Between the Flags

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Learning Outcomes

Explain 'Between the Flags' system;

- List the standard calling criteria for yellow / red zone for adult patients;

- Outline the roles and responsibilities of
  - Clinical staff in initiating a **CERS** call

    and

  - ***The Team in responding to a CERS call***.

  REACH program

What is Between the Flags?

- A framework for identifying and assessment of inpatients showing signs of deterioration

- Provides a standardised trigger and response

Empowers staff / patients' to seek help !!!

Who is BTF designed for?

- BTF designed to cover general / mental health inpatient wards. Includes admitted patients in Medical Imaging Department, Kidney Care Centre, Recovery

- Emergency Department = Internal Response

EXCLUDES:

- Intensive Care Unit & High Dependency

- Theatres

- Non-inpatient settings (i.e. outpatients / public, visitors)

Adult Calling Criteria

ADULT Criteria	Yellow Zone Criteria Discretionary Activation Conduct A-H assessment to determine if a Clinical Review is required	Red Zone Criteria Mandatory Activation Determine if Rapid Response (for non-life threatening) or Code Blue (potentially life-threatening) is required	Code Blue Any sudden acute deterioration The patient's condition is potentially life-threatening
Respiratory Rate	6–10 or 25-30	5 or ≥30	
Oxygen Saturation	91-95%	≤ 90%	Cardiac arrest / Respiratory arrest
Oxygen Requirements	New oxygen requirements (≤ 4L/min)	Increasing oxygen requirements (≥ 5L/min)	Airway obstruction / Stridor / Threatened Airway
Systolic Blood Pressure	90-100 or 180-200	≤90 or ≥200	Seizures (new or prolonged)
Heart Rate	40-50 or 120-140	≤40 or ≥140	Unresponsive
Neurological	Responsive to voice (V) New onset confusion / behaviour change	Responsive to Pain (P) Stroke symptoms – loss of function of face, arms or speech	Critical Bleed Serious concern by staff member, patient, family and/or carer
Temperature	≤35.5 or ≥38.5		Patient deteriorates further during Clinical Review/Rapid Response
Blood Glucose Level*	≤4mmol/L or ≥20mmol/L with no decrease in level of consciousness*	≤4mmol/L or ≥20mmol/L with a decrease in level of consciousness	Deterioration is not reversed within 1 hour of activation OR Primary care team responds but unable to stabilise within 30 minutes
Pain Severity	New, increasing or uncontrolled pain (including chest pain)	New, increasing or uncontrolled pain (including chest pain)	
Urine Output	Low urine output persistent for 4 hours (<100 mL over 4 hours or <0.5mls/Kg/Hr via an IDC)	Low urine output persistent for 8 hours (<200mls over 8 hours or 0.5mL/kg/hr via an IDC)	Members of public, visitors or staff
Concern	Concern by patient or family member Concern by staff member	Staff member concern Serious patient or family concern	
		Any rapid change in observations	
*Escalate hypo/hyperglycaemia as per local hypoglycaemia protocol			

Additional Criteria

*Additional YELLOW ZONE Criteria
- Increasing oxygen requirement
- Poor peripheral circulation
- Excess or increasing blood loss
- Decrease in Level of Consciousness or new onset of confusion
- Low urine output persistent for 4 hours
  (< 100 mL over 4 hours or < 0.5 mL/kg/hr via an IDC)
- Polyuria, in the absence of diuretics
  (urine output > 200 mL/hr for 2 hours)
- Greater than expected fluid loss from a drain
- New, increasing or uncontrolled pain
  (including chest pain)
- Blood Glucose Level < 4mmol/L or > 20mmol/L with no decrease in level of consciousness
- Ketonaemia > 1.5 mmol/L or Ketonuria 2+ or more
- **Concern by patient or family member**
- **Concern by you or any staff member**

#Additional RED ZONE Criteria
- **Cardiac or respiratory arrest**
- **Airway obstruction or stridor**
- **Patient unresponsive**
- Deterioration not reversed within 1 hour of Clinical Review
- Increasing oxygen requirements to maintain oxygen saturation > 90%
- Arterial Blood Gas: PaO2 < 60 or PaCO2 > 60 or pH < 7.2 or BE < -5
- Venous Blood Gas: PvCO2 > 65 or pH < 7.2
- Only responds to Pain (P) on the AVPU scale
- Sudden decrease in Level of Consciousness
  (a drop of 2 or more points on the GCS)
- Seizures
- Low urine output persistent for 8 hours
  (< 200 mL over 8 hours or 0.5 mL/kg/hr via an IDC)
- Blood Glucose Level < 4 mmol/L or > 20 mmol/L with a decreased Level of Consciousness
- Lactate ≥ 4 mmol/L
- **Serious concern by any patient or family member**
- **Serious concern by you or any staff member**

