

Maternity Early Warning System



Factsheet for project teams – capabilities

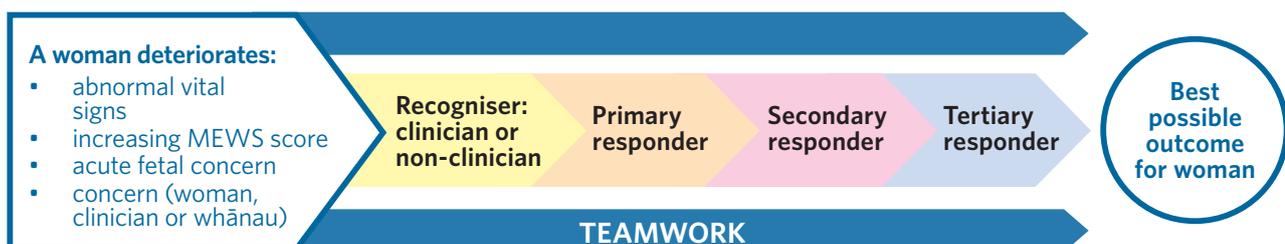
The Health Quality & Safety Commission recommends health organisations work with their clinical leaders to identify what education clinicians with different roles in their maternity early warning system (MEWS) need. This factsheet provides information and links to resources to help with this work.

For early warning systems to be effective, all the people involved must have the skills and knowledge needed at every step.

- **Women, families and whānau** must know how to ask for help if they are concerned.
- **All hospital staff** (such as ward clerks and orderlies) must know how to activate emergency systems.
- **Clinicians** (doctors, midwives, nurses and allied health staff) need appropriate assessment skills (including in giving vital signs and early warning scores) and the autonomy to make the appropriate responses and escalations as required. Both local and national guidelines, such as the New Zealand Ministry of Health's hypertension guideline¹ or the Society of Obstetric Medicine of Australia and New Zealand's sepsis guideline,² help inform clinical decision-making. When a woman's deterioration becomes more severe, she needs progressively more skilled clinicians to respond. Any clinician may have the relevant skills with appropriate education, expertise and support.

Roles in a recognition and response system (an early warning system)

The figure below illustrates the different roles in a recognition and response system. It is likely that many clinicians will play more than one role in the chain of recognising and responding to pregnant women who become acutely unwell (eg, the recogniser may also be the primary responder).





The clinician recogniser talks with the woman and her family and whānau; monitors the woman and, as appropriate, the condition of the fetus; assesses and interprets designated measurements, vital signs and information; adjusts the frequency of vital sign measurements; and decides whether additional monitoring activities are needed.



The non-clinician recogniser – such as the woman, her family or whānau, ward clerks or orderlies – ask for help when they are worried about acute changes in the woman’s condition.



The primary responder assesses and interprets vital sign measurements, undertakes further clinical assessment, identifies a potential diagnosis, communicates with the other clinicians who are responsible for the woman’s care, and initiates a management plan (such as starting IV therapy, providing treatment and determining the need for further investigations and criteria for review).



The secondary responder attends when a woman fails to respond to the primary intervention or continues to deteriorate. They assess the clinical effect of previous interventions, formulate a differential diagnosis, refine the management plan, initiate further treatment and investigation, and have the knowledge to recognise when to make an urgent referral to one or more senior specialists.



The tertiary responder attends when episodes of severe deterioration occur. A team of clinicians may fill this role, which involves appropriate advanced life-support skills and expertise in assessing and managing critical illness and multi-organ failure. Tertiary responders also require advanced skills in situational awareness, leading emergency teams and communicating in difficult situations (eg, breaking bad news).

Capabilities

Much of the knowledge, education and assessment skills clinicians need to safely care for pregnant women who clinically deteriorate overlaps considerably with the knowledge, education and assessment skills they need to look after any acutely unwell patient. For example, all clinicians are expected to be able to monitor, assess and interpret the woman's health and vital signs, and provide emergency interventions. Effective and empathetic communication with families and whānau is another important part of this skill set.

The list of resources below, although not comprehensive, provides a useful starting point to help health organisations and clinical educators consider what clinical competencies and capabilities people with different roles in their recognition and response system need.

- National Clinical Effectiveness Committee. 2014. *The Irish Maternity Early Warning System (IMEWS): National clinical guideline No. 4*. Dublin: Department of Health. URL: <http://health.gov.ie/wp-content/uploads/2015/01/National-Clinical-Guideline-No.-4-IMEWS-Nov2014.pdf> (accessed 10 February 2019).
- Agency for Healthcare Research and Quality. 2014. *TeamSTEPPS for Rapid Response Systems*. Rockville, MD: Agency for Healthcare Research and Quality. URL: www.ahrq.gov/teamstepps/rrs/instructor_slides/rrsinstructmod.html (accessed 10 February 2019). This resource outlines strategies for fostering effective teamwork.

