

**Authors:** Dr. Huda Abdulla Saleh (Executive Director Quality & Patient Safety); Dr. Najah Mohammed Ali (Senior Consultant Obstetrician, QEWS Committee Lead); Dr. Faten Al Taher Mohd Taha (Senior Consultant Obstetrician); Dr. Ghassan Abdoh (Senior Consultant Neonatology); Dr. Rawia Abu Jarir (Specialist Neonatology); Ms. Naseema Mambra/Representative from Nursing (Staff Nurse); Ms. Mouna Aloub Bahsoun (Best Care Always Safety Facilitator); Ms. Kristina Magno (Quality Improvement Reviewer)  
**Sponsor:** Dr. Hilal Al Rifai (Medical Director & Director of NICU); Dr. Zeena Saeed Shurbak, Vice-Chair - OB/GYN, WH

### Introduction

The Qatar Early Warning System (QEWS) is a standardized healthcare system's approach across the eight HMC hospitals facilitating the early detection of clinical deterioration by categorizing a patient's severity of illness and prompting nursing staff to request medical review at specific trigger points utilizing a structured communication tool and common language while following a definitive escalation plan.

Out of the five QEWS Standard Observation Charts designed, two are utilized in Women's Hospital categorized as 1) Standard Maternity Observation Chart (SMOC) which shall be used in all maternity patients outside of the Emergency Departments at any age of gestation until their discharge post-partum and 2) Standard Newborn Observation Chart (SNOC) which shall be used in all neonates outside of the Emergency Departments from the time of birth to their discharge from the perinatal unit.

### Background

Previously, no standard tool was utilized to detect early detection of deteriorating patients in Women's Hospital. A tool would help identify patients who are at high risk of a worsening condition that could even lead to in-patient death.

"People die unnecessarily every single day in our hospitals. It is likely that each clinician can provide an example of a patient who, in retrospect, should not have died during their hospitalization."

IHI 'How-to-Guide: Rapid Response Teams'

The IHI's Save 100,000 Lives Campaign identified the deployment of Rapid Response Teams (RRTs) as one of the first six evidence-based practices to improve healthcare quality.

The use of Rapid Response Teams is believed to improve the outcome of sudden patient deterioration in the hospital, by enabling high acuity patient care to be delivered anywhere that it is needed in the hospital. More recently, many hospitals have sought to improve the performance of RRTs by using Early Warning Scores (EWS) to identify patient deterioration before the patient reaches a critical condition. This practice is acknowledged, but not yet promoted as best practice, by IHI. <http://www.ihl.org/knowledge/Pages/Tools/HowtoGuideDeployRapidResponseTeams.aspx>

### Our Aim:

To achieve 100% compliance in the utilization of Standard Newborn and Maternal Observation Charts in Women's Hospital (Antenatal/Postnatal wards, NICU, LR and HDU) by end of 2016.

How will we know that a change is an improvement?

### Corporate Measures:

- Rapid Response Team Call Rate
- CPR Code Rate

### Hospital Wide Measures:

#### Maternal

Outcome measures:

- Rate of Red Zone Hit per 1,000 discharges
- Rate of Yellow Zone Hit per 1,000 discharges
- Rate of transfers to HDU from APC and L&D per 1,000 discharges

Process measures:

- Percent of CRT Response
- Percent of RRT Response

#### Neonatal

Outcome measures:

- Rate of Red Zone Hit per 1,000 discharges
- Rate of Yellow Zone Hit per 1,000 discharges
- Rate of transfers to NICU from APC and L&D per 1,000 discharges

Process measures:

- Percent of RRT Response
- Percent of CRT Response

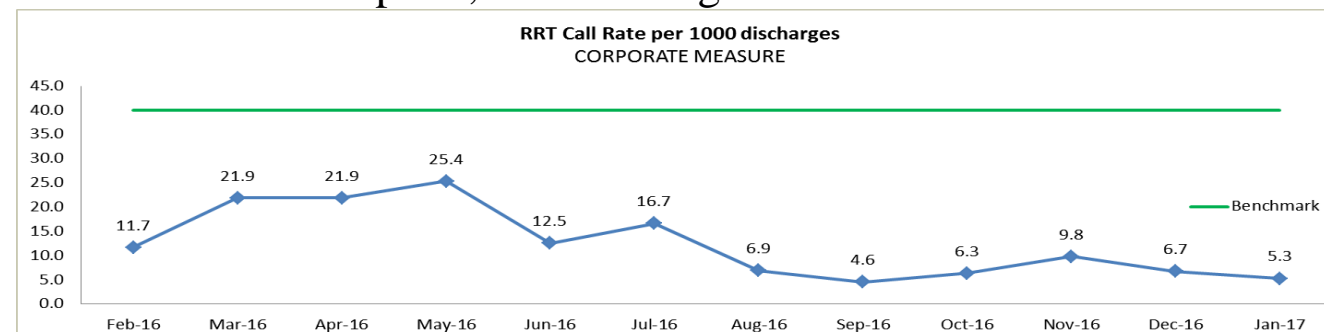
### Actions Taken

- Organized a committee dedicated in the identification or early detection of patient deterioration.
- Standard Newborn and Maternal Observation Charts implemented in WH (Antenatal/Postnatal wards, NICU, LR and HDU).
- 2014 – Pilot study done in East 3
- November 2015:
  - Standard Newborn and Maternal Observation Charts Education Strategy Curriculum provides a 4 tiered approach which was done for all staff. Hospital wide campaign was done; all staffs were encouraged to access the E-learning module.
  - Adapted Standard Newborn and Maternal Observation Charts from Between the Flags program, the tool was modified by corporate committee according to what is applicable in the facility. Utilized this tool in all Antenatal/Postnatal wards, NICU, LR and HDU. QEWS initiative involved all the staff; clinicians including physicians and nurses, health service managers, chief executives, and other key parties.
- February 2016: Implemented to utilize the Standard Newborn and Maternal Observation Charts provided by the Corporate Quality across the eight HMC hospitals

### Results

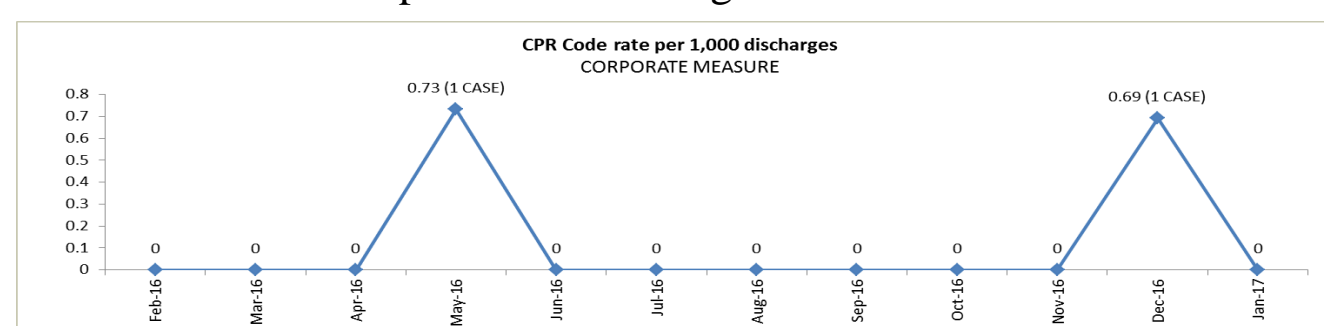
#### Corporate Measures:

- RRT Call Rate per 1,000 Discharges



Above graph shows the RRT Call Rate per 1,000 Discharges, monitoring started February 2016, a downward trend starting July 2016 when full implementation and education sessions were completed. All staff were made aware of this initiative.

