Severe Maternal Morbidity & Major Obstetric Haemorrhage Audit

Clinical Reference Manaual

NATIONAL PERINATAL EPIDEMIOLOGY CENTRE

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Severe Maternal Morbidity
&
Major Obstetric Haemorrhage Audit

Clinical Reference Manual

Queries to

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Please return all completed forms to the above addressee at:

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Contents

SEVERE MATERNAL MORBIDITY (SMM) AUDIT

Background

In recent decades, severe maternal morbidity (SMM) has been acknowledged internationally as an important indicator of quality of maternal care and welfare, particularly in developed countries where maternal death rates are relatively low. In this context, the NPEC in collaboration with the NPEC Severe Maternal Morbidity Advisory Group has collected and analysed data on SMM from Irish maternity units since 2011. The fundamental aim of the audit is to provide a national review of clearly defined SMMs, to identify quality improvement initiatives and make recommendations for the improvement of maternal care for women in Ireland.

To allow for international comparison, the NPEC adapted the validated methodology of the Scottish Confidential Audit of Severe Maternal Morbidity (SCASMM) to evaluate severe maternal morbidity (SMM) in Ireland. This methodology utilises organ dysfunction criteria described by Mantel et al,[1] with modifications used by SCASMM to include intervention- based criteria.[2] Implemented nationally in 2011, this data collection tool, adapted for the Irish setting, has been endorsed by the Clinical Advisory Group at the Institute of Obstetrics and Gynaecology and the HSE National Obstetric Programme Working Group.

Inclusion criteria for the SMM audit

All pregnant or recently pregnant women (up to and including 42 days following delivery, miscarriage, ectopic pregnancy or termination of pregnancy) who experienced a SMM as defined in this audit.

Reportable morbidities

In this audit there are fourteen, clearly defined, organ dysfunction morbidities: major obstetric haemorrhage (MOH), uterine rupture, eclampsia, renal or liver dysfunction, pulmonary oedema, acute respiratory dysfunction, pulmonary embolism, cardiac arrest, coma, cerebrovascular event, status epilepticus, septicaemic shock, anaesthetic complications and maternities involving peripartum hysterectomy.

To allow for direct comparison with the SCASMM, two management proxies for maternal morbidity - ICU/CCU admission and interventional radiology - are also included. Definitions for all reportable SMM events detailed in (Appendix A).

Please ensure reported SMM events meet the defined criteria as outlined in Appendix A

e.g. Category 4, Eclampsia: is defined as: ''Seizure associated with antepartum, intrapartum or postpartum symptoms and signs of pre-eclampsia''. This definition does NOT include cases of severe PET without seizures or epileptic seizures.

Category 7, Acute respiratory Dysfunction: is defined as ''Requiring intubation or ventilation for >60 minutes (not including duration of general anaesthetic)''. This definition does NOT include cases of respiratory dysfunction which does not require mechanical ventilation in the management of the woman e.g. Pneumonia treated with oxygen therapy via facial mask. Such cases may be reported under the category of 'other severe morbidity'.

[1] Mantel G et al. Severe Acute maternal morbidity: a pilot study of a definition for a near-miss. BJOG 1998; 105: 985-90

2 Scottish Confidential Audit of Severe Maternal Morbidity: 10th Annual Report (2014). Available from:http://www.healthcareimprovementscotland.org/our_work/reproductive,_maternal__child/programme_resources/scasmm.aspx

'Other' severe morbidity category

The 'other' severe morbidity category is included in this audit to explore whether further specific morbidities warrant inclusion in the NPEC sever maternal morbidity audit. Examples of relevant conditions (not an exhaustive list) are detailed in the list below.

'Other' Morbidities due to other 'direct' obstetric complications, e.g.: amniotic fluid embolism, ovarian hyper stimulation syndrome.

'Other' Morbidities due to unanticipated complications of management, e.g.: bladder injury, renal failure, other complication

'Other' Morbidities due non-obstetric complications (indirect causes), e.g.: Sickle cell crisis, Diabetic Ketoacidosis, Respiratory dysfunction NOT requiring ventilation (e.g. Exacerbation of Asthma, Pneumonia), surgical procedure in pregnancy (e.g. bowel surgery).

Data submission

- It is recommended that cases be submitted to the NPEC on a monthly basis, if at all possible.

