Health
South Eastern Sydney
Local Health District

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?

- Covers General / Mental Health inpatient wards
- ED = 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
Respiratory Rate	6–10 or 25-30	5 or ≥30
Oxygen Saturation	91-95%	≤ 90%
Oxygen Requirements	New oxygen requirements (≤ 4L/min)	Increasing oxygen requirements (≥ 5L/min)
Systolic Blood Pressure	90-100 or 180-200	≤90 or ≥200
Heart Rate	40-50 or 120-140	≤40 or ≥140
Neurological	Responsive to voice (V) New onset confusion / behaviour change	Responsive to Pain (P) Stroke symptoms – loss of function of face, arms or speech
Temperature	≤35.5 or ≥38.5	
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
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)
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*		

Code Blue

Any sudden acute deterioration

The patient's condition is **potentially life-threatening**

- Cardiac arrest / Respiratory arrest
- Airway obstruction / Stridor / Threatened Airway
- Stroke (if airway, breathing, circulation compromise)
- Seizures (new or prolonged)
- Unresponsive
- Serious concern by staff member, patient, family and/or carer
- Patient deteriorates further during Clinical Review/Rapid Response
- Deterioration is not reversed within 1 hour of activation OR Primary care team responds but unable to stabilise within 30 minutes
- Members of public, visitors or staff

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: PaO_2 < 60 or $PaCO_2$ > 60 or pH < 7.2 or BE < -5
- Venous Blood Gas: $PvCO_2$ > 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**

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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"**
- Give details of PCT required (AMO)
- Ward/Unit and bed number
- Your name

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

Code Blue:

- Call emergency number **(2222)**
- State **"Code Blue"**
- 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 (OD2 & Surg Reg)

  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

- Code Blue = Immediate response

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Your role…. Responders

- Assess patient (A-G inc. 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 any discussions 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

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
- Notify Consultant (2 RR, ICU transfers or any CB / death)
- ICU / HDU consult can be requested
- Discuss at medical handover & use of electronic tool

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)

MEDICAL PATIENTS
(INCLUDING GASTRO / NEUROLOGY)

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

SURGICAL PATIENTS

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

Persons responsible:
On-call
Cardiothoracic Registrar
via switchboard
Duty JMO

NEUROSURGERY

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

Monday 1st February 2021

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 **C4 Anaesthetic Registrar**	Airway and ventilation Intravenous/ Intraosseous access General support as required
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

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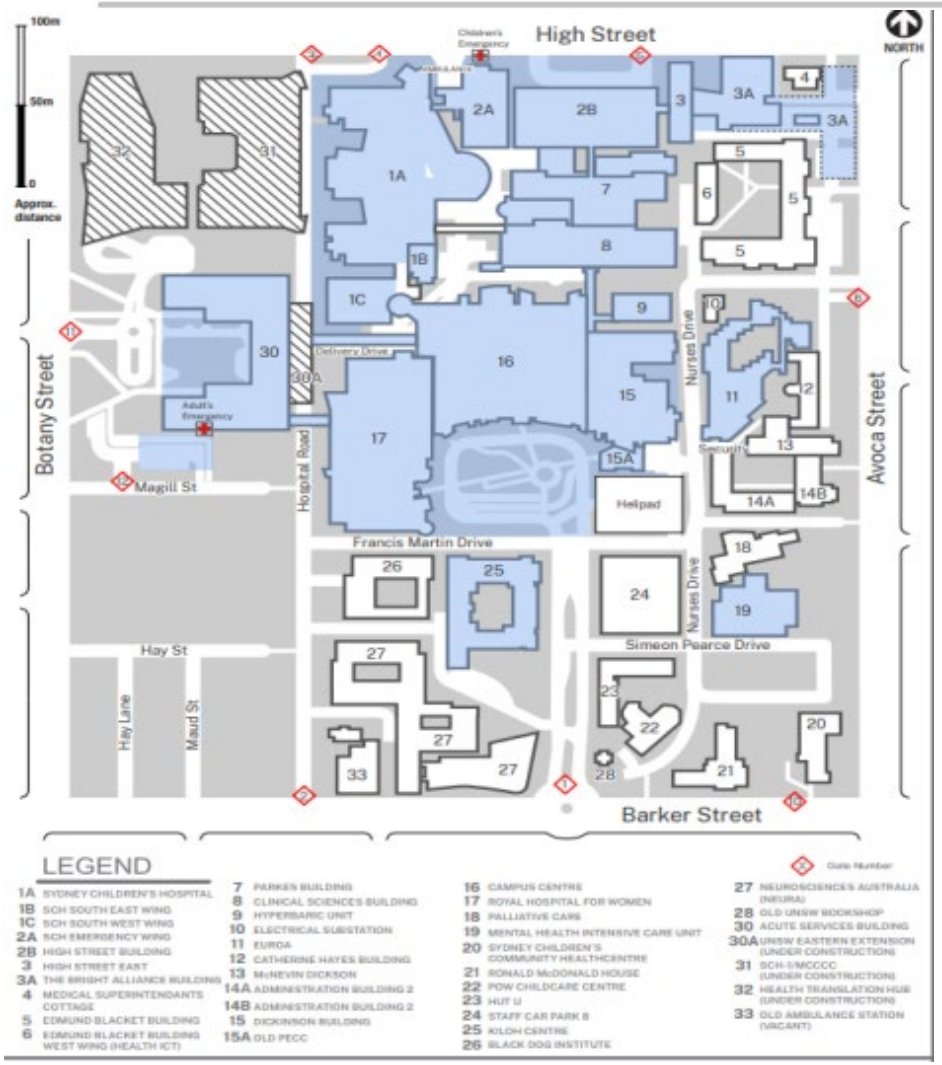
Code Blue Team Coverage