Mental State Deterioration

- Focus as part of NSQHS 8
- Assess for signs of mental state deterioration (worsening of mood, thinking or behaviour) as part of routine physical assessments / ward rounds
- Ensure appropriate screening, investigation, diagnosis and treatment with referral to specialist teams

How to initiate a Call

Clinical Review / Rapid Response:

- Call emergency number **(2222)**
- State **"Clinical Review, Rapid Response"**
- Hospital/Building/Ward/Unit and Bed Number
- Give details of PCT required (AMO)
- Your name

Nurses to still activate call even if medical staff on the ward

Code Blue:

- Call emergency number **(2222)**
- State **"Code Blue"**
- Hospital/Building/ Ward/Unit and bed number
- Your name
- Adult / Child / Outpatient

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Escalation Pathway

- Yellow Zone Criteria (Clinical Review)

  PCT JMO review within 30 minutes

  *After Hours determined by AH Roster

  2 or more within 8 hours = Registrar review

- Red Zone Criteria (Rapid Response)

  JMO **AND** Registrar review within 10-15 minutes

  HDU Consult can be requested where necessary
  Medical Registrars do not get CR/RR surgical pagers
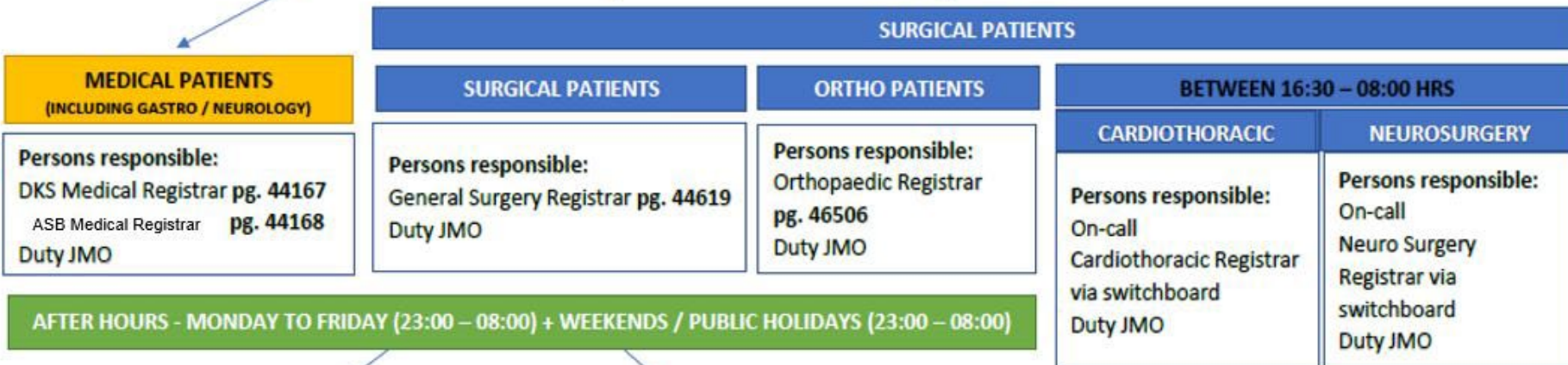
- Code Blue = Immediate response

Between the Flags
Keeping patients safe

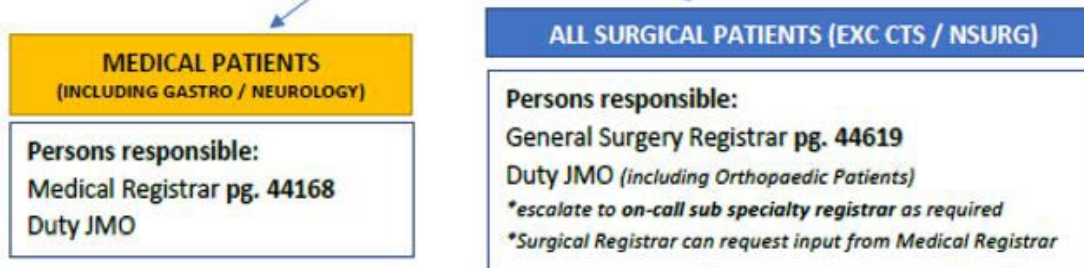**AFTER HOURS MEDICAL ESCALATION FLOWCHART**