Relevant audit data can be submitted online via the NPEC secure database called Castor EDC or alternatively in paper format. The audit database in Castor EDC follows the same structure as the paper-based audit form.
An operational manual for Castor EDC is available on the NPEC website.

Calculating Severe Maternal Morbidity (SMM) Rates for individual units

Severe Maternal Morbidity cases are included in a maternity unit's rate if the woman was delivered in that maternity unit. If a woman experiencing a SMM is transferred to another unit following delivery, (or is admitted during the post-natal period to another maternity unit), the SMM should be reported by the maternity unit where the delivery took place. The NPEC can assist in communications between unit co-ordinators if required/requested. This will help validate complete case ascertainment at national level.

Guidance for completion of SMM audit dataset

Questions within the SMM audit dataset are divided into 6 short sections on the online database and follows the same structure as the paper-based audit dataset. Most questions are self-explanatory, but the following notes give guidance to specific questions within the sections.

Section 2: Woman's details.

Booking: Some data sought by the NPEC relate to the time of booking. Booking in this regard relates to the mother's first antenatal visit at the maternity unit.

Parity: The NPEC refer to parity prior to the current pregnancy or most recent pregnancy if delivered.

- Question 2.5 The number of completed pregnancies, whether live birth or stillbirth, of at least 24 weeks gestation or with a birthweight ≥500g.
- Question 2.6 Number of pregnancy losses (less than 24 weeks of gestation)

Inter hospital transfer:

- Question 2.15 and 2.16: If the woman was transferred FROM or TO another hospital, please indicate the timing of pregnancy in relation to the pregnancy status:
  - ✓ Woman transferred with fetus in utero.
  - ✓ Woman transferred following delivery of baby.

Section 3: Obstetric history / current pregnancy

Definitions of early pregnancy loss:

Early miscarriage. The spontaneous expulsion of a fetus from the womb before 13 weeks gestation.

Termination of pregnancy. The medical or surgical termination of pregnancy with the expected outcome of fetal or early neonatal death, in either of the following events:

(a) In the interest of the maternal health
(b) Fatal fetal malformation

Ectopic pregnancy

An extra uterine pregnancy which occurs when a fertilized egg implants and grows outside the main cavity of the uterus, most commonly in the fallopian tube.

Section 5: Neonatal outcome

Definitions of Neonatal Outcomes

Late miscarriage: The spontaneous expulsion of a fetus from the womb between 13 weeks to 24 weeks of gestation.

Stillbirth: Baby delivered without signs of life from 24 weeks gestation or with a birthweight ≥500g.3

Live birth: Live birth refers to the complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of the pregnancy, which, after such separation, breathes or shows any other evidence of life - e.g. beating of the heart, pulsation of the umbilical cord or definite movement of voluntary muscles - whether or not the umbilical cord has been cut or the placenta is attached. Each product of such a birth is considered live born.[4]

Early neonatal death: Death of a live born baby occurring within 7 completed days of birth.

Late neonatal death: Death of a live born infant occurring after the 7th day and within 28 days of birth.

[3] Stillbirths Registration Act, 1994.
[4] World Health Organisation. Available at: http://www.who.int/healthinfo/statistics/indmaternalmortality/en/

Section 6: Location and Level of Care

Question 6.2. Level of Care. Within the term' critical care', care is subdivided into four levels, dependent on organ support and the level of monitoring required independent of clinical diagnosis. [5] Please indicate the HIGHEST level of care during the SMM clinical event. Examples of Level of Care are outlined in Appendix B.

Level of care	Definition	Please tick one box
Level 0: **Normal ward care**	Care of low risk pregnant women	
Level 1: **Additional monitoring or intervention, or step down from higher level of care**	Patients at risk of their condition deteriorating and needing a higher level of observation or those recently relocated from higher levels of care	
Level 2: **Single Organ Support****	Patients requiring invasive monitoring/ intervention* including support for a single failing organ system (excluding advanced respiratory support).	
Level 3: **Advanced respiratory support alone, or support of two or more organ systems****	Patients requiring advanced respiratory support (mechanical ventilation) alone or basic respiratory support along with support of at least one additional organ.	

