Audit Title: Audit of compliance with the Irish Maternity Early Warning Score (I-MEWS) Clinical Practice Guideline (2013) in selected maternity hospitals/units.

Audit Number: QPSA 005/2014

Audit Timeframe: May – November 2014

Audit Team Members:
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- Suzanne Kirwan - Quality and Patient Safety Auditor

Audit Sponsor: Dr. Edwina Dunne – Director of Quality & Patient Safety Audit Services

Source of Evidence

<table>
<thead>
<tr>
<th>Locations</th>
<th>Date</th>
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<tbody>
<tr>
<td>The Coombe Women and Infants University Hospital</td>
<td>26 May and 18 July 2014</td>
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<tr>
<td>The Rotunda Hospital</td>
<td>27 May and 21 August 2014</td>
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<td>University Hospital Galway</td>
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<td>Cork University Maternity Hospital</td>
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<td>Cavan General Hospital</td>
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<td>South Tipperary General Hospital</td>
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Date of Issue of Final Report: 02/12/2014

1. Audit Background/Rationale

The Irish Maternity Early Warning Score (I-MEWS) was developed as part of the Health Service Executive (HSE) Clinical Strategy Programme’s plan for managing acutely ill patients in obstetrics and gynaecology. It is a nationally agreed system for the detection of critical illness in pregnancy and post natal periods. The I-MEWS Clinical Practice Guideline (endorsed by the Institute of Obstetricians and Gynaecologists) was introduced in April 2013 following a multidisciplinary education programme in 19 maternity hospitals/units.

Implementation of the I-MEWS Clinical Practice Guideline involves the use of a bedside track and trigger system by nursing/midwifery staff to record a full set of vital signs for pregnant women and those up to 42 days post natal. Vital signs are recorded for the patient from admission (baseline) and during hospital stay using an observation sheet. A trigger is recorded for each set of observations taken and an escalation of care guideline is initiated for the patient in the event of a yellow or red score (indication of critical illness). I-MEWS is not used during the labour stage of a pregnancy.

The aims of this audit were to determine the extent of compliance with the I-MEWS Clinical Practice Guideline (2013) for pre and post natal admissions in selected maternity hospitals/units, and to test if the use of I-MEWS triggered an escalation of care in cases of detected maternal septicaemia (DMS).
need for this audit was identified by the Quality and Patient Safety Division (QPSD) and a proposal was developed following consultation with a stakeholder group. This group supported the need to test compliance with the guideline and identified eight hospitals/units to be included in the audit.

2. AUDIT OBJECTIVES

1. To confirm if the vital signs such as temperature, pulse, respiration and blood pressure (TPR and BP) were appropriately recorded by nursing/midwifery staff on the I-MEWS observation sheet,

2. To confirm if the appropriate action (escalation of care) was taken by relevant staff in cases where TPR and BP recordings were not within accepted normal parameters, i.e., 1 yellow, 2 yellows or 1 red or > 2 yellow or ≥ 2 red triggers,

3. To confirm if I-MEWS was used as part of the healthcare record (HCR) and triggered a response for the escalation of care in cases of DMS,

4. To identify gaps in compliance with good practice and make suitable recommendations to address them.

3. SIGNIFICANT FINDINGS

The audit team can confirm that the I-MEWS Clinical Practice Guideline is operational in six of the seven hospitals included in the audit. The associated I-MEWS observation chart was found to be used in all HCRs reviewed at all six hospitals with one exception being the Rotunda hospital, which uses a locally developed Early Warning Score (EWS) policy and observation chart. While this local policy is similar to I-MEWS, in that it operates on a ‘traffic light’ system, there are many distinct differences for example, it does not score observations, the limits for vital signs (TPR and BP) are different in some cases and there are differences in the types of trigger and the required responses for escalation of care. Taking these variances into account, the audit team found a reasonable level of evidence that the vital signs (TPR and BP) were appropriately recorded at the Rotunda Hospital using the local EWS observation chart.

In relation to the six hospitals using the I-MEWS Clinical Practice Guideline, the audit team can give reasonable assurance that vital signs (TPR and BP) were appropriately recorded on the I-MEWS observation chart by nursing/midwifery staff. All observations reviewed were found to be consistently numerically recorded and dated. The main deficits in compliance identified by the audit team were in relation to initialling and scoring of observations. Compliance in relation to the consistent completion of accurate scores when taking sets of observations needs improvement.

Excluding the Rotunda, the audit team found deficits in all hospitals in relation to the completion of repeat observations within the recommended timeframes following a trigger. However, the majority of hospitals demonstrated a high level of compliance in relation to escalating the necessary clinical care in cases of red and multiple yellow triggers.

The audit team found that in the cases of DMS the escalation of care directly attributable to I-MEWS was positive where the escalation of care resulted from a trigger with the appropriate response required as per the I-MEWS guideline.

4. RECOMMENDATIONS

The I-MEWS Stakeholder Group must advise all maternity hospitals/units that:

1. Local training and education programmes must incorporate the importance of accurately recording the scores of all presenting triggers in the I-MEWS observation chart and that a corresponding entry must be recorded in the nursing notes of the HCR in the format of ‘I-MEWS=2Y’ etc in conjunction with recording any relevant actions.

2. All observations must be initialled and dated in all entries in the I-MEWS observation chart.

3. All nursing/midwifery staff must complete a full set of observations in the required timeframe when a trigger occurs, i.e., >30, <60, =30, =15 or continuous.

4. The implementation of the use of midwifery metrics must be considered locally in order to promote improvements in the delivery of safe, effective and person centred care.

A ward based self-assessment audit programme for I-MEWS must be introduced in all hospitals with results and findings made available to nursing/midwifery staff.
5. CONCLUSION

The audit team can give reasonable assurance that vital signs (TPR and BP) are appropriately recorded on the I-MEWS observation chart (excluding the Rotunda Hospital) by nursing/midwifery staff. Observations reviewed were found to be consistently numerically recorded and dated. The main deficits in compliance identified by the audit team were in relation to initialling and scoring of observations. In the case of the Rotunda Hospital there was clear evidence that the vital signs are appropriately recorded (i.e., numerically initialled and dated) using the local EWS guideline.

The audit team observed that some hospitals recorded a small number of I-MEWS scores with a corresponding entry in the nursing notes in the format of ‘I-MEWS = 2 Y’ etc. The audit team is of the view that this demonstrates good practice and should be incorporated into the national guideline and used consistently in all hospitals.

Deficits were found in all hospitals (excluding the Rotunda) in relation to the completion of repeat observations within the recommended timeframes following a trigger. However, the majority of hospitals demonstrated a high level of compliance in relation to escalating the necessary clinical care in cases of red and multiple yellow triggers.

The audit team acknowledge that the number of cases of DMS found was small and thus may not provide an accurate picture of the extent to which I-MEWS triggered an escalation of care. However, the team found reasonable evidence that the use of I-MEWS triggered the escalation of care in the cases of DMS reviewed.

The use of midwifery metrics in all maternity hospitals will promote improvements in the delivery of safe, effective and person centred care.

6. ACKNOWLEDGEMENT

The audit team wishes to acknowledge the cooperation, courtesy and openness afforded to them by the staff in all the hospitals involved in this audit and in particular the site liaisons. In addition, the audit team also recognises the considerable support from the Healthcare Pricing Office in providing the necessary HIPE data for this audit.