

I-MEWS: Danger signs should not be ignored

The design, implementation and evaluation of the **I-MEWS** system aims to ensure patient safety is central in the delivery of quality care

THE Irish Maternity Early Warning System (I-MEWS) is a nationally agreed system that was developed for the early detection of serious illness in pregnancy and the postnatal period.

The system was developed for the acutely ill patient in obstetrics as part of the Health Service Executive's Clinical Strategy and Programme Division's strategic plans and is to be used for all pregnant women from confirmation of a clinical pregnancy and up to 42 days postnatally, and to complement clinical care.

I-MEWS was a collaborative project between the Office of the Nursing and Midwifery Services Director and the National Clinical Care Programmes in anaesthetics, critical care, and obstetrics and gynaecology.

The use of an early warning system has been recommended by several reports, including: the Confidential Enquiries into Maternal and Child Health (CEMACH); the Saving Mothers Lives 2007 report; and more recently, the Irish Centre for Maternal and Child Enquiries (CMACE) 2011, following a review of maternal deaths in 2006-2008.

What exactly is I-MEWS?

I-MEWS is not designed to replace clinical judgement – clinical concern about an individual woman should trigger a call to medical staff irrespective of the I-MEWS. The timing of clinical observations will depend on the woman's clinical circumstances.

The design, implementation and evaluation of a national I-MEWS observation chart aims to ensure patient safety is central in the delivery of quality care. One of the key objectives of I-MEWS was getting the basics right for multidisciplinary teams in the taking and recording of maternal observations for the early detection and appropriate timely clinical management.

The national standardised I-MEWS



Pictured were the I-MEWS Lead Midwives (back row L-R): Andrea McGrail; Mary O'Reilly; Fidelma McSweeney; Lucille Sheehy; Anne Flynn; Evelyn Smith; Olive Long; Eileen Quinlan; and Mary Reilly (front row L-R): Dolores Booth; Marcela O'Connor; Margaret Coohil; Marie Walsh; and Deirdre Naughton. Missing from the photo but also I-MEWS lead midwives: Helen McLoughlin; Marie Corbett; Maureen Kington; Miriam Kelly; Juliana Henry; and Fiona Lawlor

observation chart, a multidisciplinary training programme supported by a national clinical practice guideline, ensures that all multidisciplinary teams will use the same documentation wherever they are employed in maternity services across the country. This in turn will reduce the risk of errors and the need for additional training. It will provide a clear, agreed communication strategy for the appropriate and timely referral and management of all maternity patients.

Multidisciplinary implementation boards in the maternity units, enabled by a lead midwife, are responsible for the ongoing co-ordination, audit and requirements associated with all aspects of I-MEWS. This agreed structure ensures that I-MEWS will be embedded in each maternity unit with local



Pictured were I-MEWS design team members: (back row l-r) Sheila Sugrue; Brian Lee; Mary Doyle; Prof Michael Turner; Una Carr; Ina Crowley; and Eilish Croke; (front row l-r) Anna O'Connor; Triona Cowman; and Marie Horgan. Missing from the photo are Dr Paula Connolly and Mikey O'Brien

ownership by multidisciplinary teams.

The ongoing sustainability and monitoring of I-MEWS is now co-ordinated nationally by a senior multidisciplinary team in the HSE in conjunction with Prof Michael Turner, clinical lead for the National Clinical Care Programme in Obstetrics and Gynaecology.

Validation of I-MEWS will culminate in a plan of audit and evaluation aligned to I-MEWS key performance indicators one year post implementation.

An I-MEWS patient information leaflet was also developed and is accessible along with the I-MEWS observation chart and clinical practice guidelines at: www.hse.ie/eng/about/Who/clinical/natclinprog/obsand-gynaeprograme/imews/

A free smartphone app of I-MEWS is also available on this website.