*** invasive monitoring/intervention includes the use of arterial and CVP lines**

Question 6.3: What was the antenatal care pathway assigned to this woman prior to the SMM event?
This refers to the pathway of care based on the National Maternity Strategy Model of Care (Appendix C).
Please indicate the care pathway **PRIOR** to the SMM event (please note once a woman experiences one or more SMM, her pathway of care will be escalated to medium or high risk.
The Model of Care is made up of three care pathways, outlined below:

- Supported Care Pathway; Midwifery led and delivered care.
- Assisted Care Pathway; Obstetric led, Midwifery and Obstetric delivered care.
- Specialised Care Pathway; Obstetric led, Obstetric and Midwifery delivered care

[5] Clinical Practice Guideline No 30 (2014). Guideline for the Critically ill Woman in Obstetrics: Institute of Obstetricians and Gynaecologists, Royal College of Physicians of Ireland and Directorate of Strategy and Clinical Programmes, Health Service Executive

Section 7: Maternal Morbidity Category

Question 7.1. Please indicate all SMM experienced by the woman in the current / most recent pregnancy. Definitions of reportable morbidities are outlined in Appendix A. Please note more than one SMM in the pregnancy may apply to a woman and should be reported on one SMM notification form.

In the event of a Major Obstetric Haemorrhage: please indicate the criteria met for the MOH.

Question 7.12. ☐ Estimated Blood Loss ≥ 2,500mls.

Question 7.13. ☐ Transfused with ≥ 5 units of blood.

Question 7.14. Please state if the woman received treatment for coagulopathy (Fresh Frozen Plasma; Fibrinogen Concentrate Substitution Therapy; Platelets). ☐ Yes ☐ No

The NPEC kindly request you complete the detailed MOH audit dataset.

If reporting a case involving Peripartum hysterectomy (PH) :

Question 7.16. Please specify the indication for PH and
Question 7.17. Was this a planned elective PH surgery (i.e. planned PH prior to delivery)
Question 7.18. Place of surgery – please identify name of hospital where surgery was carried out (e.g other maternity unit OR other general hospital).

In the event of an ICU/CCU admission

Question 7.19. Please indicate the indication for admission to ICU/CCU
Question 7.10. Please state duration of ICU care in days/ part days (e.g 1.5 days)

THANK YOU FOR COMPLETING THIS SMM AUDIT DATASET.
YOUR CONTRIBUTION IS GREATLY APPRECIATED AND VALUED.

MAJOR OBSTETRIC HAEMORRHAGE (MOH) AUDIT

Background

In Ireland, increasing trends in Post-Partum Haemorrhage (PPH) and blood transfusion following childbirth have been identified over the last two decades. [6], [7]. This phenomenon is not unique to Ireland and remains a challenge for service providers and clinical staff internationally.[8]
Since the inception of the NPEC SMM audit in 2011, MOH remains the single largest contributing morbidity, accounting for 55% of all reported SMM cases in 2018. During the years 2011 – 2018, there has been a 54% increase in MOH, from 2.4 to 3.7 per 1,000 deliveries, which is statistically significant.[9] Further, the SMM audit has identified variances in MOH rates across maternity units.

In collaboration with the Maternal Morbidity Advisory Group, the NPEC conducted a detailed audit on MOH for the years 2011-2013. This provided valuable data on the management of MOH. SMM reports (2011-2013) containing MOH audit findings and are available on the NPEC website at https://www.ucc.ie/en/npec/npec-clinical-audits.

In the context of increasing MOH rates and in response to recommendations in recent NPEC reports, the NPEC is re - evaluating this morbidity and is implementing a national **detailed case assessment audit of MOH commencing January 2021.** The MOH audit tool is a validated data collection tool originally designed for the Scottish Confidential Audit of Severe Maternal Morbidity.[10] The form was adapted for the Irish setting and has been refined since the 2011-2013 MOH audit.

Objectives of this audit are:

- ✓ Identify the main causes of MOH
- ✓ To evaluate epidemiological and risk factors in women experiencing MOH
- ✓ To identify current clinical practice in the management of MOH including: blood transfusion, resuscitation, monitoring and methods used to arrest obstetric bleeding (uterotonic agents and haemostatic surgical procedures)
- ✓ To identify timeline information for treatment response in the management of MOH.
- ✓ To assess multidisciplinary communication and quality of documentation during a MOH event

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[6] Lutomski JE, Byrne BM, Devane D, Greene RA. Increasing trends in atonic postpartum haemorrhage in Ireland: an 11-year population-based cohort study. BJOG An Int J Obstet Gynaecol 2012;119(3):306–14. [9] Produced on behalf of the reproductive health program

[7] Greene RA, McKernan J, Manning E, Corcoran P, Byrne B, Cooley S, et al. Major obstetric haemorrhage: Incidence, management and quality of care in Irish maternity units. European Journal of Obstetrics and Gynecology and Reproductive Biology. 2021;257:114-20.

