Maternity Early Warning System

Factsheet for senior clinicians and clinical leads

The Maternal Morbidity Working Group has identified opportunities to improve the quality and safety of systems for recognising and responding to signs of deterioration among pregnant, or recently pregnant (up to and including 42 days later), women in New Zealand hospitals. We need your support to successfully develop and implement the nationally standardised maternity vital signs chart (MVSC), along with a localised escalation and response system. This factsheet summarises key points you need to know about the maternity early warning system (MEWS).

Background

Internationally, and in New Zealand in recent years, maternal morbidity reviews are the vehicle to explore how the health system responds to pregnant or recently pregnant women with serious and acute conditions. Such reviews make it possible to explore system issues and identify opportunities for improvement. Two seminal papers report findings from maternal morbidity reviews in New Zealand: one from a single district health board[1] (DHB) and the other involving a review of cases from four selected DHBs.[2] Both studies found that a significant proportion of the reviewed cases of severe maternal morbidity were potentially preventable or required improvement in care delivery. In their reviews focused on sepsis, the Maternal Morbidity Working Group regional panels found that the severity was potentially avoidable in 50 percent of the cases where opportunities for earlier recognition and response to maternal deterioration may have made a difference.[3]

Scope

You should begin to use the MVSC for any pregnant woman, or recently pregnant (≤ 42 days) woman, who is assessed as needing or admitted requiring repeat vital signs. You should not use it for routine intrapartum care. In the rare circumstance that a woman is identified with pre-existing or emerging concerns during labour (eg, known cardiac condition or emerging sepsis), you may use it to supplement the partogram. Women who require intensive, high-dependency or immediate postoperative care do not require the MVSC. However, before these women are transferred to the ward area, the final vital signs should be charted on an MVSC with a plan to address any ongoing abnormalities in a set timeframe.

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What makes an effective early warning system?

Researchers broadly agree on the components necessary for effective recognition and response systems, and some jurisdictions have included these components in policy.[4,5] To be effective and sustainable, recognition and response systems must have underpinning structures for clinical leadership and governance, clinical and administrative resourcing, education, teamwork and communication, and measurement and evaluation.

Early warning systems set out a mandatory pathway for getting help from progressively more senior and more skilled responders as a woman's deterioration worsens. They prompt early intervention, prevent adverse outcomes and reduce severe maternal morbidities such as needing a blood transfusion, admission to an intensive care unit, and stroke. These systems also foster a clinical culture of routinely calling for help when needed.[6,7]

How you can support successful implementation and improvement

Effective recognition and response processes depend on underpinning structures for clinical governance. Clinical leaders with accountability for governance of the system will need to consider issues such as resourcing and sustainability, clinical communication and education, measurement and evaluation, and quality improvement. Essential to the success of this system will be your expertise on clinical governance groups and in clinical education programmes; in developing processes for data collection and analysis; and in leading or participating in projects to develop improvements to address clinical issues that the system may highlight.

Lead maternity carers are encouraged to work closely with the local maternity service clinical leads and governance in the early stages of establishing the site-specific escalation process. Their involvement is crucial to develop a responsive system and an understanding of the role of the lead maternity carer. Escalation pathways must be women-focused, respect midwives' autonomy and also identify when obstetric or other specialty input is needed.[8,9]

Understanding and role-modelling the escalation process in your local hospital(s) is important to enable clear communication and clear understanding of responsibilities for clinicians responding to acute deterioration. This is especially relevant in maternity services, where the differing philosophies of the clinical disciplines involved may contribute to different perceptions of clinical risk.

A MEWS is not only about effective maternity responses to deterioration. On some occasions, such as when a pregnant woman is admitted to an orthopaedic ward, a response requires a whole-of-hospital approach, needing to operate across specialty boundaries and at all times of day and all days of the week. Responses can highlight long-standing clinical issues that need to be addressed (eg, clinical education for junior clinicians or communication between disciplines, wards and departments, and clinical documentation practices). Visible, collaborative and ongoing clinical leadership is needed to ensure that recognition and response systems are adequately monitored, improved and functioning successfully.

Effectively implementing this system, so it improves outcomes for pregnant women in hospital, relies on achieving a culture of care where it is routine for midwives and junior clinicians to seek, and receive, timely advice from appropriately skilled responders. As a clinical lead, you need to provide visible and ongoing leadership to promote and support junior colleagues to escalate care and respond to calls to assess women who are deteriorating.

Senior clinicians, such as midwifery clinical managers or obstetrician/gynaecologists, who respond constructively to requests for assistance – and actively support and promote use of recognition and response processes – help to develop a positive culture that rewards teamwork

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and escalation of concerns about acutely unwell women. Conversely, senior clinicians who block or subvert recognition and response processes can discourage junior colleagues, midwives or doctors from calling for help and reduce compliance with systems designed for safer care for women.[10]

How the Health Quality & Safety Commission is supporting this work

The Commission is providing a package of resources, guidance and support to help project teams to improve your MEWS, or to implement a system if you do not currently have one in place. The package includes a standardised MVSC and early warning score, implementation support, guidance on developing appropriate localised escalation pathways, and advice about necessary structures for ongoing clinical governance of the maternity recognition and response system. Other support includes providing expert clinical advice, building quality improvement capability in your organisation, and developing appropriate measures and evaluation strategies. Factsheets and answers to frequently asked questions, as well as posters and stickers, are available as required.

1 Sadler LC, Austin DM, Masson VL, et al. 2013. Review of contributory factors in maternity admissions to intensive care at a New Zealand tertiary hospital. *American Journal of Obstetrics & Gynecology* 209(6): 549.e1–7.

2 Lawton B, MacDonald E, Brown S, et al. 2014. Preventability of severe acute maternal morbidity. *American Journal of Obstetrics & Gynecology* 210(6): 557.e1–6.

3 Maternal Morbidity Working Group. 2018. *Maternal Morbidity Working Group Annual Report 1 September 2016 to 31 August 2017.* Wellington: Health Quality & Safety Commission.

4 Australian Commission on Safety and Quality in Health Care. 2012. *National Safety and Quality Health Service Standards (2012).* Sydney: Australian Commission on Safety and Quality in Health Care.

5 National Clinical Effectiveness Committee. 2014. *The Irish Maternity Early Warning System (IMEWS) National Clinical Guideline No. 4.* Dublin: Department of Health.

6 Council on Patient Safety in Women's Health Care. 2017. Maternal early warning criteria. Washington: Council on Patient Safety in Women's Health Care.

7 Parfitt S, Bogat M, Hering S, et al. 2017. Sepsis in obstetrics clinical features and early warning tools. *American Journal of Maternal/Child Nursing* 42(4): 199–205.

8 Ministry of Health. 2012. *Guidelines for Consultation with Obstetric and Related Medical Services (Referral Guidelines).* Wellington: Ministry of Health.

9 Martin R. 2015. Midwives' experiences of using a modified early obstetric warning score (MEOWS): a grounded theory study. *Evidence Based Midwifery* 13: 59–65.

10 Banfield P, Roberts C. 2015. The early detection of maternal deterioration in pregnancy. The Health Foundation Inspiring Improvement.