Medical Emergency Team

A RAPID RELIABLE RESPONSE TEAM

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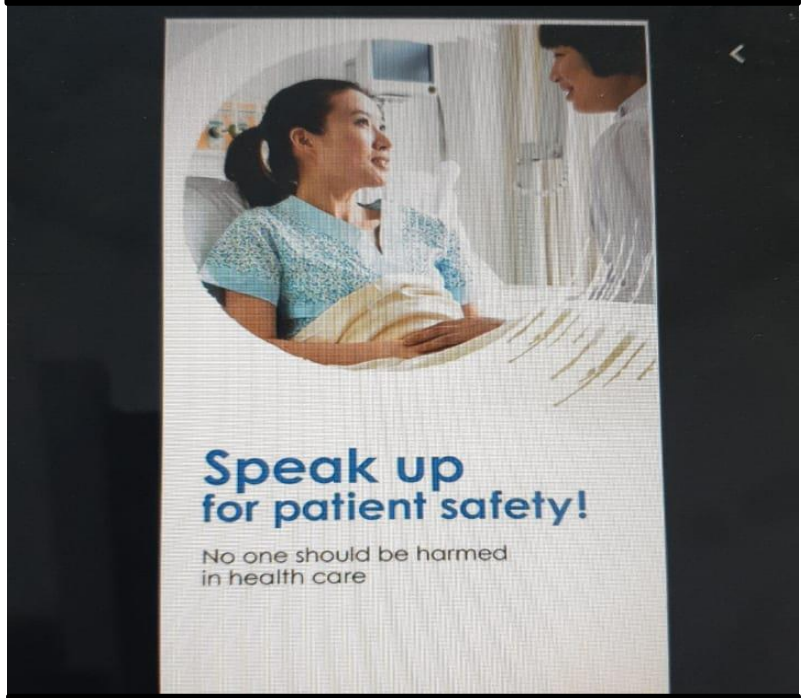


BE
PROACTIVE

Why do we need an RRT?

- Patients often exhibit signs and symptoms of physiological instability for some period of time prior to a cardiac arrest.
- 70% of patients show evidence of respiratory deterioration 8 hours prior to arrest.
- 66% of patient show abnormal signs and symptoms within 6 hours of arrest

Rapid Response Team

- A **rapid response** team **(RRT)** / Medical Emergency Team **(MET)** / High Acuity **Response** Team **(HART),**

- Team of health care providers who respond to hospitalized patients with early signs of deterioration in ***non- intensive care units*** to prevent respiratory or cardiac arrest.

Rapid Response & Code Blue

- **RRT - PROACTIVE** :

✓ A **rapid response** is for the **prevention** of serious injury, cardiac arrest, and respiratory arrest :

- **CODE BLUE - REACTIVE** :