AFTER HOURS - MONDAY TO FRIDAY (16:30-23:00) + WEEKENDS / PUBLIC HOLIDAYS (08:00 – 23:00 HRS)

SURGICAL PATIENTS

MEDICAL PATIENTS
(INCLUDING GASTRO / NEUROLOGY)

Persons responsible:
DKS Medical Registrar **pg. 44167**
ASB Medical Registrar **pg. 44168**
Duty JMO

SURGICAL PATIENTS

Persons responsible:
General Surgery Registrar **pg. 44619**
Duty JMO

ORTHO PATIENTS

Persons responsible:
Orthopaedic Registrar **pg. 46506**
Duty JMO

BETWEEN 16:30 – 08:00 HRS

CARDIOTHORACIC	NEUROSURGERY
Persons responsible: On-call Cardiothoracic Registrar via switchboard Duty JMO	Persons responsible: On-call Neuro Surgery Registrar via switchboard Duty JMO

AFTER HOURS - MONDAY TO FRIDAY (23:00 – 08:00) + WEEKENDS / PUBLIC HOLIDAYS (23:00 – 08:00)

MEDICAL PATIENTS
(INCLUDING GASTRO / NEUROLOGY)

Persons responsible:
Medical Registrar **pg. 44168**
Duty JMO

ALL SURGICAL PATIENTS (EXC CTS / NSURG)

Persons responsible:
General Surgery Registrar **pg. 44619**
Duty JMO *(including Orthopaedic Patients)*
*escalate to **on-call sub specialty registrar** as required*
Surgical Registrar can request input from Medical Registrar

CALLING THE CONSULTANT
Consultant must be notified: 2 or more Rapid Response calls, any Code Blue or death
If, at any time, the JMO is concerned about the patient's welfare (medical and surgical) and cannot contact the appropriate registrar, they should contact the patients' consultant during business hours and the on-call consultant for specialty after-hours

Your role…. Responders

- Assess patient (A-G including mental state)

- Consider signs of sepsis (Sepsis Pathway)

- Treat underlying cause and provide intervention

- Consider differential diagnoses

- Document reason for activation (ATSP vs CR/RR), assessment findings, management plan and <u>any discussions</u> in healthcare record

- Communicate plan to all relevant staff and patient / family where possible

- Review patients' individual monitoring plan (i.e. frequency of observations)

- Escalate to Code Blue if patient deteriorates further

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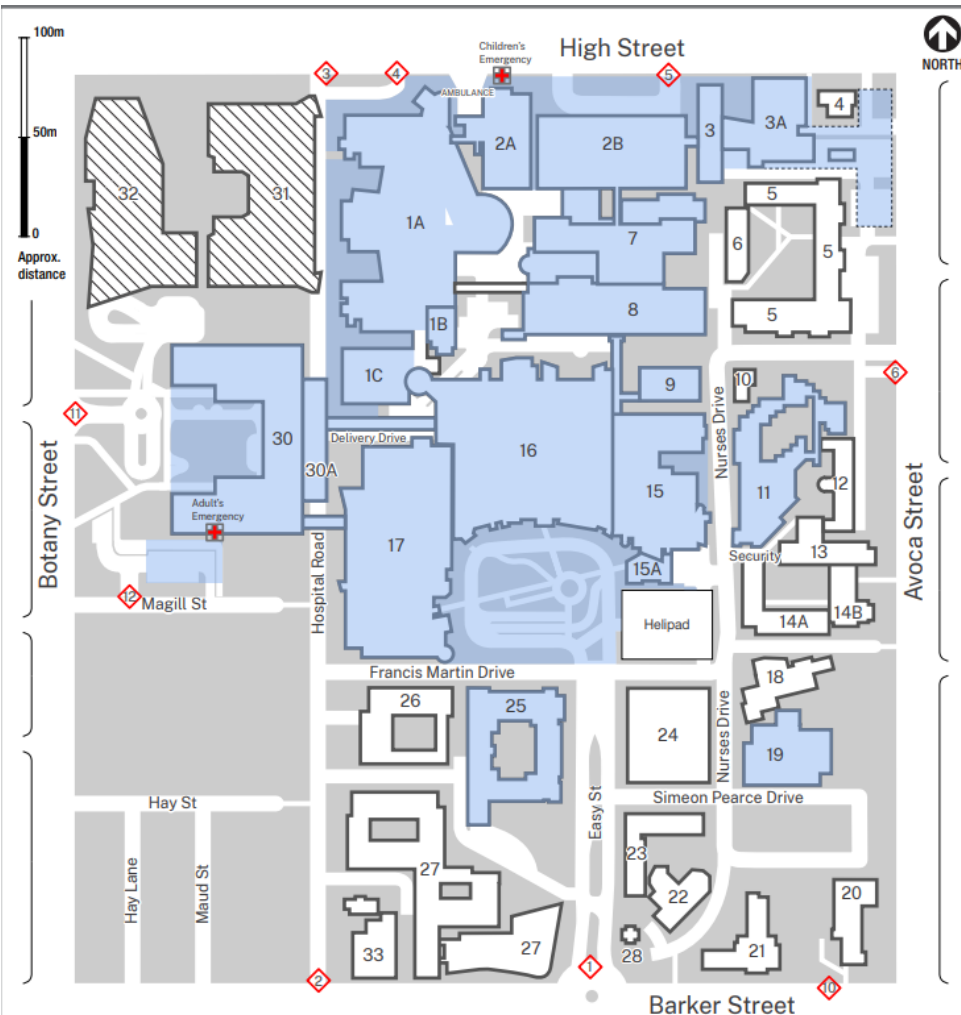
Your role… Responders