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

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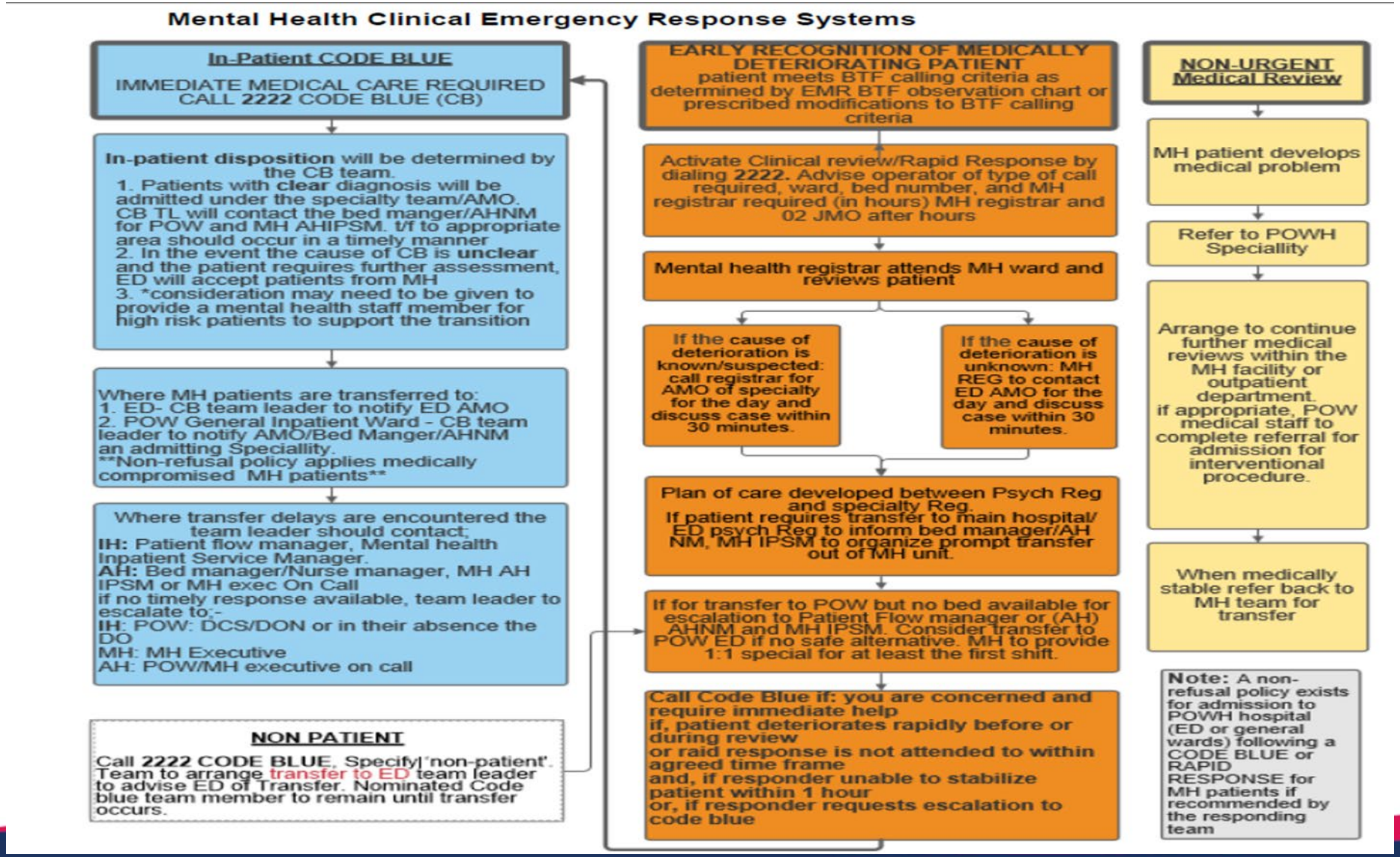