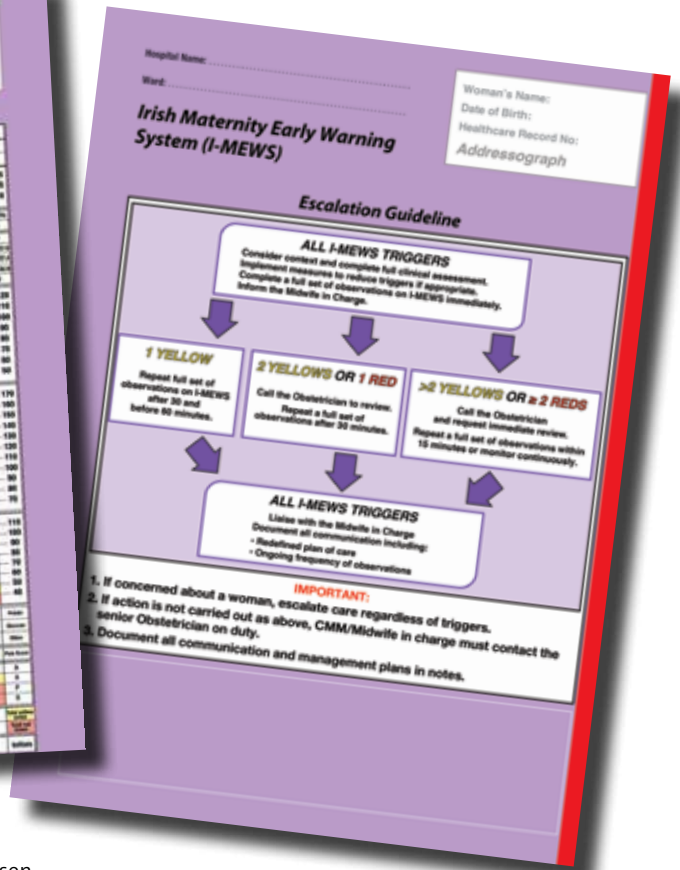
I-MEWS and all its associated material is the first national standardised early warning system for maternity care in the world and is now endorsed by the Institute of Obstetricians and Gynaecologists, RCPI and the Clinical Strategy and Programme Division HSE.

Fundamental to the successful implementation of I-MEWS was a strong multidisciplinary approach in the design, face to face consultation, redesign implementation and evaluation stages of the project.

The collegiate work of the ten multidisciplinary members of the I-MEWS design team, the eight multidisciplinary members of the I-MEWS reference group (in conjunction with the nineteen lead midwives and the multi-disciplinary implementation boards in each maternity unit) was key to the success of this project.

'The Introduction of a National Maternity Early Warning System in Ireland (I-MEWS):

The chart is a grid with columns for 'Hour' (00-23) and rows for 'Vital Signs' (Temp, HR, RR, SpO2, BP) and 'Clinical Observations' (CNS, Resp, Circ, Gen). It includes a header for patient information and checkboxes for 'Booking ST' and 'Discharge of Booking'.



Improving Women's Health' has been accepted for oral presentation at the forthcoming 30th International Confederation of Midwives in Prague in June 2014.

This centre-page pull out includes the I-MEWS Observation chart and the I-MEWS Escalation Guideline. Featured below is the patient information leaflet from the HSE that explains the I-MEWS system. It reminds patients that both they and their families play a vital role in their care and encourages them to ask questions. Patients who are more

involved in their health-care often experience better and safer care with improved quality of life afterwards.

This leaflet was produced as a recommendation of a patient working group on ways to promote improved safety in patient care and to empower patients to take greater control over their health and well-being while in hospitals in Ireland. The HSE is calling on patients to get involved in projects such as these to improve health services in Ireland.



Woman's Name:

Date of Birth:

Healthcare Record No:

Addressograph

Document Number
(eg. 1, 2):

Booking BP:

Gestation at
Booking:

weeks

Contact appropriate doctor for early intervention if the woman triggers one **RED** or two **YELLOW** zones at any one time

Year:	Date :													
	Time :													
Resp. Rate per min	≥25	[Red Zone]												≥25
	≥20	[Yellow Zone]												≥20
	≤10	[Red Zone]												≤10
SpO ₂ only if resp rate triggers	96-100%	[Red Zone]												96-100%
	≤95%	[Red Zone]												≤95%
Temp °C	≥38.0	[Red Zone]												≥38.0
	37.5-37.9	[Yellow Zone]												37.5-37.9
	36.0-37.4	[Yellow Zone]												36.0-37.4
	35.1-35.9	[Yellow Zone]												35.1-35.9
	≤35.0	[Red Zone]												≤35.0
Maternal Heart Rate	120	[Red Zone]												120
	110	[Yellow Zone]												110
	100	[Yellow Zone]												100
	90	[Yellow Zone]												90
	80	[Yellow Zone]												80
	70	[Yellow Zone]												70
	60	[Yellow Zone]												60
	50	[Red Zone]												50
Systolic Blood Pressure	170	[Red Zone]												170
	160	[Red Zone]												160
	150	[Yellow Zone]												150
	140	[Yellow Zone]												140
	130	[Yellow Zone]												130
	120	[Yellow Zone]												120
	110	[Yellow Zone]												110
	100	[Yellow Zone]												100
	90	[Yellow Zone]												90
	70	[Red Zone]												70
Diastolic Blood Pressure	110	[Red Zone]												110
	100	[Red Zone]												100
	90	[Yellow Zone]												90
	80	[Yellow Zone]												80
	70	[Yellow Zone]												70
	60	[Yellow Zone]												60
	50	[Yellow Zone]												50
	40	[Red Zone]												40
Urine	Protein	[Red Zone]												Protein
	Glucose	[Red Zone]												Glucose
	Other	[Red Zone]												Other
Pain Score 0-10												Pain Score		
AVPU Neuro Response	Alert (A)	[Red Zone]												A
	Voice (V)	[Yellow Zone]												V
	Pain (P)	[Red Zone]												P
	Unresponsive (U)	[Red Zone]												U
Total Yellow Zones												Total yellow zones		
Total Red Zones												Total red zones		
Initials												Initials		