[8] Flood M, McDonald SJ, Pollock W, Cullinane F, Davey M. Incidence, trends and severity of primary postpartum haemorrhage in Australia: a population-based study using Victorian perinatal data collection data for 764 244 births. Aust New Zeal J Obstet Gynaecol [Internet] 2019;59(2)228–34, doi:http://dx.doi. org/10.1111/ajo.12826 Apr 22 [cited 2020 Nov 23]

[9] Leitao S, Manning E, Corcoran P, Campillo I, Cutliffe A, Greene RA, et al. Severe maternal morbidity in Ireland annual report 2018. Cork: National Perinatal Epidemiology Centre; 2020 Leitao S., Manning E., Corcoran 2020. Severe Maternal Morbidity in Ireland Annual Report 2018. 2020.

[10] Scottish Confidential Audit of Severe Maternal Morbidity: 10th Annual Report (2014). Available from:http://www. healthcareimprovementscotland.org/our_work/reproductive,_maternal__child/programme_resources/scasmm.aspx

Defining Major Obstetric Haemorrhage (MOH)

For the purpose of this audit, a MOH is defined as a woman experiencing an estimated blood loss (EBL) ≥ 2500ml and/or transfused 5 or more units of blood.

Inclusion criteria for the MOH audit

All pregnant or recently pregnant women (up to and including 42 days following delivery, miscarriage, ectopic pregnancy or termination of pregnancy) who experienced a MOH.

Women are identified from the NPEC audit on severe maternal morbidity (SMM).

Data submission

- It is recommended that cases be submitted to the NPEC on a monthly bases, if at all possible.
- Relevant audit data can be submitted online via the NPEC secure data base called Castor EDC or alternatively in paper format. The online audit database in Castor EDC follows the same structure as the paper-based audit form. The NPEC kindly request that a SMM audit form be completed as well as a MOH audit database.

Submission: Online via Castor EDC

- Access to the online MOH audit dataset will automatically be generated for a case once a MOH is reported on the SMM notification dataset. A specific user manual for the NPEC Castor EDC database is available on the website and on request.

Submission: Paper format

- A Severe Maternal Morbidity notification form should be submitted with the MOH audit form

General guidance for completion the MOH audit dataset

- The MOH audit dataset is divided into 18 short sections (from section 9 to 26). This follows on from sections on the SMM notification dataset.
- Please complete the MOH audit dataset using available information in the maternity case notes and laboratory reports.
- Please do not enter any personally identifiable information (e.g. name, address, or hospital number) in the NPEC Castor online database or the paper audit form.
- A record of the Castor EDC number (number automatically generated in the NPEC online data base) and the woman's hospital ID number should be kept locally in a confidential file to facilitate any queries if necessary.
- Please complete all dates in the format DD/MM/YY; and all times using the 24hr clock e.g. 17.45
- 'Not known' codes should be used as sparingly as possible.

Guidance for completion of specific questions within sections

Most questions are self-explanatory, but the following notes give guidance to specific questions within sections of the MOH audit dataset.

Section 9: Woman's information.

Questions relates to timing of the MOH event. Data on maternal demographics are captured on the SMM notification form.

Section 10: Labour and delivery

Details on mode of labour and delivery will have been captured in the SMM audit dataset. Based on this data, relevant information on induction of labour, augmentation of labour and indication for caesarean section (if applicable) are requested.

Section 11: MOH - Blood Loss

Question 11.11. Please identify the primary cause of haemorrhage (only one primary cause applies).
Question 11.12. Please identify any other associated cause/s (there may be one or more) of haemorrhage. e.g. Primary cause was morbidly adherent placenta and the associated cause was uterine atony.

Section 12: Estimating Blood Loss (EBL)

Please indicate the technique used to measure blood loss: visual and/or quantitative measurement of blood.