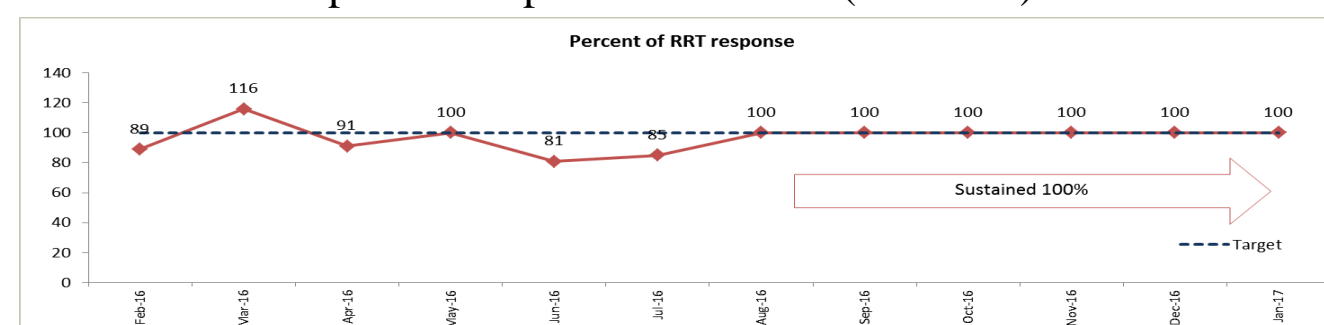
- CPR Code Rate per 1000 Discharges



Above graph shows the CPR Code Rate per 1,000 Discharges, as shown only 2 occurrence of code happened which is in May and December 2016 respectively.

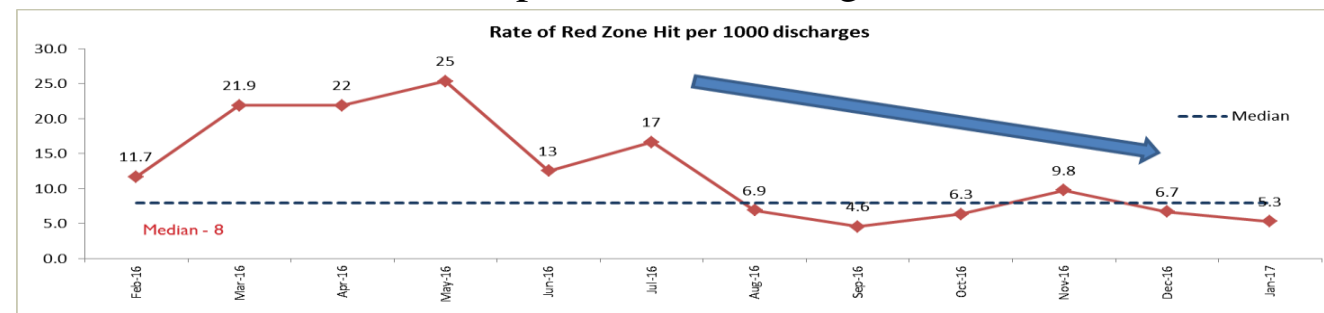
#### Hospital Wide Measures:

- Percent compliance response RRT Calls (Maternal)



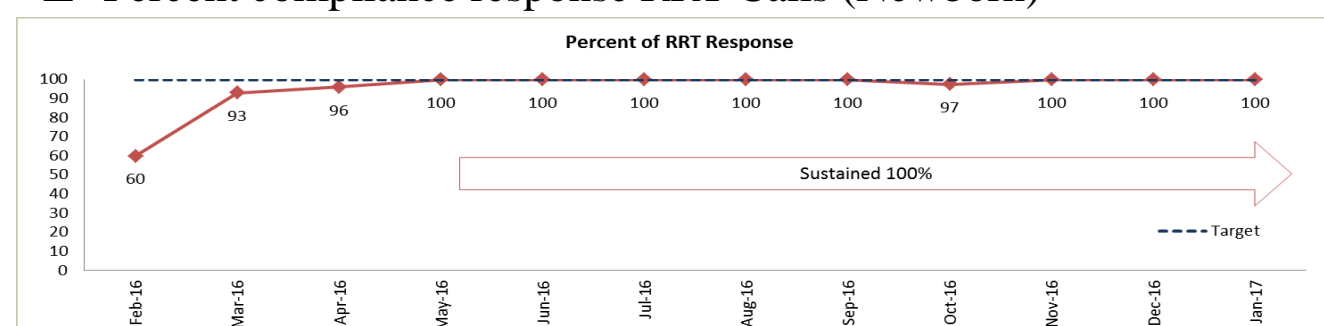
As shown in the graph, there is improved compliance in response to calls reached and sustained 100% after 6 months of Implementation of the QEWS observation chart.

- Rate of Red Zone Hit per 1,000 Discharges (Maternal)



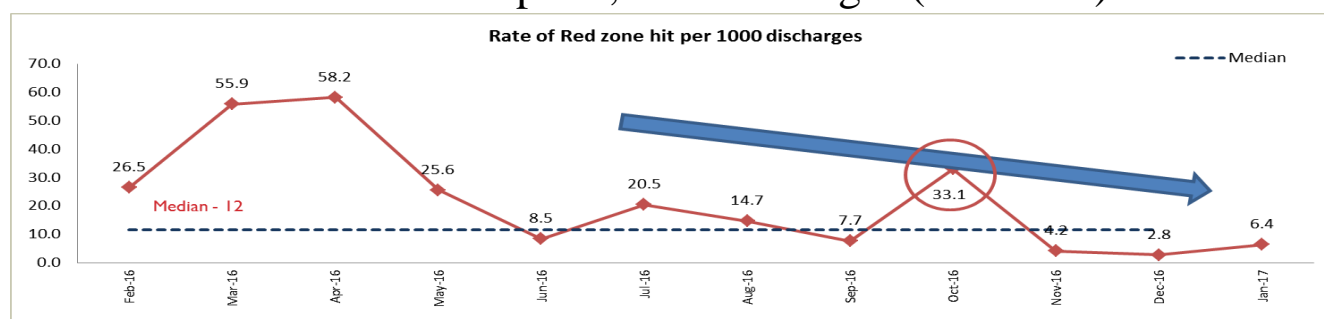
As shown in the graph, there is a downward trend after 6 months of Implementation of the QEWS observation chart, 50% reduction in the median after July 2016.

- Percent compliance response RRT Calls (Newborn)



As shown in the graph, there is improved compliance in response to calls reached and sustained 100% after 6 months of Implementation of the QEWS observation chart.

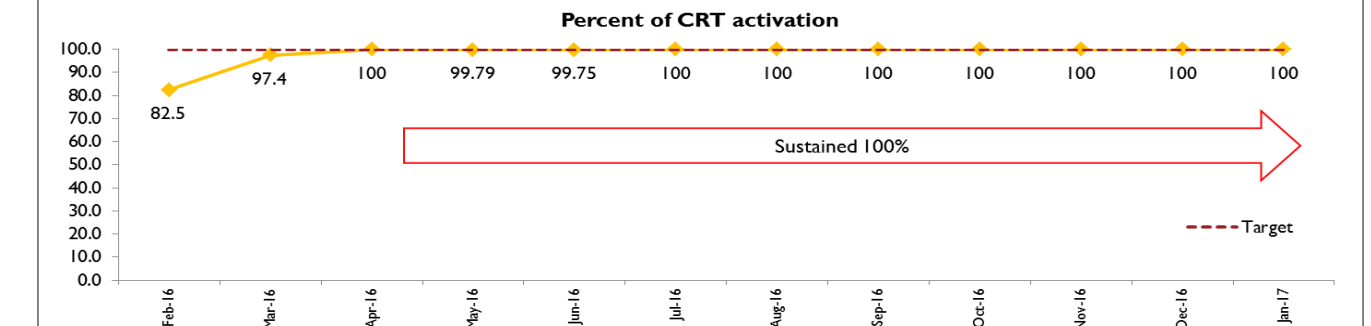
- Rate of Red Zone Hit per 1,000 Discharges (Newborn)



As shown in the graph, there is a downward trend after 6 months of Implementation of the QEWS observation chart, 60% reduction in the median after July 2016.

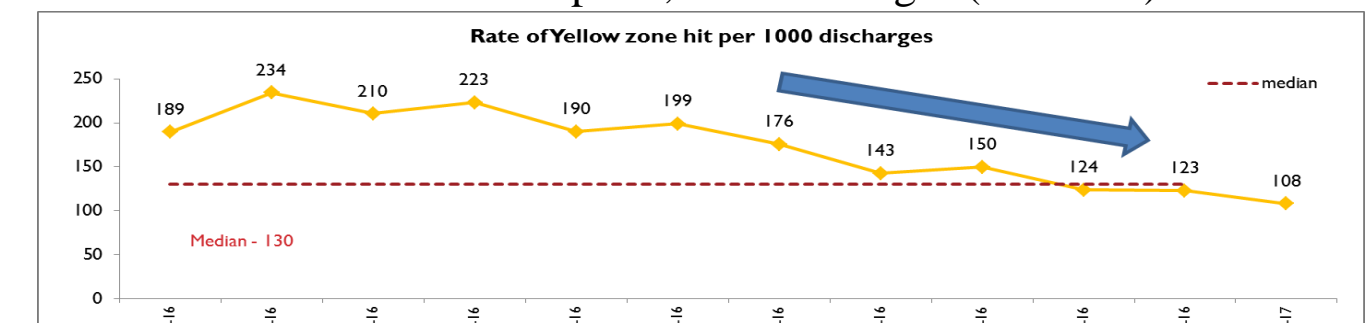
### Results cont...

