Background: The National Institute of Clinical Excellence (1) and Royal College of Physicians (RCP) (2) recommend that all inpatients should be monitored with an Early Warning Score (EWS) and actioned. Despite the RCP endorsement of National Early Warning Score as a standard (2) other systems remain in place around the UK and little evidence exists comparing these systems. At the authors’ hospital a separate Mono-Parametric EWS was used. As part of continuous audit data were collected on cardiac arrests and EWS utilisation. These were combined and compared in order to provide a comparison between the NEWS and the local EWS.

Methods: Two audit databases were compared, the primary population consisted of all relevant cardiac arrests for 2 months, with the second population capturing observations and actions for patients on a medical admissions unit. Data extracted from these were scored on NEWS and the local EWS.

Outcomes were medical reviews indicated and time to escalation prior to deterioration. A Chi Squared test was performed on the primary arm.

Results: In the primary population 17 cardiac arrests were identified over a 2 month period (after exclusions where a EWS was inappropriate). Prior to cardiac arrest 14 patients were indicated for review under NEWS and 10 patients were indicated for review under the local EWS. NEWS demonstrated an increased sensitivity with more patients being indicated for review prior to arrest (82.35% vs 58.82%) however this failed to reach statical significance [P value: 0.1).

Under the secondary arm 255 sets of notes were scrutinised with 44 patients requiring review under NEWS vs 50 patients requiring review under local EWS.

Discussion: The primary aim of this piece of research was to assess whether the local system or NEWS showed increased sensitivity to the deteriorating patient. This was measured against cardiac arrest data however the absence of a control group and the small sample size limit the general conclusions that can be drawn. That said there appeared to be a difference in the number of patients identified for review prior to cardiac arrest although as this only reaches the 90% CI the authors cannot exclude the null hypothesis.

A voiced concern with moving to a (possibly) more sensitive multivariate EWS is the increase in workload generated by the requests for medical reviews. This study found no evidence of this, with no statistical significance between the number of patients requiring review.

Given the recent move by the Royal College of Physicians favouring a nation wide adoption of the NEWS2 EWS (2) it is reassuring that this study found no evidence of inferiority of NEWS to a Mono Parametric System and indeed a suggestion of a benefit. More research is indicated.

Conflict of Interests: None Declared.

Conclusion: Direct comparisons between EWS are difficult and in such a small population size (17 arrests) the study was underpowered and therefore unable to show a significant difference. However it is possible that NEWS shows increased sensitivity to a deteriorating patient without increasing the number of medical reviews required. More research is required and it is anticipated this will be conducted shortly.

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References: