#### 45th Biennial Convention (16-20 November 2019)

# Reflections on the Use of Track and Trigger Scores for Recognising Clinical Deterioration

#### A. M. R. Angyal, RN

Universitair Medisch Centrum Utrecht, Utrecht, Netherlands Desiree Tait, DNSc, RN, NMC Faculty of Human and Health Sciences, Bournemouth University, Bournemouth, United Kingdom

In so many patients suboptimal care was given, so-called adverse events. Adverse events are events like an emergency admission in the intensive care unit, a resuscitation or an unexpected death of the patient. Due to the fact of suboptimal assessment and management of acutely and critically ill patients with signs of clinical deterioration. To help recognising clinical deteriorating patients tools for tracking and responding to patients in these situations were written. International recommendations and national guidelines helped implementing these tools (Royal College of Physicians, 2012; NIVEL, 2013).

The track and trigger scores are used all over the world, despite the lack of evidence. Due to the fact that there are many different track and trigger scores and the research has taken place on a small population. And the fact that many track and trigger scores have a high sensitivity and a low specificity. Which will lead to patients with acute illness that are not recognised and patients who are not actually critically ill, which can lead to a higher workload for nurses (Gao, 2007, Mulligan, 2010).

This is seen in practice as well where it is very difficult to isolate the variables that can impact on patient outcome in complex care settings and thus determine the impact of track and trigger on patient care.

Even though there is evidence to suggest that some track and trigger tools can offer physiological evidence for deterioration on time and trigger action. And every recognised deterioration is one. But the balance between recognising deteriorating patients and not give a higher workload for nurses is complex. To solve this problem we can adjust the track and trigger score to specify the score for our patient population. However experience and literature study show that the 'professional gaze' is just as important. The definition of the professional gaze from Tait is: 'The professional practice of engaging in scanning, selective perception, recognition, diagnosis and response to clinical deterioration' (Tait, 2009). The use of the professional gaze, an SBAR communication tool, clinical outreach team and continuing professional development are factors that come together to impact on effective patient care.

That is exactly what could be improved in the Netherlands as well; the track and trigger score, the SBAR communication tool and the clinical outreach team were used. But due to the fact that the sensitivity was high and the specificity was low, nurses got a higher workload and did not use the tools. That is where the professional gaze and continuing professional development can help understand the use of the tools and the importance of the professional.

For the future we recommend a stronger focus on developing rapid clinical decision making skills at undergraduate and post graduate level. The international standardisation of a track and trigger score; such as the Early Warning Score. We argue that further research into how these strategies can jointly impact on patient outcome and the economic evaluation of the use and effectiveness of these tools is necessary.

#### Title:

Reflections on the Use of Track and Trigger Scores for Recognising Clinical Deterioration

# Keywords:

Track and trigger score, deterioration and recognising

# **References:**

- Aven, T. & Krohn, B. (2014) A new perspective on how to understand, assess and manage risk and the unforeseen. *Reliability Enginering and System Safety, 121,* 1-10. doi: 10.1016/j.ress.2013.07.005
- Churpek, M., Snyder, A., Han, X et al. (2017) Quick sepsis-related organ failure assessment, systemic inflammatory response syndrome and early warning scores for detecting clinical deterioration in infected patients outside the intensive care unit. *American Journal of Respiratory and Critical Care Medicine*. 195(7): 906-911.
- Dalton, M., Harrison, J. Malin, A et al. (2018) factors that influence nurses' assessment of patient acuity and response to acute deterioration. *British Journal of Nursing.* 27 (4): 212-218.
- Downey, C., Tahir, W., Randell, R. et al. (2017) Strengths and limitations of early warning scores: a systematic review and narrative analysis. *International Journal of Nursing Studies.* 76: 106-119.
- Ludin, S., Ruslan, R. and Mat Nor, M. 2018. deteriorating patients and risk assessment among nurses and junior doctors: a review. 17 (1): 153-162.
- Ludikhuize, J., De Jonge, E. & Goossens, A. (2011) Measuring adherence among nurses one year after training in applying the Modified Early Warning Score and Situation-Background-Assesment-Recommendation instruments. Resusciation 82, 1428-1433. doi: 10.1016/j.resusciation.2011.05.026
- Ludikhuize, J., Smorenburg, S.M., De Rooij, S. E. & De Jonge, E. (2012) Identification of deteriorating patients on general wards; measurement of vital parameters and potential effectiveness of the Modified Early Warning Score. *Journal of Critical Care* 27, 424e7-424e13. doi: 10.1016/j.jcrc.2012.01.003
- Mark, B. and Harless, D. (2011) Adjusting for patient acuity in measurement of nurse staffing: two approaches. *Nursing Research.* 60 (2), 107-114
- Merten, H. van Galen, L. and Wagner, C. (2017). Safe handover. *British Medical Journal.* 359: j4328
- Mulligan, A. (2010) Validation of a physiological track and trigger score to identify developing critical illness in haematology patients. Intensive and Critical Care Nursing 26, 196-206. doi: 10.1016/j.iccn.2010.03.002

