iSRRS 2019 — The 15th International Conference on Rapid Response Systems and Medical Emergency Teams
18-19 April | Suntec Singapore Exhibition Convention & Centre

Organised by: SICM

In association with: 6th SG ANZICS Asia Pacific Intensive Care Forum

Managed by: KENES GROUP

Abstract

Implementation and 10-year evolution of a Rapid Response System in an Asian Teaching Hospital

[1]Agnes huang,[2]Roshni Gokhale,[3]Mashithah Mansor,[3]Augustine Tee

[1]Anaesthesia and Surgical intensive care, Changi General Hospital, Singapore
[2]Respiratory medicine, Changi General Hospital, Singapore
[3]Respiratory Medicine, Changi General Hospital, Singapore

Objectives:

Rapid Response Systems (RRS) are established in Australia, America and Europe to improve hospital outcomes. Many Asian countries have high power-distance index which may affect escalation of care. This and other barriers such as the perception that it challenges medical power and fear of blame may discourage RRS in Asian hospitals. We aim to describe the implementation and 10-year evolution of RRS in Changi General Hospital.

Methods:

We describe the utilization of RRS and measured its effectiveness in reducing unplanned ICU admissions and cardiac arrests.

Results:

The RRS started in 2009. A MET committee was established for audit, to procure equipment and manage the IT system to track data. The afferent arm consisted of vital signs charting with built-in trigger alerts. The efferent arm comprised of an Intensivist, Registrar, Nurse and Respiratory Therapist (RT). Coverage was limited to weekdays and office hours.

The milestones were: from 2010, MET nurse took on the role of post-medical ICU discharge liaison reviews. From 2010, all urgent requests for ICU transfer requires MET activation. RTs were introduced in 2012 as respiratory criteria was the commonest reason for MET activation. To improve the quality of MET intervention, registrars were limited to those trained in critical care from 2014. MET expanded its coverage to 24hours in 2014. Hybrid day & night team design was used to address manpower constraints. Nurse and RT-led night MET ran activations according to algorithms.

Total number of MET activations from 2009 to 2018, is 4588. MET activation rate increased 13 folds from 1.6 per 1000 admissions in 2009 to peak of 18.7 per 1000 admissions in 2016. We achieved the primary objectives to reduce unplanned ICU admission and cardiac arrests, by 59.4% and 65.5% respectively.

Conclusions:

RRS requires time to evolve and mature. Barriers such as hierarchial culture in Singapore hospitals require customised RRS.