Section 13: Prophylaxis

This section refers to the prophylactic use of uterotonic agent to prevent PPH.
A list of uterotonic agents are provided.
Question 13.12. Please indicate date and time a drug was given.

Section 14: Risk of haemorrhage and planning for delivery

Please identify any risk factors for PPH identified in previous pregnancies and the current pregnancy.
Question 14.7.3. If a risk factor for PPH was identified during the antenatal period, was an 'action plan' for delivery recorded and if so was the 'action plan' followed?

Section 15: Communication

A list of health care professionals is provided. Please indicate which specialists were present or informed of the woman's condition/care during the MOH event.

Section 16, 17 and 18: Resuscitation, Fluid resuscitation and Blood products.

Please identify methods used for resuscitation, intravenous fluid resuscitation (excluding fluid loading for anaesthetic) and any blood products administered. If a blood transfusion was given, please state the total number of units transfused and the 'start time' of blood transfusion.

Section 19: Blood tests & Section 20: Monitoring

Please specify blood test performed and methods used for maternal monitoring during the MOH event.

Section 21: Stop the bleeding

A list of uterotonic agents are listed that may have been used to 'stop the bleeding' during the MOH event. (Please note this does not include the prophylactic use of uterotonic agent/s to prevent PPH). Please indicate date / time a drug was given. If more than one uterotonic agent was used to 'stop the bleeding' during the MOH event, please provide order the drugs were given.

Section 22: Manual steps to stop the bleeding & Section 23: Surgical procedures to stop the bleeding

In sections 22 and 23 a list of manual and surgical interventions to 'stop bleeding' are provided. If applicable, please state the time the haemostatic procedure was performed. This will identify the order in which interventions are carried out and allow audit analysis to compare findings with recommendations in national guidelines on the management of PPH.
You are also asked to report the estimated blood loss (EBL) at time of manual / surgical procedure. This will provide timeline information in the escalating management of obstetric haemorrhage. The NPEC kindly request that these important data points are completed (if recorded in the clinical notes).

Section 24: Interventional Radiology (IR)

IR may not be available in the reporting unit or not considered as inappropriate for the case. Please complete questions as applicable.

Section 25: Quality of Care

This section examines aspects of quality of care in respect to hospital protocols and risk management.

Question 25.3. Following the question 'What category does the management of this case fall into', please specify how this view/ assessment was reached i.e, risk management meeting, clinical case presentation or your own opinion.

Section 26: Clinical records and documentation

Question 26.3. Obstetric haemorrhage proforma refers to a specific proforma designed to capture data on the care management during an obstetric haemorrhage event., (including use of uterotonic drugs, resuscitation methods, haemostatic procedures and communication between the multidisciplinary team). An example of an obstetric haemorrhage is shown in Appendix D).

Question 26.4. A scribe refers to a designated personnel tasked to document timing of interventions performed during management of the MOH event.

Question 26.6. Lessons to be learnt please outline any lessons learnt during the care of this woman that may inform future practice. This includes examples of good practice.
Please note this confidential audit is anonymised and any information written cannot be directly linked back to the woman and is not shared with any other agency.

