussion with supervisors.

- **Teaching, Learning & Research** – skills will be developed through a dedicated education program, mentorship and opportunities to practice these skills as a teacher and researcher in dedicated non-clinical time.

- **Ethics** – you will be expected to develop an ethical framework around decisions relating to end-of-life care in particular, again through a combination of formal education sessions, mentorship and case based discussion with experienced supervising consultants.

- **Communication** – you will have the opportunity to develop expertise for a number of important scenarios, including the difficult conversation (with patients, families/carers and supervisees), closed-loop communication in high-risk encounters (e.g. MER/Cardiac Arrest) and escalation strategies for the deteriorating patient.

- **Quality & Safety** – trainees will gain a broad understanding of the quality improvement cycle and patient safety strategies through education, mentorship and active participation in the development of the service.

### College Training Programs

Much work has been done to ensure this rotation will not only provide a valuable clinical and educational experience for trainees, but will also count for College training requirements. Senior trainees with at least 2 years of registrar work-experience are likely to gain the most benefit from this rotation. Information relating to the relevant training programs is outlined in more detail below:

**Royal Australasian College of Physicians (RACP) – General and Acute Care Medicine**

For those trainees under the 2016 guidelines, this rotation may count as a 6 month core training “Group A – Acute” rotation. Please note that it is likely to be considered a “general medicine like” rotation, which may only account for a maximum of 12 months of your total core training. For those trainees under the 2017-2018 guidelines, this rotation may count as a 6 month core training “General Medicine Related” rotation. If relevant core training requirement are complete, trainees may elect to nominate this rotation for non-core training.

**College of Intensive Care Medicine (CICM)**

This rotation meets the requirements for your 6 month “Acute Medicine” component of the medicine term. You will have the opportunity to undertake another 6 months of training at the RBWH in a number of different terms including ICU, subspecialty medicine (e.g. Respiratory Medicine or Palliative Medicine) that may count as the “Longitudinal Care” component of the medicine term, or anaesthesia.
Australasian College for Emergency Medicine (ACEM)

This rotation is suitable for Advanced Training “Non ED” or “Discretionary” time. This will be an ideal rotation for those trainees who have completed their ACEM Fellowship Examination and would like to gain broader experience to inform their future consultant practice. Please contact the Director of Emergency Medicine Training for RBWH, Dr Sharyn Smith (sharyn.smith@health.qld.gov.au), to discuss the suitability for your training or opportunities to complete this rotation as part of a fellowship year at the RBWH.

Prospective Trainees

If you are interested in undertaking this rotation at the RBWH in 2018 please consult with your relevant College training coordinators for the RBWH and/or Queensland. If you require further information about the role or the opportunities relevant to your personal circumstance, please contact the EPICentre/After-Hours Clinical Director for the RBWH, Dr Julian de Looze (email: julian.delooze@health.qld.gov.au).
### Appendix A – Proposed Roster

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(E) denotes “EPIC” shift, (S) denotes “STAR” shift. Non-clinical time will be quarantined from 1330-1600h on Evening STAR shifts at a minimum. Roster cycles over 14 weeks with each registrar commencing at alternate weeks in the roster (e.g. week 1, 3, 5, 7, 9, 11 or 13) then progressing from week-to-week, allowing coverage of all shifts 7 days a week.