- Percent compliance to CRT activation (Maternal)



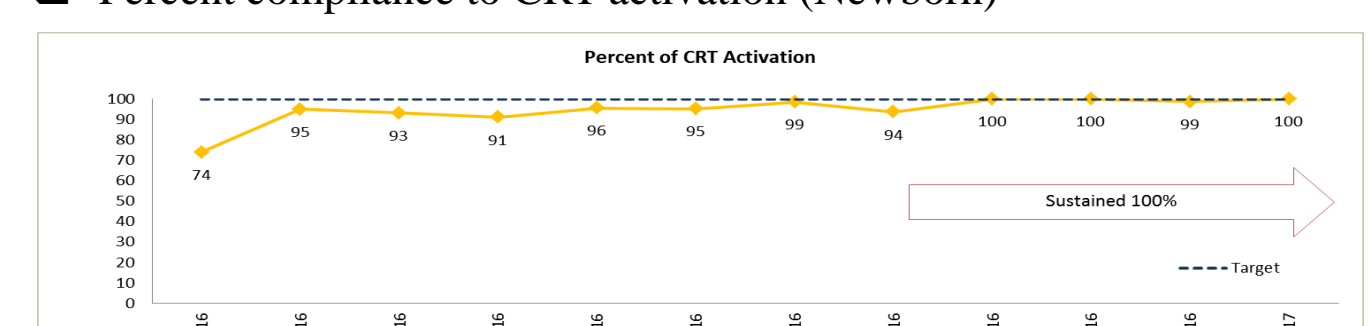
As shown in the graph, there is improved compliance in response to calls reached and sustained 100% after 6 months of Implementation of the QEWS observation chart.

- Rate of Yellow Zone Hit per 1,000 Discharges (Maternal)



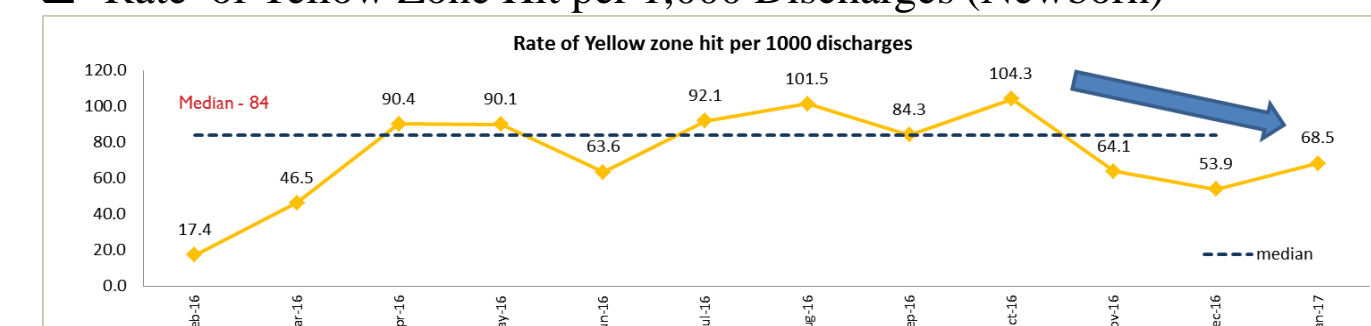
As shown in the graph, there is a downward trend after 6 months of Implementation of the QEWS observation chart and in January 2017 yellow zone criteria reduced below the median of 2016 (130).

- Percent compliance to CRT activation (Newborn)



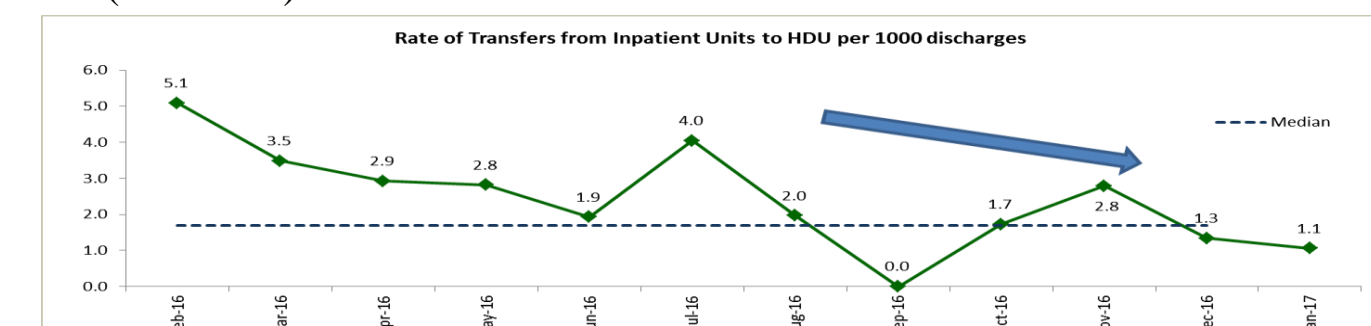
As shown in the graph, there is improved compliance in response to calls reached and sustained 100% after 6 months of Implementation of the QEWS observation chart.

- Rate of Yellow Zone Hit per 1,000 Discharges (Newborn)



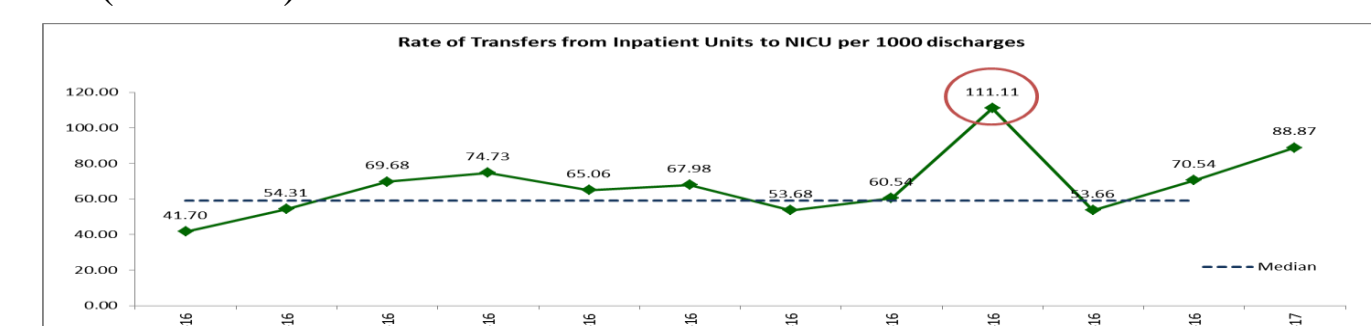
As shown in the graph, there are a lot of variations within 6 months of implementation but with actions taken, gradually yellow zone criteria reduced below the median of 2016 (84) starting from November 2016 onwards.

- Rate of transfers to HDU from APC and L&D per 1,000 discharges (Maternal)



As shown in the graph, there is a downward trend after 6 months of Implementation of the QEWS observation chart, median reduced from 1 to 0 after July 2016.

- Rate of transfers to NICU from APC and L&D per 1,000 discharges (Newborn)



As shown in the graph, reduction in transfers to NICU was not achieved. There is ongoing review of the cases especially for term babies transferred to NICU and there is an ongoing discussion for exclusion criteria for preterm babies (as per policy, preterm babies are transferred immediately to NICU for monitoring).

### Achievements

- ❖ Improved compliance in the utilization of Standard Newborn and Maternal Observation Charts
- ❖ Reduced the number of red zone hit
- ❖ Reached the target of 100% and sustained response to Rapid Response Team (RRT) calls
- ❖ Increased awareness in the identification of yellow zone hit in the recognition and escalation of yellow zone criteria
- ❖ Reduce number of transfers to High Dependency and Intermediate Care Units

### References

- ❖ Between the flags; keeping patients safe. [http://www.slhd.nsw.gov.au/btf/pdfs/charts/SPOC/NSW\\_Health\\_Standard\\_Observation\\_Charts.pdf](http://www.slhd.nsw.gov.au/btf/pdfs/charts/SPOC/NSW_Health_Standard_Observation_Charts.pdf)
- ❖ IHI How-to-Guide: Rapid Response Teams. <http://www.ihl.org/knowledge/Pages/Tools/HowtoGuideDeployRapidResponseTeams.aspx>
- ❖ CL 6111 HMC Policy: Recognition and response to clinically deteriorating patients.