- After Hours determined by 'After Hours roster'
- If JMO only can attend RR, must consult with registrar _whilst still with the patient_
- Registrar involvement (medical vs surgical)
- Non-refusal policy (medical Officer must attend all CR/RR)
- Notify Consultant (2x RR, ICU transfers or any CB / death)
- ICU / HDU consult can be requested
- Discuss at medical handover & use of electronic tool

Code Blue Team

Dickinson & surrounding areas	ASB	Roles / Responsibilities
Medical Officer in Charge (MOIC)		
Cardiology BPT Monday to Friday 08:30 – 17:00 Dickinson Medical Registrar 17:00 – 08:30 Monday to Sun & 08:30 – 22:30 Sat, Sun & PH)	Respiratory BPT Monday to Friday 08:30 – 17:00 ASB Medical Registrar 17:00 – 08:30 Monday to Sun & 08:30 – 22:30 Sat, Sun & PH)	Team leader (unless delegated) Notify primary care team AMO. Facilitate appropriate disposition Follow-up of patients who remain on ward.
Resident Medical Officer		
Cardiology JMO Monday to Friday 08:30 – 17:00 OD1 JMO 17:00 – 22:30 Monday to Friday & 08:30 – 22:30 Sat, Sun & PH) ND1 JMO 22:30 – 08:30 7 days a week	Respiratory JMO Monday to Friday 08:30 – 17:00 OA3 JMO 17:00 – 22:30 Monday to Friday & 0830 – 22:30 Sat, Sun & PH) NA1 JMO 22:30 – 08:30 7 days a week	IV access and venepuncture Arrange / order investigations. Documentation in eMR2 patients medical record of code blue events
Code Blue team members	**Roles / Responsibilities**	
Intensive Care Registrar	Airway and ventilation Intravenous/ Intraosseous access General support as required	
C4 Anaesthetic Registrar		
Coronary Care Unit (CCU) Registered Nurse	Cardiac monitoring / Defibrillation / Drugs	
Intensive Care Unit (ICU) Access Nurse	Airway and Ventilation Nurse Facilitate transfer to ICU if required	
Intensive Care Liaison Nurse (07:00 – 19:00) / Advanced Practice Nurse (14:30 – 08:00)	General support as required. Facilitate transfer to ICU if required. Follow-up patients who remain on ward Escalate for additional support services if required (i.e., wards person / porters)	
Registered Nurse Caring for the patient	Handover using ISBAR. Documentation in Emergency Resuscitation Record and in eMR2	