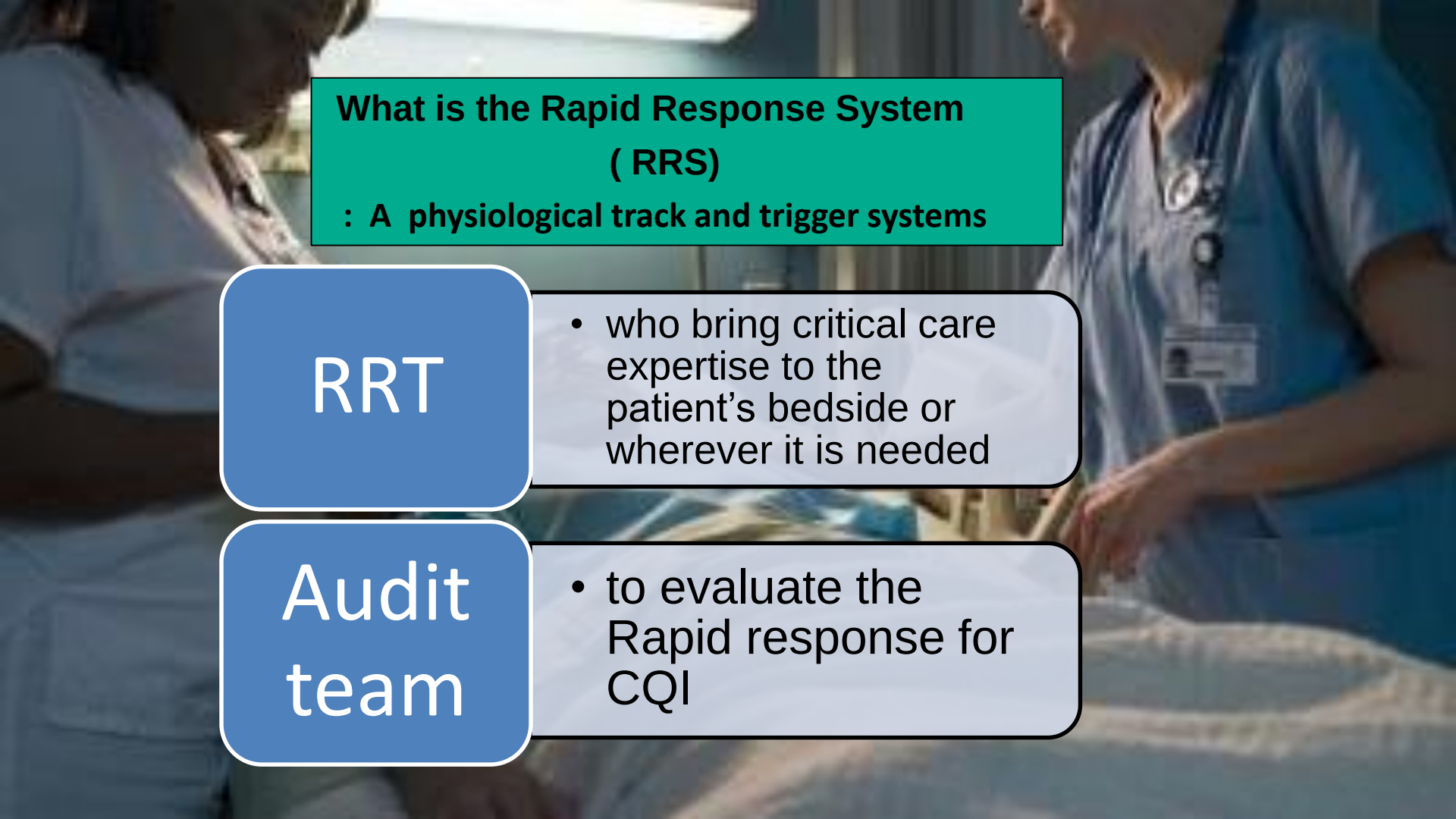
✓ A **code blue** is called for a person who has stopped breathing, or who does not have a heart beat, with the goal of **resuscitation.**

A system to address the issues of deteriorating patients

Developed in 1997 by Morgan et al

Purpose is to provide

- ✓ Expert assessment,
- ✓ Early intervention
- ✓ Stabilization for patients
- ✓ Prevent clinical deterioration or cardiopulmonary arrest.
- ✓ Physiological parameters : BP, pulse, RR, temp,
- ✓ AVPU : Alert, Agitated, Verbal, Unresponsive :Pain
- ✓ Anxiety (as perceived by family)



What is the Rapid Response System (RRS)

: A physiological track and trigger systems

RRT	• who bring critical care expertise to the patient's bedside or wherever it is needed
Audit team	• to evaluate the Rapid response for CQI

Does it Work?

YES

- 50% reduction in non-ICU arrests
- Reduced post-operative emergency ICU transfers (58%) and deaths (37%)
  .
- Reduction in arrest prior to ICU transfer (4% vs. 30%)
- 17% decrease in the incidence of cardiopulmonary arrests (6.5 vs. 5.4 per 1000 admissions)

Early warning signs

1. **Multiple-parameter scoring systems, to trigger a response**.

2. **Parameters to be measured defined**
   i) cut-off points or scores.
   ii) performed by competent nurses and physicians.

3. **Patients and their families shall be educated about the early warning signs .**

4. **In non-critical care units.**

MEWS for adult patients > 12 years

PEWS patients aged 12 and below.

MOEWS pregnant women until 6 weeks POST NATAL

Table 1 – Modified Early Warning Signs (MEWS) Score –Adult Patient

Parameter	3	2	1	0	1	2	3
Temperature °F		<95	95 to 96.8	96.9 to 100.2	100.4 to 102	>102	
Systolic BP mmHg	<70	71 to 80	81 to 100	101 to 179		180 to 199	>200
Heart Rate/min		<40	40 to 50	51 to 100	101 to 110	111 to 129	>130
Resp. Rate/min	≤8			9 to 18	19 to 25	26 to 29	>30
Conscious Level (AVPU)	Responds to pain unresponsive	Response to Voice		Alert	New Agitation, Confusion		
SPO2%	≤89%	90 to 93%	94 to 96%	> 96%			