The following are examples of resources describing capabilities required for tertiary responders.

- College of Intensive Care Medicine of Australia and New Zealand and Australian and New Zealand Intensive Care Society. 2016. *Joint Position Statement on Rapid Response Systems in Australia and New Zealand and the Roles of Intensive Care*. College of Intensive Care Medicine of Australia and New Zealand and Australian and New Zealand Intensive Care Society. URL: www.cicm.org.au/CICM_Media/CICMSite/CICM-Website/Resources/Professional%20Documents/IC-25-Joint-ANZICS-and-CICM-Rapid-Response-Systems-Position-Statement.pdf (accessed 10 February 2019).
- National Outreach Forum (United Kingdom). 2012. *Operational Standards and Competencies for Critical Care Outreach Services*. National Outreach Forum. URL: www.norf.org.uk/Resources/Documents/NOrF%20CCCO%20and%20standards/NOrF%20Operational%20Standards%20and%20Competencies%201%20August%202012.pdf (accessed 10 February 2019).

To effectively recognise acute deterioration and take appropriate action, clinicians need both technical or clinical (eg, clinical interventions such as intravenous line insertion or intubation) and non-technical (eg, situational awareness, communication and team leadership) skills and knowledge.^{3,4}

Table 1 lists the desirable non-technical skills for clinicians providing a response to acute deterioration. Many of these skills may also be desirable for clinicians primarily responsible for recognising acute deterioration and escalating care. Key non-technical skills for recognisers include:

- leadership skills that clinicians can use to speak up and act with confidence⁵
- communication skills such as graded assertiveness and being able to 'package' deterioration in medical language in order to get the necessary response from responders⁶
- skills in teamwork to prompt rapid action in crises.⁷

Table 1: Desirable non-technical skills for responders

Category	Element	Skill definition
Task management	Planning and preparation	Use available time to anticipate potential interventions
	Prioritising	Identify key issues and allocate attention accordingly. Avoid distractions from less important matters
	Maintaining standards	Follow good practice, checklists, treatment protocols
	Identifying and using resources	Establish what is required to complete the task (people, expertise, equipment, time). Match requirements with available personnel
Teamwork	Coordinating activities with the team	Actively maintain collaborative approach for both physical and cognitive activities
	Exchanging information	Give and receive knowledge and data needed to coordinate the team and complete the task
	Using authority and assertiveness	Lead team and escalate by grades if required
	Assessing capabilities	Observe behaviour of other team members, including how their performance changes with stress or fatigue
	Supporting others	Provide physical, cognitive or emotional help to other team members
Situational awareness	Gathering information	Actively collect data, monitor the whole environment and verify reliability of data
	Recognising and understanding	Identify potential mismatch between situation and expected state
	Anticipating	Ask 'what if' questions and predict effect of interventions
Decision-making	Identifying options	Generate alternative possibilities to solve identified problems
	Balancing risk and selecting options	Actively consider pros and cons of specific interventions and then make informed choice
	Re-evaluating	Continually review suitability of identified options and assess situation following implementation. Can change course when required

Source: Myers JA, Powell DMC, Psirides A, et al. 2016. Non-technical skills evaluation in the critical care air ambulance environment: introduction of an adapted rating instrument: an observational study. *Scandinavian Journal of Trauma, Resuscitation and Emergency Medicine* 24: 1–11. DOI: 10.1186/s13049-016-0216-5 (accessed 10 February 2019).

- 1 Ministry of Health. 2018. *Diagnosis and Treatment of Hypertension and Pre-eclampsia in Pregnancy in New Zealand: A clinical practice guideline*. Wellington: Ministry of Health.
- 2 Bowyer L, Robinson H, Barrett H, et al. 2017. SOMANZ guidelines for the investigation and management sepsis in pregnancy. *Australian and New Zealand Journal of Obstetrics and Gynaecology* 57(5): 540–51.
- 3 Massey D, Chaboyer W, Anderson V. 2017. What factors influence ward nurses' recognition of and response to patient deterioration? An integrative review of the literature. *Nursing* 4(1): 6–23.
- 4 Fletcher G, Flin E, McGeorge P, et al. 2003. Anaesthetists' non-technical skills (ANTS): evaluation of a behavioural marker system. *British Journal of Anaesthesia* 90(5): 580–8.
- 5 Hart P, Spiva L, Baio P, et al. 2014. Medical-surgical nurses' perceived self-confidence and leadership abilities as first responders in acute patient deterioration events. *Journal of Clinical Nursing* 23: 2769–78.
- 6 Andrews L, Waterman H. 2005. Packaging: a grounded theory of how to report physiological deterioration effectively. *Journal of Advanced Nursing* 52: 473–81.
- 7 Gazarian P, Henneman E, Chandler G. 2010. Nurse decision making in the prearrest period. *Clinical Nursing Research* 19: 21–37.