



# Delayed Rescue May Result from Subversion of the Early Warning Score Protocol by Junior Doctors.

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## Background:

Over thirty years ago the observation was made that retrospective review of clinical records, relating to patients who suffered unexpected deterioration on general wards, had often shown abnormalities in their vital signs, present for some hours before action was taken.<sup>1</sup> Early Warning Scores (EWS) were introduced as a means of aggregating physiological observations to produce a score that identified a significant proportion of those patients who would subsequently deteriorate. Unfortunately the use of such systems has not been conclusively demonstrated to be associated with improved medium and long-term outcomes. Nonetheless the use of an EWS is now universally recommended.

1. NCEPOD (2012). Time to Intervene? A review of patients who underwent cardiopulmonary resuscitation as a result of an in-hospital cardiorespiratory arrest. London, NCEPOD.

## Objective:

To explore human factors such as team relationships and attitudes in a MEWS Rapid Response System.

## Methods:

Following permissions and ethical approval, forty medical and nursing staff from teams using MEWS in general wards were interviewed. They were questioned about their attitudes to the protocol, their work and their team relationships. The interviews were recorded, transcribed and coded to identify themes and derive concepts using the principles of constructivist grounded theory as described by Charmaz<sup>2</sup>.

2. Charmaz, K. (2006). Constructing grounded theory. London: Sage

## Results:

The doctor's narratives showed that they treat the MEWS as a severity score rather than an early warning. The higher the MEWS the more likely they are to attend.

*We get a very high number of calls as Junior Doctors and hearing a number can definitely help us prioritise which patients need to be seen most urgently. Doctor FY1*

*I think they are a good thing. I think it gets people's attention for deciding how sick someone is. Doctor FY1*

They prioritised MEWS alerts along with their other work and, contrary to the protocol, often delayed seeing the patient if the MEWS was low.

*Yeah, if they ring me with a problem I will say, "What's the MEWS? If it's OK I know there can't be much wrong. Doctor FY1*

Nurses regretted that their clinical skills were not valued and that it was difficult to get medical staff to hear their anxiety about patients who had low MEWS scores. It appeared that the MEWS score was monopolising doctor/nurse communication. The medical staff focus on the MEWS when discussing deteriorating patients with nurses.

*Even when you get a patient who is scoring zero, there could still be something not right, so you have still got to observe. You can't just use the chart as the main thing. But the doctor always focuses on the MEWS" Staff Nurse*

*So if the MEWS score is 7 you obviously get a little bit more nervous and you look a little bit quicker to respond to that. Doctor FY2*

The Foundation doctors were very preoccupied with their workload.

*I would say on an average shift on General Surgery...I would say, between 10 and 30 MEWS calls in one shift. Doctor FY1*

*There are a lot of patients MEWS scoring and usually we are too busy to cope. Doctor FY1*

## Conclusions:

Foundation doctors are overloaded with work. What they needed was a severity score system so that they could sensibly organise their work, and prioritise the sickest patients. It is not surprising that they use the EWS in this way.

EWSs are not designed or validated as severity of illness scores. Sick patients will have abnormal vital signs and a raised MEWS but the MEWS/trigger system is intended to identify patients who appear well but are on the threshold of collapse. However, the junior doctors who are first responders in the event of a raised MEWS score describe how they use it as a severity-score. They describe a working day that is dominated by a very heavy workload and they need to prioritise the calls upon their time. They give low priority to MEWS alerts that are slightly above the trigger value. This may result in a delay in treating incipient deterioration.

A more general observation can be drawn from these findings. The design of a protocol needs to consider existing work patterns, and to be integrated with them. MEWS was developed to assist inexperienced nurses and doctors to recognise patients in need of speedy intervention. Little consideration appears to have been given to why the signs of the patients worsening condition were missed in the first place. This research indicates that the junior doctors' principal problem is having too much to do. Being overloaded with work, and not seeing patients who have a MEWS just over the trigger threshold, risks delaying treatment for that group of patients in whom early intervention might be most beneficial.

The introduction of MEWS has increased the workload of the most junior doctors and has not been linked to any measures to help them cope. They therefore use it partly as a Severity of Illness Score rather than as an EWS. New protocols should be carefully examined for their effect upon existing work. After their introduction they should be carefully audited and attention should be paid to unexpected interactions with existing ways of working that subvert the developers' intention.