Patient / family concern

Score	Observation frequency	Responsibility	Patient location
0	4th hourly	Nurse in charge	Same location
1, 2	2nd hourly	Nurse in charge, DMO, treating Dr, RRT	Same location/ as per review
3,4	hourly	Nurse in charge, DMO, treating Dr, RRT	As per review
>4	Close monitoring	Nurse in charge, DMO, treating Dr, RRT	ICU

PEWS Triggers

Table 3 - Early Warning Score (PEWS) - Paediatric Patient

Score Matrix

Particular	0	1	2	3
Behavior	Playing / Appropriate	Sleeping	Irritable	Lethargic / confused **OR** Reduced response to pain
Cardiovascular	Pink or Capillary Refilling 1-2 seconds	Pale or dusky **OR** Capillary Refilling 3 seconds	o Grey or cyanotic OR o Capillary Refilling 4 seconds OR o Tachycardia of 20 above normal rate	o Grey or cyanotic & mottled OR o Capillary Refilling 5 seconds OR o Tachycardia of 30 above normal rate o Bradycardia
Respiratory	Within normal parameter, no retractions	o >10 above normal parameter **OR** o using accessory muscle **OR** o 30+% FiO2 or 3+ liters/min	o >20 above normal parameter **OR** o Retraction **OR** - 40+% FiO2 or 6liters/min	o >5 below normal parameter with retractions or grunting or using accessory muscle **OR** o 50+% FiO2 or 8+ liters/min

*Score by staring with most severe parameter first

*Use "liters/minute" to score regular

- Altered level of consciousness
- New onset of seizure
- "Staff intuition" or
- Family concern

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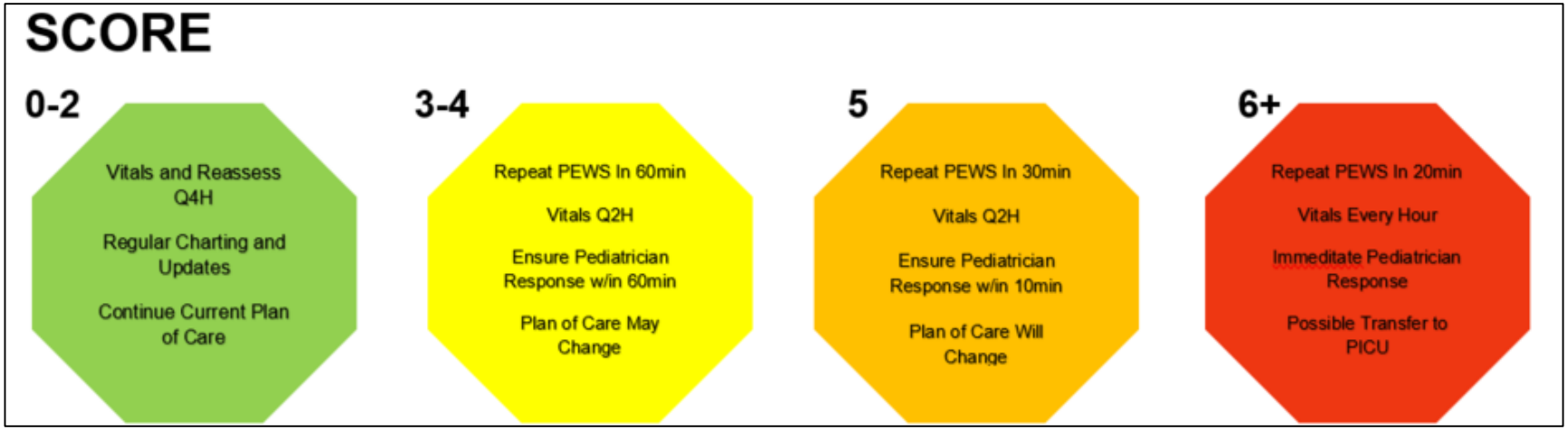

SCORE
0-2
Vitals and Reassess Q4H
Regular Charting and Updates
Continue Current Plan of Care
3-4
Repeat PEWS In 60min
Vitals Q2H
Ensure Pediatrician Response w/in 60min
Plan of Care May Change
5
Repeat PEWS In 30min
Vitals Q2H
Ensure Pediatrician Response w/in 10min
Plan of Care Will Change
6+
Repeat PEWS In 20min
Vitals Every Hour
Immeditate Pediatrician Response
Possible Transfer to PICU

MEOWS Triggers

RRT initiated for one red or two yellow triggers:

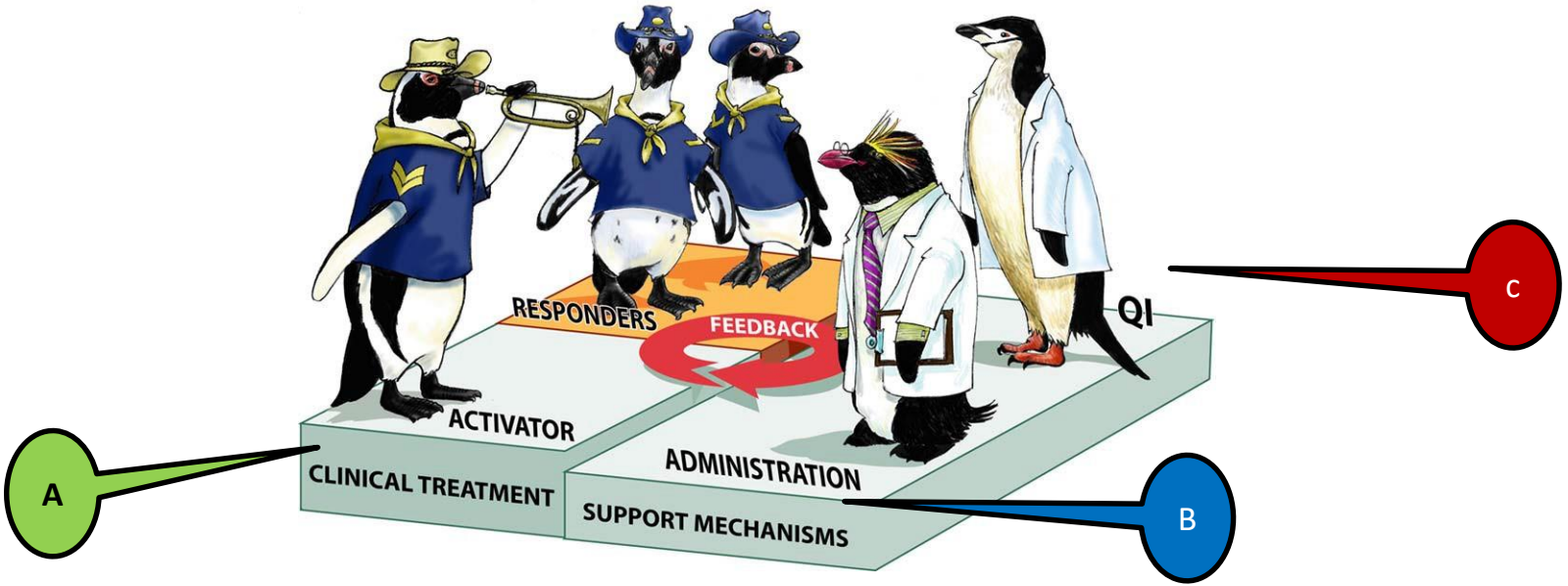
Parameter	Red Trigger	Yellow Trigger
Temperature	< 35 or >38	35-36
Systolic BP; mmHg	<90 or >160	150-160
Diastolic BP; mmHg	>100	90-100
Heart rate	<40, >120	100-120, 40-50
Respiratory rate	<10 or >30	21-30
Oxygen saturation	<95	-
Pain score	-	2-3
Neurological response	Unresponsive, pain	Voice

Steps in Implementation

- **When implementing RRS**
  - Engaging senior leadership
  - Identifying key staff for RRT
  - Establishing alert criteria and a mechanism for calling the RRT
  - Educating staff about alert criteria and protocol
  - Using a structured documentation tool
  - Establishing feedback mechanisms
  - Measuring effectiveness

RRS can be customized to meet your institutions' needs and resources

RRS Structure



Where can Detection occur?

Communication Tools/Strategies

SBAR

- **Activators can be:**
  - ✓ Floor staff
  - ✓ A technician
  - ✓ The patient
  - ✓ A family member
  - ✓ Specialists
  - ✓ Anyone sensing the acute deterioration

- **Detection can occur from a variety of sources or concerns**

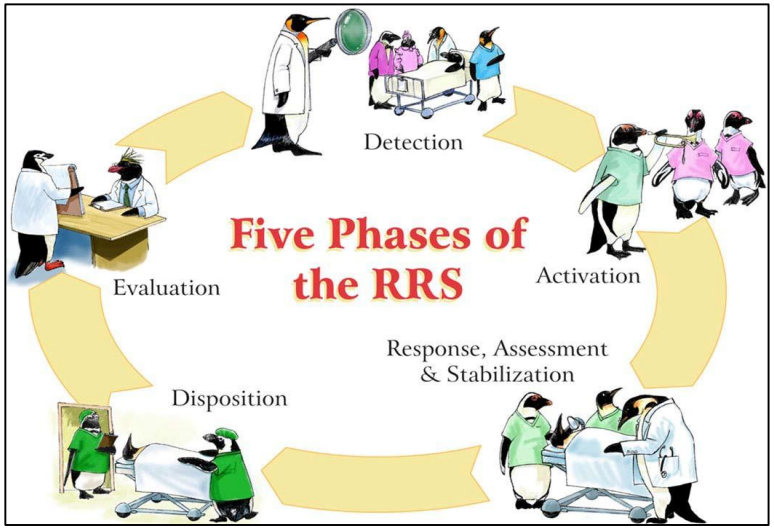
Responder(s)

- Transferring the patient to another unit
- patient stays in same location
- A handoff to a specialized team (cardiac team, code team, stroke team, etc)
- A revised plan of care

- **Responders come to the bedside and assess the patient's situation**

- **Responders include:**
  - Nursing staff
  - Respiratory care staff
  - ICU staff

Let’s Identify



- **What are the common challenges**
  - ❑ Patient deterioration?
  - ❑ System activation?
  - ❑ Patient handoffs?
  - ❑ Patient treatment?
  - ❑ Evaluation of the response team?

RRS Evaluation

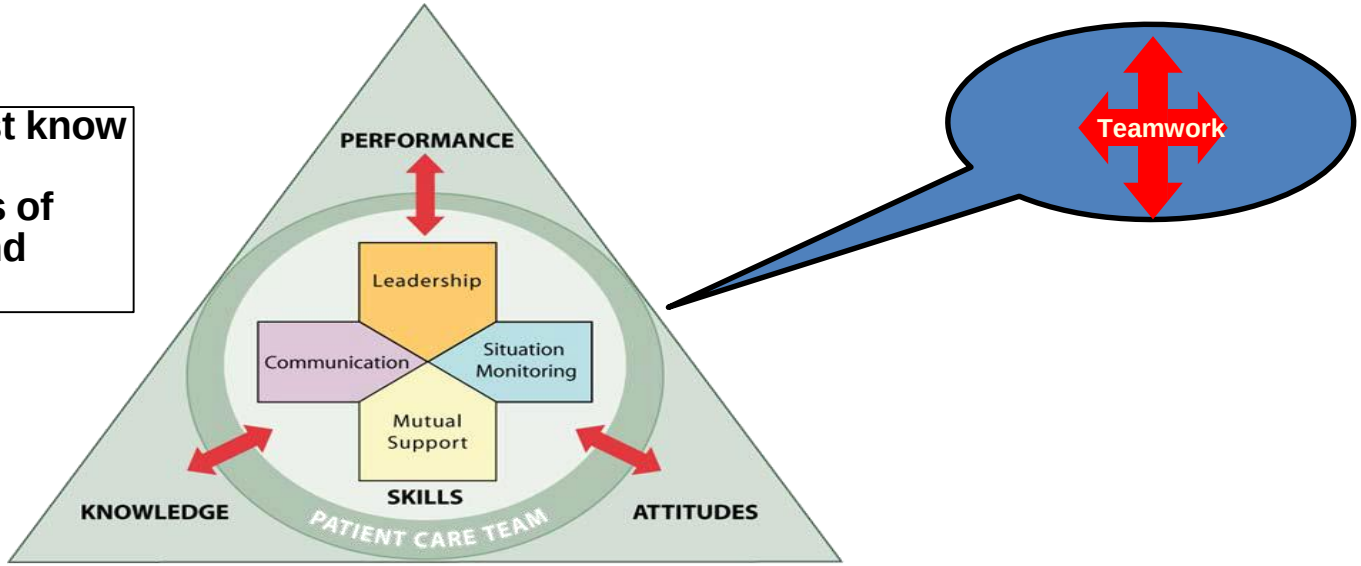
Activators, Responders, Admin & QI Components evaluate performance and assess data for process improvement

Leadership

TOPIC	
Communication clear?	☑
Roles and responsibilities understood?	☑
Situation awareness maintained?	☑
Workload distribution?	☑
Did we ask for or offer assistance?	☑
Were errors made or avoided?	☑
What went well, what should change, what can improve?	☑

Success – Necessary Teamwork skills

- **Activators must know the roles and responsibilities of Responders and vice versa**



CASE STUDY 1

- A family member noticed the patient seemed lethargic and confused.
- The family member alerted the nurse about these concerns.
- The nurse assured the family member that she would check on the patient.
- An hour later, the family member reminded the nurse, who then assessed the patient. The nurse checked the patient's vitals

CASE STUDY 1 …contd

- She did not note any specific change in clinical status, though she agreed that the patient seemed lethargic.