THANK YOU FOR COMPLETING THIS MOH AUDIT DATASET. YOUR CONTRIBUTION IS GREATLY APPRECIATED AND VALUED

Appendix A: Definitions of Severe Maternal Morbidity

Severe Maternal Morbidity Definitions		
1	Major obstetric haemorrhage	Estimated blood loss ≥ 2500ml and/or transfused 5 or more units of blood. **Also includes miscarriage, ectopic pregnancy or termination of pregnancy meeting these criteria.** (Please record as well whether treatment for coagulopathy was received).
2	Uterine rupture	A complete separation of the wall of the pregnant uterus, with or without expulsion of the fetus, involving rupture of membranes at the site of the uterine rupture or extension into uterine muscle separate from any previous scar, and endangering the life of the mother or fetus. Excluded: any asymptomatic palpable or visualised defect (e.g. dehiscence noted incidentally at caesarean delivery)
3	Peripartum hysterectomy	Peripartum hysterectomy
4	Eclampsia	Seizure associated with antepartum, intrapartum or postpartum symptoms and signs of pre-eclampsia
5	Renal or liver dysfunction	Acute onset of biochemical disturbance, urea >15mmol/l, creatinine>400mmol/l, AST/ALT >200u/l
6	Pulmonary oedema	Clinically diagnosed pulmonary oedema associated with acute breathlessness and O_2 saturation <95%, requiring O_2, diuretics or ventilation
7	Acute respiratory dysfunction	Requiring intubation or ventilation for >60 minutes (not including duration of general anaesthetic)
8	Pulmonary embolism	Increased respiratory rate (>20/min), tachycardia, hypotension. Diagnosed as “high” probability on V/Q scan or positive spiral chest CT scan. Treated by heparin, thrombolysis or embolectomy
9	Cardiac arrest	No detectable major pulse
10	Coma	Including diabetic coma. Unconscious for >12 hours
11	Cerebro-vascular event	Stroke, cerebral/cerebellar haemorrhage or infarction, subarachnoid haemorrhage, dural venous sinus thrombosis
12	Status epilepticus	Constant or near constant state of having seizures that last 30mins or more
13	Septicaemic shock	Sepsis induced tissue hypoperfusion or hypotension persisting after resuscitation with 30mls/kg intravenous isotonic crystalloid fluid as evidenced by: – Systolic blood pressure < 90 mmHg or MAP < 65 mmHg – Decrease in systolic blood pressure by 40mmHg from baseline and/or – Lactate > 4 mmol/l.
14	Anaesthetic problem	Aspiration, failed intubation, high spinal or epidural anaesthetic
15	ICU/CCU admission	Unit equipped to ventilate adults. Admission for one of the above problems or for any other reason. Includes CCU admissions
16	Other severe morbidity	Other severe morbidity, e.g. amniotic fluid embolism
17	Interventional radiology	Received planned (a) or unplanned (b) interventional radiology

Appendix B: Defining Level of Care

Levels of care

National and International guidelines have recommended that the terms high dependency and intensive care be replaced by the term critical care. [11] Within the term critical care, care is subdivided into four levels, dependent on organ support and the level of monitoring required independent of clinical diagnosis

Level of care	Definition	Please tick one box
Level 0: Normal ward care	Care of low risk pregnant women	
Level 1: Additional monitoring or intervention, or step down from higher level of care	Patients at risk of their condition deteriorating and needing a higher level of observation or those recently relocated from higher levels of care	
Level 2: Single Organ Support**	Patients requiring invasive monitoring/ intervention* including support for a single failing organ system (excluding advanced respiratory support).	
Level 3: Advanced respiratory support alone, or support of two or more organ systems**	Patients requiring advanced respiratory support (mechanical ventilation) alone or basic respiratory support along with support of at least one additional organ.	

*** invasive monitoring/intervention includes the use of arterial and CVP lines**

****Examples of level 2 and 3 care in the critically ill pregnant or recently pregnant woman are outlined below**

Level 2 examples

Basic Respiratory Support (BRS): 50% or more oxygen via face-mask to maintain oxygen saturation; Continuous Positive Airway Pressure (CPAP), Bi-Level Positive Airway Pressure (BIPAP)

Basic Cardiovascular Support (BCVS): Intravenous anti-hypertensive, to control blood pressure in pre-eclampsia; Arterial line used for pressure monitoring or sampling; CVP line used for fluid management and CVP monitoring to guide therapy

Advanced Cardiovascular Support (ACVS): Simultaneous use of at least two intravenous, anti-arrhythmic/anti-hypertensive/vasoactive drugs, one of which must be a vasoactive drug; Need to measure and treat cardiac output

Neurological Support: Magnesium infusion to control seizures / prophylaxis of eclampsia in severe PET

Hepatic Support: Management of acute fulminant hepatic failure, e.g. from HELLP syndrome or acute fatty liver, such that transplantation is being considered

Level 3 examples

Advanced Respiratory Support: Invasive mechanical ventilation

Support of two or more organ systems: Renal support and BRS; BRS/BCVS and an additional organ supported; Intracranial pressure monitoring