Hospital Name:

Ward:

Woman's Name:

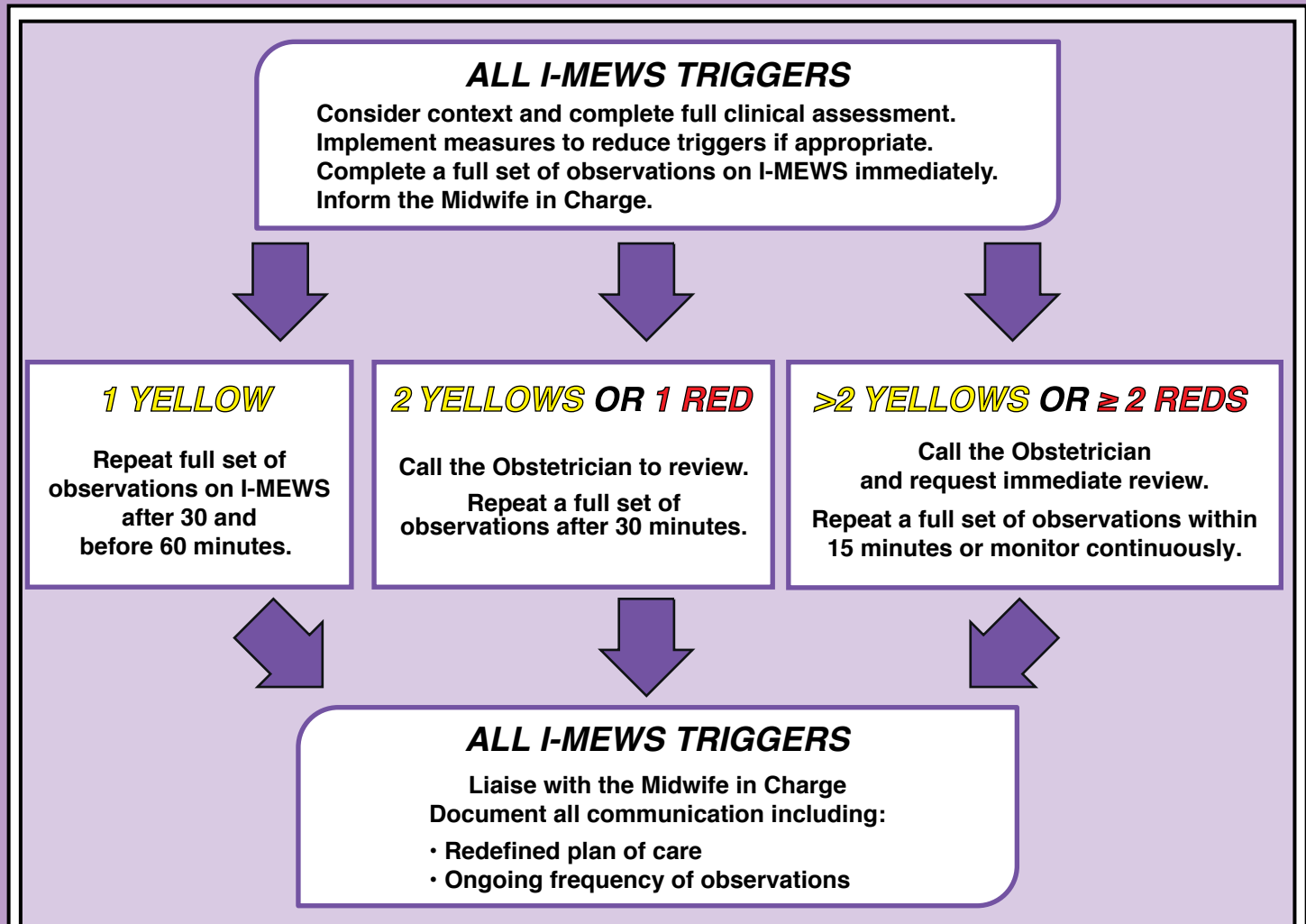
Date of Birth:

Healthcare Record No:

Addressograph

Irish Maternity Early Warning System (I-MEWS)

Escalation Guideline



IMPORTANT:

1. If concerned about a woman, escalate care regardless of triggers.
2. If action is not carried out as above, CMM/Midwife in charge must contact the senior Obstetrician on duty.
3. Document all communication and management plans in notes.