- At the family member's urging, the nurse contacted the physician, but the conversation **focused on the family member's insistence** that the nurse call the physician rather than conveying a specific description of the patient's condition.

- Based on the **unclear assessment**, the physician did not have specific instructions. The physician recommended additional monitoring.

CASE STUDY 1….contd

- Another nurse on the floor suggested calling the RRT, which she heard had helped with this type of situation on another floor.
- The first nurse missed the training about the new RRS, which was not discussed in staff meetings.
- Based on her colleague's recommendation, the nurse called the RRT
- Patient shifted to ICU

CASE STUDY : 2

- A night nurse noted that a patient who had been on the unit for 2 days seemed more tired than usual.
- Although the patient was usually responsive, she did not seem as responsive during the evening shift.
- After checking on her twice, the nurse noted that the patient seemed weak and confused.
- The nurse called the physician at 3 a.m. and described the patient's general status change as being "not quite right" but did not provide a detailed report or recommendation.

CASE STUDY 2

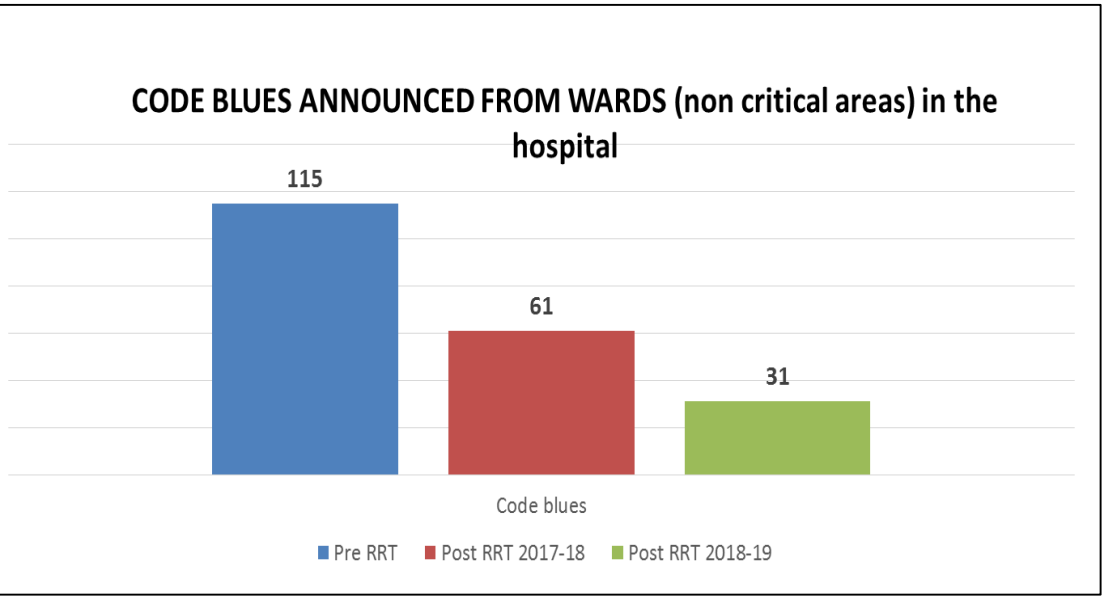
- The physician, frustrated, did not ask probing questions about the patient. The physician noted that it was 3 a.m., mentioned that perhaps the patient was tired, and instructed the nurse to monitor the patient.

- The next morning, the physician came in to do rounds Upon assessing the patient, the physician ordered a stat MRI to rule out stroke.

- The nurse experienced anxiety due to deterioration of patient status and inability to communicate with the physician.

- The physician not clearly receiving all of the relevant patient information the patient's stroke remained unidentified during evening shift.

CONCLUSION



Pre RRT implementation-

No: of Code blues in Non critical areas = 115

Post RRT implementation-

No: of Code blues in Non critical areas

61 (2017-18)

31 (2018-19)

Track and Trigger system can help identify patients who are in need of immediate and crucial intervention, ultimately improving patient outcome and averting the need to call for code blue

Thank You