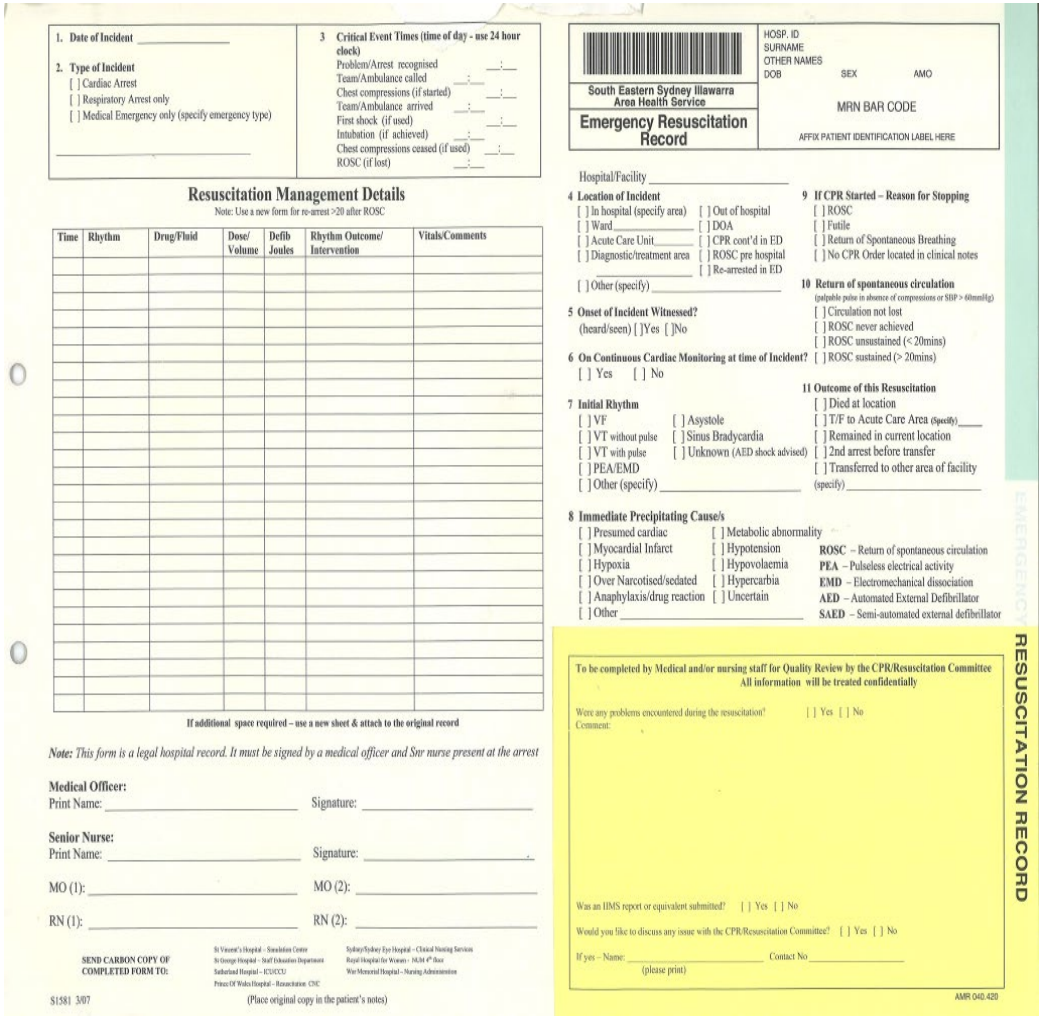
Code Blue in Mental Health Units



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)



