

## Are The Risk Scales a Useful Tool In Hospital Services?

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### Abstract

In the last decade, clinicians and practitioners have developed risk scales to improve clinical outcomes in patients during the hospital stay. Reduction of complications and mortality rates are priorities in any healthcare institution. In this manuscript, we propose the use of risk scales and highlight the benefits to daily clinical practice.

**Keywords:** Clinical Care, risk scales, patient, healthcare, mortality and complications

Physicians pursue the interest that during the hospital stay the best patient care needs to be provided; and achieving that in a short time - as a result the patient is expected to recover from illness and return to normal life.

The ability to prevent possible complications that the patients are exposed to, has always generated ambiguity in the current medical practice, since it is assumed, that the relief of the patients once the treatment is established, should always be the same<sup>1</sup>. However, it is the awareness and proper care of comorbidities and the baseline condition of the patients that determine the success rate of the treatment, without requiring additional interventions beyond the ones proposed at the beginning of the treatment<sup>2,3</sup>.

This important factor has generated in practitioners the need to be able to monitor the clinical evolution of the patients. Laboratory tests are an important basis of medical diagnosis, and are frequently used to monitor the clinical progress of the hospitalised patient. The patient clinical state sometimes changes suddenly or continuously; requiring the surveillance of the basic variables such as vital signs. Vital signs monitoring activate a warning signal for the immediate reassessment of the patient and reorient the medical decisions at any moment during the hospitalisation, with the goal of avoiding further deterioration or adequately treating any new disease state that the patient may develop<sup>3,4</sup>.

From that point of view and long time ago the medical community has observed the need to generate a code that could be universal and that could be used as an early warning of the patient worsening. As a result of this situation, in different countries around the world, researchers and clinicians have developed scales, scores, algorithms and others tools to identify early patients in risks to be in critical conditions. Those tools are based on the ability of easy data collection and simple clinical interpretations allowing the clinical personnel to make

objective and early assessment of the overall clinical state of the patients<sup>4</sup>.

These scales or scores are not ideal, since there is no perfect scale, and all have statistical weaknesses either in their sensitivity or specificity. The clinical judgment and the physician experience, added to a score from any of these scales, may guide the path to follow according to the particular scenario to treat the patient illness<sup>5</sup>.

Selecting the ideal scale to be adopted is one of the controversial topics in which a practitioners and institutions can be involved in. Occasionally other services in the hospital such as clinical laboratory and clinical imaging values play an important role in the process of diagnosis of the disease and are counted in the risk scales making easier to have good standard of care. Scientific studies assess the statistical performance of these scales yield controversial results that sometimes distort or endorse these results<sup>5</sup>. This is why the decision of the ideal scale is based first on the target population that physicians in charge will care of and select the appropriate scale or score that will be applied, to know the implications of the most representative age group of patients that will be attended and to use scales which data acquisition be a simple and quick task to perform<sup>6</sup>.

Based on that, the Royal College of Physicians of the United Kingdom headed by Bryan Williams and collaborators, and many other researchers worldwide have analysed a significant number of scales on the basis that the scale should use systems (track and trigger warning systems protocol) divided into three types - single parameter systems, multi-parameter systems, total weighted scoring systems and combined systems<sup>6</sup>.

The researchers came to the conclusion that the performance of these scales was better than those that conserve the third type of system, since not only the parameters are categorized but also those who develop the scale proposed management to be carried out in an easy, orderly scheme and logical within a framework of independent work or in addition to more robust strategies

that involve management schemes within a hospital institutions - the so-called (Rapid Response Systems RRS) <sup>7</sup>.

For Williams et al, the MEWS changed its name after being accepted by the Royal College of Physicians of the United Kingdom as the NEWS scale with its variables defined as (respiratory rate, oxygen saturation, systolic blood pressure, heart rate, consciousness or new confusion and temperature). This score has been recognized and quickly adopted worldwide. The NEWS has an immediate applicability as a parameter of high sensitivity in the detection of clinical deterioration, despite its known low specificity. Thus inviting the attending physician to approach and reassess the state of the patient. The score makes changes in medical decisions according to the new conditions found during the patient's assessment<sup>7</sup>.

This kind of scales must be endorsed internationally and be easily replicable by all practitioners who wish to adopt them. This allows other physicians to obtain results when implementing actions, reaching better clinical outcomes similar to clinical studies previously published. In the daily practice and clinical application we find different scenarios to use the scales, where the main problem of its application represent extra costs in lab test or clinical images and the time invested by the practitioners and medical personnel <sup>7</sup>.

For this reason, the scales for clinical assessment should be easy and flexible to be implemented by any person, ideally for any member of the healthcare team to avoid barriers during the process of data acquisition. From this perspective, the scales that are based on easily collected parameters are the most appropriate, but they are often the scales that suffer the rigors of the biases when they are undervalued or overvalued, just the operability can be affected by personnel knowledge and skill.

The interesting thing about this exercise is to see that the people who have the most continuous contact with the patient, such as the nursing staff, physicians with the practice have the ability to use them in their practice and this would make the scales a valuable resource to perform clinical assessments and achieve the goal proposed.

In this new era where the reincorporation of a patient into daily life in a short time is ideal scenario, the medical and nurse staffs and also service providers seek to alleviate the patient's health breakdown. It is here from the hospital point of view where the proper care not only in the quality of care but also in the prevention of complications plays an important role in the applicability of these early detection scales. This is an invitation to success from its inception and to tend to patients being hospitalized for the minimum time required.

### Competing Interests

None declared

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