Evaluate Clinical Handover System Using Modified Early Warning Score in a Regional Hospital of Hong Kong

Wong CW(1), Leung PNC(2), Leung CM(1), ABOO GH(1)(2), Pang KY(1)

(1)HKEC Quality & Safety Office, Hong Kong East Cluster, (2)Nursing Services Division, Pamela Youde Nethersole Eastern Hospital

Keywords:
Clinical Handover
Modified Early Warning Score

Introduction
Early detecting patients at risk of deterioration with good communication and immediate interventions could improve patients' clinical outcomes and prevent serious adverse events. In 2008, a multi-disciplinary working group developed Modified Early Warning Score (MEWS) comprising five physiological parameters (systolic blood pressure, pulse / heart rate, respiratory rate, body temperature and level of consciousness). It was piloted at seven departments over 500 beds in Pamela Youde Nethersole Eastern Hospital (PYNEH). In 2009, MEWS was full implemented at nine departments over 900 beds after a successful pilot. To further promulgate the use of MEWS in the Hong Kong East Cluster (HKEC), a Cluster Guideline on MEWS for patient monitoring and clinical handover with a clear workflow and "Vital Signs Observation Chart" with built-in MEWS parameters were developed and gradually adopted by six cluster hospitals in 2012.

Objectives
To evaluate the compliance with the HKEC Guideline on MEWS for Patient Monitoring and Clinical Handover and identify area for improvement.

Methodology
An evaluation audit was conducted in PYNEH on 25 Jul 2014. Retrospective review of the medical records was conducted for audit patients hospitalized at inpatient wards with using MEWS from Apr to Jun 2014. The patients who signed for "Do-Not-Attempt Cardiopulmonary Resuscitation (DNACPR)" were excluded. The list of patients was randomly selected based on the last digit of patient’s hospital number against the proportion of the numbers of beds by different departments. The list of total 100 drawn samples was sent to Medical Record Office for the request of medical records. 79
medical records were available on respective audit dates and were reviewed based on the audit criteria.

**Result**
A total of 72 medical records were successfully audited based on the audit criteria among seven clinical departments. The results revealed satisfactory compliance to the HKEC guideline for assessment of MEWS for i) patients on admission / transfer-in 81% (n=58), ii) patients requiring 4 hourly or more frequent vital sign observation 78% (n=29), iii) patients before & after receiving interventional or bedside invasive procedures 100% (n=2) and iv) patients with deterioration of general condition 100% (n=3). There are rooms for improvement on using MEWS for patient assessment prior to patient transfer-out from wards and discharge for which the compliance with the guideline was 55% (n =12) and 58% (n=42) respectively. Any difficulties of performing MEWS patient assessment prior to patient transfer-out or discharge would be further explored. Good compliance of using MEWS to early detect patient's deterioration lay down a safety net in order to enhance patient safety and patient clinical outcome.