1. Date of Incident _____

2. Type of Incident
[ ] Cardiac Arrest
[ ] Respiratory Arrest only
[ ] Medical Emergency only (specify emergency type)

3 Critical Event Times (time of day - use 24 hour clock)
Problem/Arrest recognised ___:___
Team/Ambulance called ___:___
Chest compressions (if started) ___:___
Team/Ambulance arrived ___:___
First shock (if used) ___:___
Intubation (if achieved) ___:___
Chest compressions ceased (if used) ___:___
ROSC (if lost) ___:___

Resuscitation Management Details
Note: Use a new form for re-arrest >20 after ROSC

Time	Rhythm	Drug/Fluid	Dose/ Volume	Defib Joules	Rhythm Outcome/ Intervention	Vitals/Comments

If additional space required – use a new sheet & attach to the original record

Note: This form is a legal hospital record. It must be signed by a medical officer and Snr nurse present at the arrest

Medical Officer:
Print Name: _____ Signature: _____

Senior Nurse:
Print Name: _____ Signature: _____

MO (1): _____ MO (2): _____

RN (1): _____ RN (2): _____

SEND CARBON COPY OF COMPLETED FORM TO:

St Vincent's Hospital – Simulation Centre
St George Hospital – Staff Education Department
Sutherland Hospital – ICU/CCU
Prince Of Wales Hospital – Resuscitation CNC
Sydney/Sydney Eye Hospital – Clinical Nursing Services
Royal Hospital for Women – MUM 4th floor
War Memorial Hospital – Nursing Administration

S1581 3/07

(Place original copy in the patient's notes)

HOSP. ID
SURNAME
OTHER NAMES
DOB SEX AMO

South Eastern Sydney Illawarra Area Health Service

Emergency Resuscitation Record

MRN BAR CODE

AFFIX PATIENT IDENTIFICATION LABEL HERE

Hospital/Facility _____

4 Location of Incident
[ ] In hospital (specify area) [ ] Out of hospital
[ ] Ward _____ [ ] DOA
[ ] Acute Care Unit _____ [ ] CPR cont'd in ED
[ ] Diagnostic/treatment area [ ] ROSC pre hospital
_____ [ ] Re-arrested in ED
[ ] Other (specify) _____

5 Onset of Incident Witnessed?
(heard/seen) [ ]Yes [ ]No

6 On Continuous Cardiac Monitoring at time of Incident?
[ ] Yes [ ] No

7 Initial Rhythm
[ ] VF [ ] Asystole
[ ] VT without pulse [ ] Sinus Bradycardia
[ ] VT with pulse [ ] Unknown (AED shock advised)
[ ] PEA/EMD
[ ] Other (specify) _____

8 Immediate Precipitating Cause/s
[ ] Presumed cardiac [ ] Metabolic abnormality
[ ] Myocardial Infarct [ ] Hypotension
[ ] Hypoxia [ ] Hypovolaemia
[ ] Over Narcotised/sedated [ ] Hypercarbia
[ ] Anaphylaxis/drug reaction [ ] Uncertain
[ ] Other _____

9 If CPR Started – Reason for Stopping
[ ] ROSC
[ ] Futile
[ ] Return of Spontaneous Breathing
[ ] No CPR Order located in clinical notes

10 Return of spontaneous circulation
(palpable pulse in absence of compressions or SBP > 60mmHg)
[ ] Circulation not lost
[ ] ROSC never achieved
[ ] ROSC unsustained (< 20mins)
[ ] ROSC sustained (> 20mins)

11 Outcome of this Resuscitation
[ ] Died at location
[ ] T/F to Acute Care Area (Specify) ____
[ ] Remained in current location
[ ] 2nd arrest before transfer
[ ] Transferred to other area of facility
(specify) _____

ROSC – Return of spontaneous circulation
PEA – Pulseless electrical activity
EMD – Electromechanical dissociation
AED – Automated External Defibrillator
SAED – Semi-automated external defibrillator

EMERGENCY RESUSCITATION RECORD

To be completed by Medical and/or nursing staff for Quality Review by the CPR/Resuscitation Committee
All information will be treated confidentially

Were any problems encountered during the resuscitation? [ ] Yes [ ] No
Comment:

Was an IIMS report or equivalent submitted? [ ] Yes [ ] No

Would you like to discuss any issue with the CPR/Resuscitation Committee? [ ] Yes [ ] No

If yes – Name: _____ Contact No _____
(please print)

AMR 040.420

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 8 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

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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