Code Blue Team Coverage

Code Blue Response CBR
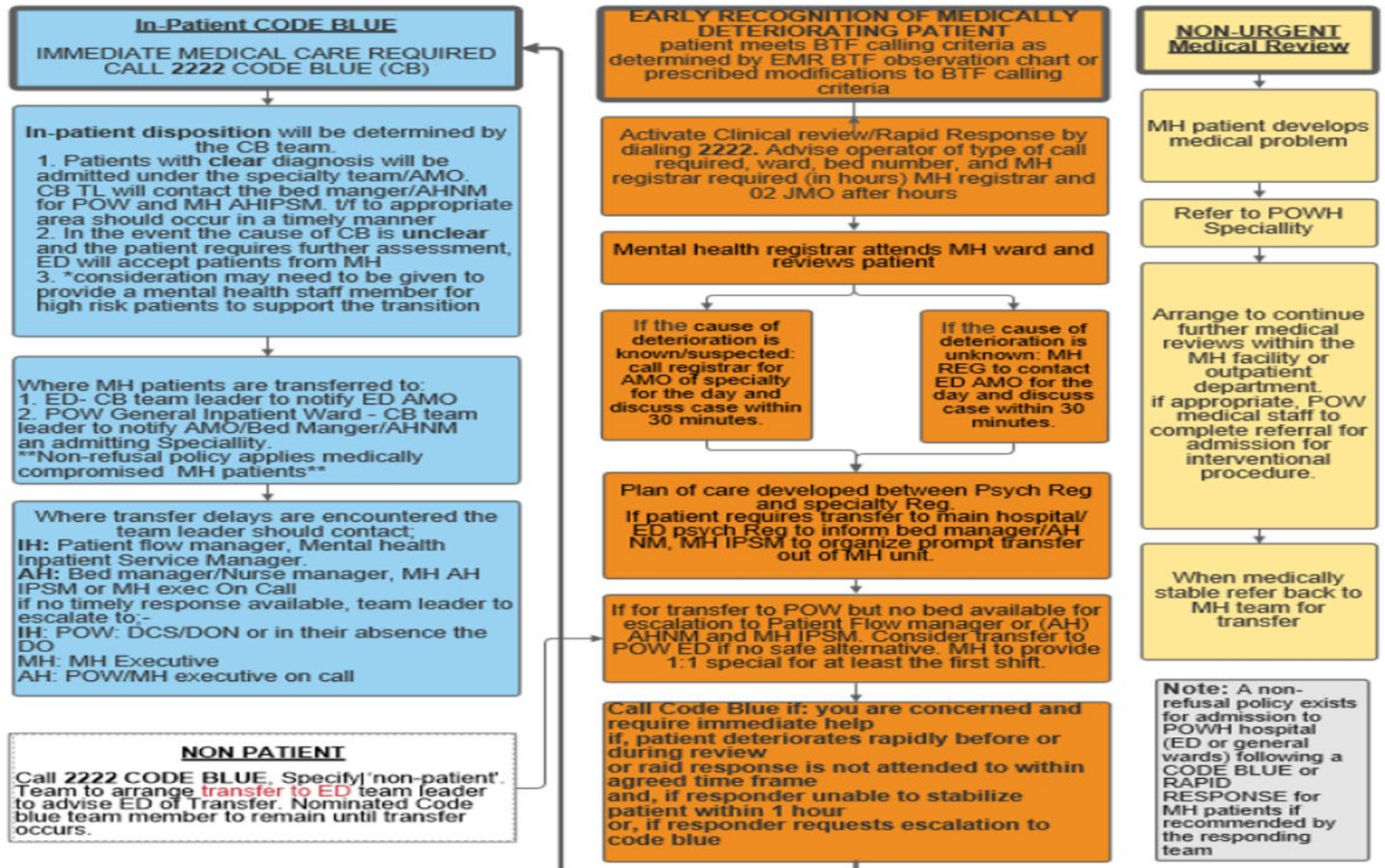(Code Blue versus Ambulance)

Coverage includes:

- Royal Hospital for Women
- Adults in Sydney Children's Hospital
- Dual activation for POW Paediatric Code Blues
- Members of Public, Visitors, Outpatient Departments
- Eastern Health Clinic

Code Blue in Mental Health Units

Mental Health Clinical Emergency Response Systems

In-Patient CODE BLUE

IMMEDIATE MEDICAL CARE REQUIRED CALL 2222 CODE BLUE (CB)

In-patient disposition will be determined by the CB team.
1. Patients with **clear** diagnosis will be admitted under the specialty team/AMO. CB TL will contact the bed manger/AHNM for POW and MH AHIPSM. t/f to appropriate area should occur in a timely manner
2. In the event the cause of CB is **unclear** and the patient requires further assessment, ED will accept patients from MH
3. *consideration may need to be given to provide a mental health staff member for high risk patients to support the transition