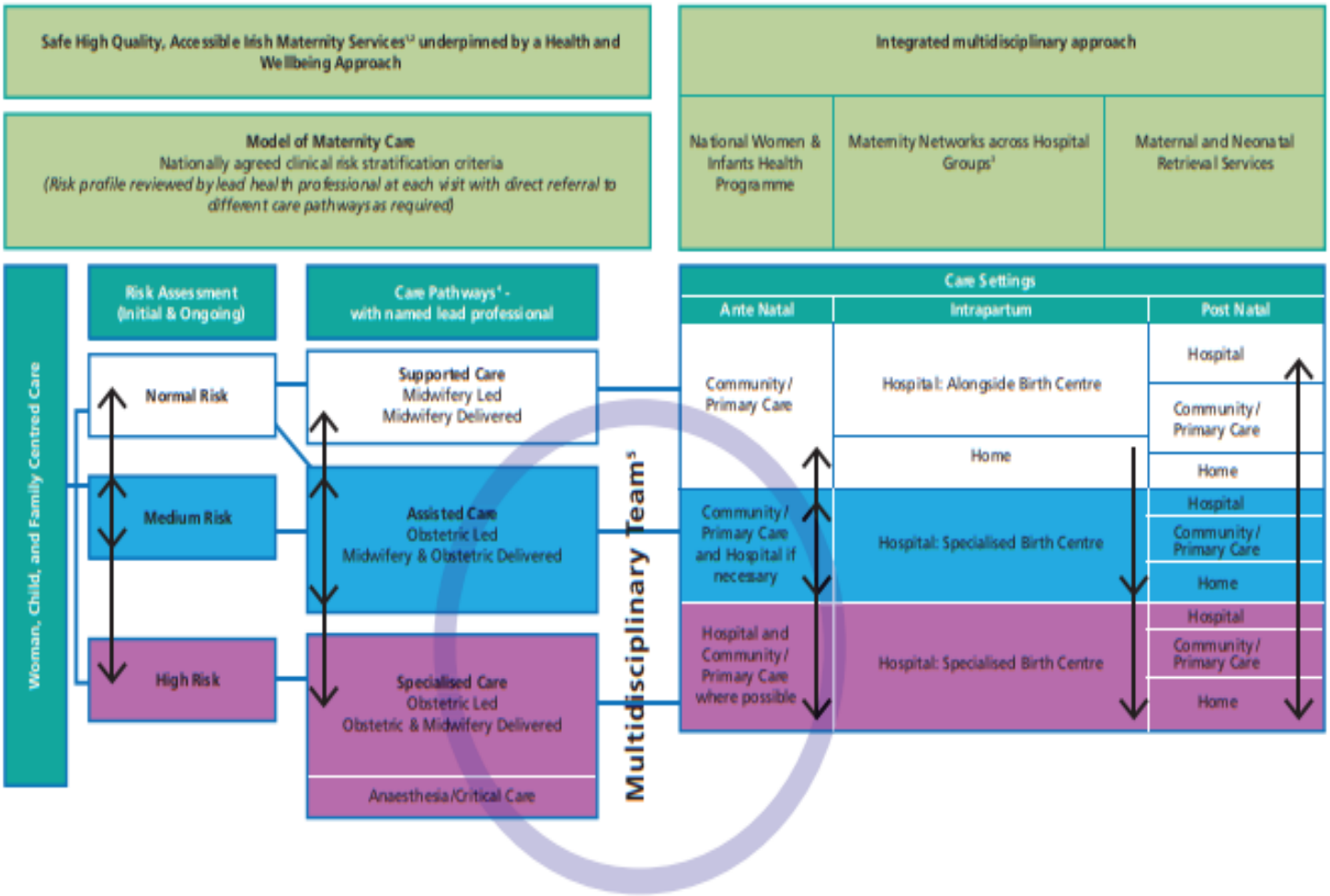
Reference: Saravanakumar K, Davies L, Lewis M, Cooper GM.. High dependency care in an obstetric setting in the UK. Anaesthesia 2008:63, 1081–6.

[11] Clinical Practice Guideline No 30 (2014). Guideline for the Critically ill Woman in Obstetrics : Institute of Obstetricians and Gynaecologists, Royal College of Physicians of Ireland and Directorate of Strategy and Clinical Programmes, Health Service Executive

Appendix C: National Maternity Strategy Model of Care [12]

The three care pathways include:

- Supported Care Pathway; Midwifery led and delivered care.
- Assisted Care Pathway; Obstetric led, Midwifery and Obstetric delivered care.
- Specialised Care Pathway; Obstetric led, Obstetric and Midwifery delivered care.