- Nederlands Instituut voor onderzoek van de gezondheidszorg (2013) Implementatie VMS Veiligheidsprogramma: Evaluatieonderzoek in Nederlandse ziekenhuizen te Utrecht. URL: <u>http://www.nivel.nl/sites/default/files/bestanden/Rapport-Implementatie-VMS-Veiligheidsprogramma.pdf</u>
- Royal College of Physicians (2012) National Early Warning Score (NEWS): Standardising the assessment of acute illness severity in the NHS. London: Royal College of Physicians.
- Royal College of Physicians (2017) *National Early Warning Score (NEWS) 2: Standardising the assessment of acute illness severity in the NHS.* London: Royal College of Physicians.
- Smith, G., Pytherch, D. Meridith, P. et al. (2013) The ability of the national early warning score (NEWS) to discriminate patients at risk of early cardiac arrest, unanticipated intensive care unit admission and death. *Resuscitation.* 84: 465-470.
- Tait D. (2009) A Gadamerian Hermeneutic Study of Nurses' Experiences of Recognising and Managing Patients with Clinical Deterioration and Critical Illness in a NHS Trust in Wales (unpublished doctoral thesis). Swansea University.
- Tait, D. (2010) Nursing recognition and response to clinical deterioration. *Nursing management*, 17(6) 31-35.
- Tirkkonen, J., Tamminen, T. and Skrifvars, M. (2017) Outcome of adult patients attended by rapid response teams: a systematic review of the literature. *Resuscitation.* 112, 43-52.
- •

# **Abstract Summary:**

This presentation gives you reflections from the Netherlands and UK on the use and implementation of track and trigger scores for recognising clinical deterioration for patients experiencing acute illness, which can be complex. Literature and experience show that the "professional gaze" is just as important in recognising clinical deterioration.

# **Content Outline:**

This presentation gives you reflections on the use and implementation of track and trigger scores for recognising clinical deterioration for patients experiencing acute illness from the Netherlands and the UK.

Therefore we will go back to the problem; suboptimal care. And tell about the given solutions. One of the solutions is the use of track and trigger scores which will be further explained. The track and trigger scores are used all over the world, despite the lack of evidence. Due to the fact that there are many different track and trigger scores and the research has taken place on a small population. And the fact that many track and trigger systems have a high sensitivity and a low specifity. Which will lead to patients with acute illness that are not recognised and patients who are not actually critically ill, which can lead to a higher workload for nurses (Gao, 2007, Mulligan, 2010).

To solve this problem we can adjust the track and trigger score to specify the score for our patient population. However experience and literature study show that the 'professional gaze' is just as important. We will explain which conditions are necessary for the use of the professional gaze and which conditions are necessary. On order to recognise the clinical deteriorating patient.

That is exactly what could be improved in the Netherlands as well. We argue that further research into how these strategies can jointly impact on patient outcome and the economic evaluation of the use and effectiveness of these tools is necessary.

First Primary Presenting Author

Primary Presenting Author

A. M. R. Angyal, RN Universitair Medisch Centrum Utrecht Registered Nurse Critical Care Utrecht Netherlands

**Author Summary:** Irina Angyal is a Registered Nurse and works in the Utrecht University Medical Hospital as an Intensive Care Nurse. Her enthusiasm about research can be seen in the fact that she is involved the nursing research working group and being a member of the scientific committees several times. She is delighted to tell you about here research about the use of track and trigger score.

Second Author Desiree Tait, DNSc, RN, NMC Bournemouth University Faculty of Human and Health Sciences Principle Academic Bournemouth United Kingdom

**Author Summary:** Desiree Tait is a principle academic in adult nursing at Bournemouth University. Desi has 35 years' experience in the practice, theory and education of adult acute critical and long term care nursing. Her doctoral research explored nurses' experience of recognizing and managing clinical deterioration in hospital settings and more recent studies have focused on supporting patients in their recovery after discharge from hospital.