Where MH patients are transferred to:
1. ED- CB team leader to notify ED AMO
2. POW General Inpatient Ward – CB team leader to notify AMO/Bed Manger/AHNM an admitting Speciallity.
Non-refusal policy applies medically compromised MH patients

Where transfer delays are encountered the team leader should contact;
IH: Patient flow manager, Mental health Inpatient Service Manager.
AH: Bed manager/Nurse manager, MH AH IPSM or MH exec On Call
if no timely response available, team leader to escalate to:-
IH: POW: DCS/DON or in their absence the DO
MH: MH Executive
AH: POW/MH executive on call

NON PATIENT

Call **2222** CODE BLUE. Specify 'non-patient'. Team to arrange transfer to ED team leader to advise ED of Transfer. Nominated Code blue team member to remain until transfer occurs.

EARLY RECOGNITION OF MEDICALLY DETERIORATING PATIENT

patient meets BTF calling criteria as determined by EMR BTF observation chart or prescribed modifications to BTF calling criteria

Activate Clinical review/Rapid Response by dialing **2222**. Advise operator of type of call required, ward, bed number, and MH registrar required (in hours) MH registrar and 02 JMO after hours

Mental health registrar attends MH ward and reviews patient

If the cause of deterioration is known/suspected: call registrar for AMO of specialty for the day and discuss case within 30 minutes.

If the cause of deterioration is unknown: MH REG to contact ED AMO for the day and discuss case within 30 minutes.

Plan of care developed between Psych Reg and specialty Reg.
If patient requires transfer to main hospital/ED psych Reg to inform bed manager/AH NM, MH IPSM to organize prompt transfer out of MH unit.

If for transfer to POW but no bed available for escalation to Patient Flow manager or (AH) AHNM and MH IPSM. Consider transfer to POW ED if no safe alternative. MH to provide 1:1 special for at least the first shift.

Call Code Blue if: you are concerned and require immediate help
if, patient deteriorates rapidly before or during review
or raid response is not attended to within agreed time frame
and, if responder unable to stabilize patient within 1 hour
or, if responder requests escalation to code blue

NON-URGENT Medical Review

MH patient develops medical problem

Refer to POWH Speciallity

Arrange to continue further medical reviews within the MH facility or outpatient department.
if appropriate, POW medical staff to complete referral for admission for interventional procedure.

When medically stable refer back to MH team for transfer

Note: A non-refusal policy exists for admission to POWH hospital (ED or general wards) following a CODE BLUE or RAPID RESPONSE for MH patients if recommended by the responding team

Code Blue Documentation

- Responsibility of Team Leader

- Entry in health care record

- PCT notified & attend where possible

- Any system / process issues document in Yellow Box on Emergency Resuscitation Form

- Any cases that require follow up / further investigation escalate to CERS CNC (i.e. failed recognition, delay escalation)

Alterations to Calling Criteria

- Registrar level or above can alter calling criteria

- Made in consultation with AMO where possible

- Can add upper and lower zones for calling criteria (i.e. SP02 for COPD)

"Acute" condition = can be set for no greater than 12 hours (will revert back to standard calling criteria after this timeframe)

"Chronic" condition = can be set for duration of hospital admission

'Not for Rapid Response' = use with caution (as suspends all EMR Red Zone alerts, only yellow zone alerts will trigger)

Considerations

- Not for CPR status = can still for Clinical Review / Rapid Response / Code Blue Calls!
(A Resuscitation Plan is a medically authorised order to use or withhold resuscitation measures and which documents other aspects of treatment relevant at end of life.)

- Must be clearly stipulated in Resuscitation Plan

- Medical management plan appropriate? (Particularly if patients having multiple calls for same issue)

- Palliative care patients can still have calls for symptom management

Patient / Family Escalation = REACH

REACH Program

- Enables patients/ families to escalate concerns about their condition

- If remained concerned despite nurse/medical review, they can activate a REACH Call

Responder in business hours: CERS CNC or delegate

After Hours: APN/ After Hours Nurse Manager

Clinical Business Rules

- POWH Management of Deteriorating Patient - Clinical Emergency Response

- POWH Code Blue Response Systems

- POWH Basic Life Support CBR (includes COVID-19)

- POWH Management of Acute Stroke

- POWH Critical Bleeding Protocol

- POWH Code Black Response CBR

- REACH, a patient and family rapid response activation program