1 In line with the overriding safety principle, a risk based approach will be utilised. Practice will be evidence-based using national clinical guidelines and audit, and quality improvement approaches will be adopted.
2 Each birth centre should have access to an immediate emergency team response for clinical deterioration.
3 For high risk and complex women or babies specialist services outside the network may be required.
4 Within each of these care pathways, women can also avail of a shared model of care with the GP, as provided for by the Maternity and Infant Care Scheme.
5 Spanning the acute, primary and community sectors, modern maternity services are multi-disciplinary in nature, and as such require the involvement of a range of health professionals. The input of the wider multidisciplinary team will be co-ordinated by the lead healthcare professional.

[12] Available at: https://www.hse.ie/eng/about/who/acute-hospitals-division/woman-infants/information/

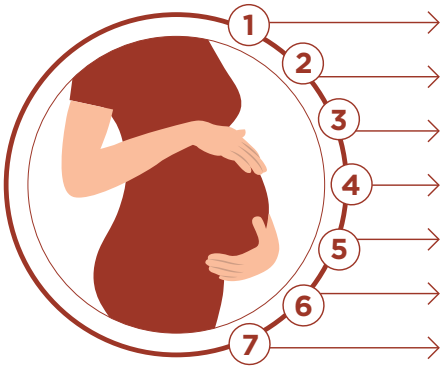
- Please complete document Once a post partum haemorrhage has been suspected
- At 500 mls
- At 1,000 mls always escalate
- At 1,500 mls ensure medical presence

PPH can be minor (500–1000 ml) or major (more than 1000 ml). Major can be divided into moderate (1000–2000 ml) or severe (more than 2000 ml). Clinical Practice Guideline No 17 (2012). Prevention and management of primary postpartum haemorrhage: Institute of Obstetricians and Gynaecologists, Royal College of Physicians of Ireland and Directorate of Strategy and Clinical Programmes, Health Service Executive

MRN:

This information is for your own records.

Please delete before submitting for data collection.



1. Estimating Blood Loss
2. Communication
3. Manual steps to stop the bleeding
4. IV Fluids
5. Drugs
6. Surgical Procedure
7. Blood Products

DOB_____

BMI_____

Ethnicity _____

Gravida_____

Parity_____

Date of Event_____

Time of Event_____

Gestation _____

Onset of Labour_____

Category of Pregnancy_____

Delivery Method_____

Estimating Blood Loss

Item Weight (Dry Weights) Hospital Specific
Sanitary Pad Dry Weight =
Gauze Swabs =
Tampon =
Inco sheet =

Item Weight (Dry Weights) Hospital Specific
Under buttocks sheets
25 x 25 Swabs
Kidney Dish
Spillage on the Floor

Was 500mls estimated through visual estimation of blood loss ? Yes No

Was a visual aid used? Yes No

Date		**Time**				
Item	Number	Dry Weight	Wet Weight	Blood/Fluid Loss	Estimated amount of liquor or irrigation fluid subtracted from volume weighted	Accumulative Blood Loss

Communication

Date		**Time**						
Notified Person	Name	Reason for Call	Via (method)	Information provided	Response	Notified time	Arrival Time	Comments

Manual steps to stop the bleeding

Date		**Time**	
Manual Procedure	Performed		Time
	Yes	No	
Rubbing of the Uterus			
Manual Removal			
Bi Manual compression			

IV Fluids

Date		
Fluid type	Dose	Time

Drugs

Date		Time				
Drug Use		1st dose	2nd dose			
Syntocinon bolus	Time Dose					
Syntocinon infusion iu/ ml	Time Rate					
Ergometrine/Syntometrine	Time					
	Dose					
Prostaglandin e.g. hemabate	Time					
	Dose					
Misoprostol	Time					
	Dose					
Tranexamic Acid	Time					
	Dose					
Note Evidence of Misoprostol efficiency limited						

Surgical Procedure

Date		Time
Procedure	Time	Comments/Description
IV Line		
Urinary catheter		
Manual Evacuation of Placenta		
Suturing lacerations		
Balloon Tamponade		
Laparotomy		
Hysterectomy		
Interventional Radiology		

Blood Products

Date		Time		
Blood Products	Volume	Infusion Time	Start time	Finish Time

Date	**Time**
Signature	**Print Name**

NATIONAL PERINATAL
EPIDEMIOLOGY CENTRE

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