



Service Priorities and Programmes  
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**Is a Modified Early Warning System (MEWS) able to enhance clinical observation to detect deteriorating patients earlier in an Emergency Department?**

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**Introduction**

Overcrowding in public emergency departments (EDs) is a worldwide issue. One reason for ED overcrowding is access block. At present, there is no formal monitoring system for detecting patient deterioration in local EDs for access block patients.

**Objectives**

The objective of the study is to compare the performance of a combination of MEWS with clinical judgment against clinical judgment only in early detection of deteriorating patients.

**Methodology**

This observational study used consecutive sampling methods. Data was collected in a local public ED between January and March 2013. MEWS was incorporated into usual patient observation by emergency nurses for access block patients. The primary and secondary outcomes were any medical intervention or investigation in respond to MEWS alert and adverse events (i.e. death, ICU consultation, resuscitation) within 24 hours of admission to wards respectively. There was a comparison group with patients under normal patient observation only.

**Result**

Totally 545 patients were recruited, with 269 patients in MEWS group and 276 patients in usual observation group. Most patients presented with respiratory or neurological problems. The combination of MEWS and usual nursing observation had 100% sensitivity and 98.6% specificity for detecting patient deterioration, while usual observation group had 100% sensitivity and 99.6% specificity respectively. The results do not suggest that a combination of MEWS and usual nursing observations is

able to enhance performance in detecting patient deterioration. However, MEWS may serve as an adjunct to provide objective evidence for nurses in detecting patient deterioration, particularly if nurses are less experienced.