National Women & Infants Health Programme

PMMERT

Perinatal Mortality and Morbidity Event Review Tool

Clinical Reference Manual

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Wilton,
Cork T12 YEO2

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Overview

Background

PM-MERT - Perinatal Morbidity Mortality Review Tool provides information on perinatal deaths arising from births occurring in the Republic of Ireland (ROI).

For each baby who loses its life due to causes related to pregnancy, many more experience life-threatening complications or long-term morbidities

Aim

The aim is to introduce the PMMERT to support standardised perinatal mortality reviews across HSE maternity and neonatal units

The fundamental aim of the review tool is to provide a national review tool of Perinatal Mortalities

Review tools allow a streamlined approach to identification of risk factors and care-related issues.

A structured process of review, learning, reviewing and action planning to improve future care.

PMMERT
Perinatal Mortality and Morbidity Event Review Tool

Objective

To produce high-quality reviews of the circumstances and care leading up to and surrounding each stillbirth and neonatal death, and the deaths of babies who die in the post-neonatal period having received neonatal care;

Active communication with parents to ensure they are told that a review of their care and that of their baby will be carried out and how they can contribute to the process;

To identify quality improvement initiatives and make recommendations for the improvement of maternity care for women in Ireland

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Using a Review Tool for PMMERT

Perinatal Mortality and Morbidity Event Review Tool

Using this reference manual, it will ensure that audit standards are clear, concise and unambiguous.

Compliance with this reference and coding manual enables consistent, accurate and uniform coding which in turn supports the collection and comparison of local and national data across time

Coding references are located throughout each slide of this reference manual and apply to a specific diagnosis, disorder, disease or condition, or describe the correct usage of a code, category or range of code.

Reference guides are, generally, listed in code, category or range order.

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Principles for the Conduct of Local Perinatal Mortality Reviews

There should be a comprehensive and robust review of all perinatal deaths from 22+0 days gestation until 28 days after birth*; excluding termination of pregnancy and those with a birth weight <500g if the gestation at birth is not known;

- ✓ Such reviews should be conducted using this PM-MERT standardised nationally accepted tool, ideally web-based using REDCap, that includes a system for grading quality of care linked to outcomes;
- ✓ A MDT group should review each individual perinatal mortality case at a regular meeting to ensure completion
- ✓ There should be scope for parental input into the process from the beginning;
- ✓ An action plan will be generated from each review, implemented and monitored;
- ✓ The review should result in a written report which should be shared with families in a sensitive and timely manner;
- ✓ Reporting to the named boards and authorities should occur regularly and result in systems and staff learning and service improvements;
- ✓ Findings from local reviews should feed up regionally and nationally to allow benchmarking and publication of results, and thereby ensure national learning the death of any baby who dies following care on a neonatal unit regardless of their age at death can be reviewed using the PMRT and the age of death is not limited to 28 days after birth

Recommended Attendees of the Local Perinatal Mortality Review Group

Core membership

- Chair and Vice-Chair
- Scribe/Admin support
- PMRT/Maternity Safety Champion

Overall membership of this committee will be:

- Head of Midwifery, Gynaecology and Paediatrics
- Deputy Head of Midwifery
- Maternity Matrons
- Ward Managers / Labour Ward Coordinators
- Bereavement Lead Midwife
- Lead Midwife Risk
- Obstetric Team
- Neonatal Team
- External member

Other members as appropriate to the organisation of care in HSE or hospital group

Named and invited to attend or contribute where applicable:

- • Pathologist
- • GP/Community healthcare staff
- • Anaesthetist
- • Sonographer/radiographer
- • Safeguarding team
- • Service manager

Any other relevant healthcare team members pertinent to case

How to Conduct a Perinatal Mortality Review Using the PM-MERT tool

Modified: World Health Organisation. Making Every Baby Count: audit and review of stillbirth and neonatal death. Geneva: WHO, 2016.

The conduct of stillbirth and neonatal mortality review meetings include:

- Using the National Perinatal Mortality Review Tool (PMMeRT) to support the conduct of each review.
- Ensuring to gather the relevant information/evidence about each death before the review meeting;
- Attending and arriving on time to the meeting;
- Participating actively in discussions;
- Respecting and listening to everyone's ideas and way of expressing them;
- Accepting robust discussion and disagreement while remaining professional throughout;
- Allowing for opinions to be comprehensive, open and transparent throughout;
- Expect that clinicians' decisions or actions might be questioned in the meeting;
- Respecting the importance and confidentiality of the documents and discussions that take place during the meetings and record/file/dispose of them in a manner adherent with GDPR;
- If gaps are identified in the information there may be a need to regroup at a set date with more information before completing the review;

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Review Completion Guidance

- It is recommended that cases be submitted to the NPEC (National Perinatal Epidemiology Centre) every month.
- All HIE cooling cases to be reviewed within 125 days
- An annual submission date for complete data to be decided upon
- Data can be submitted online via the REDCap database

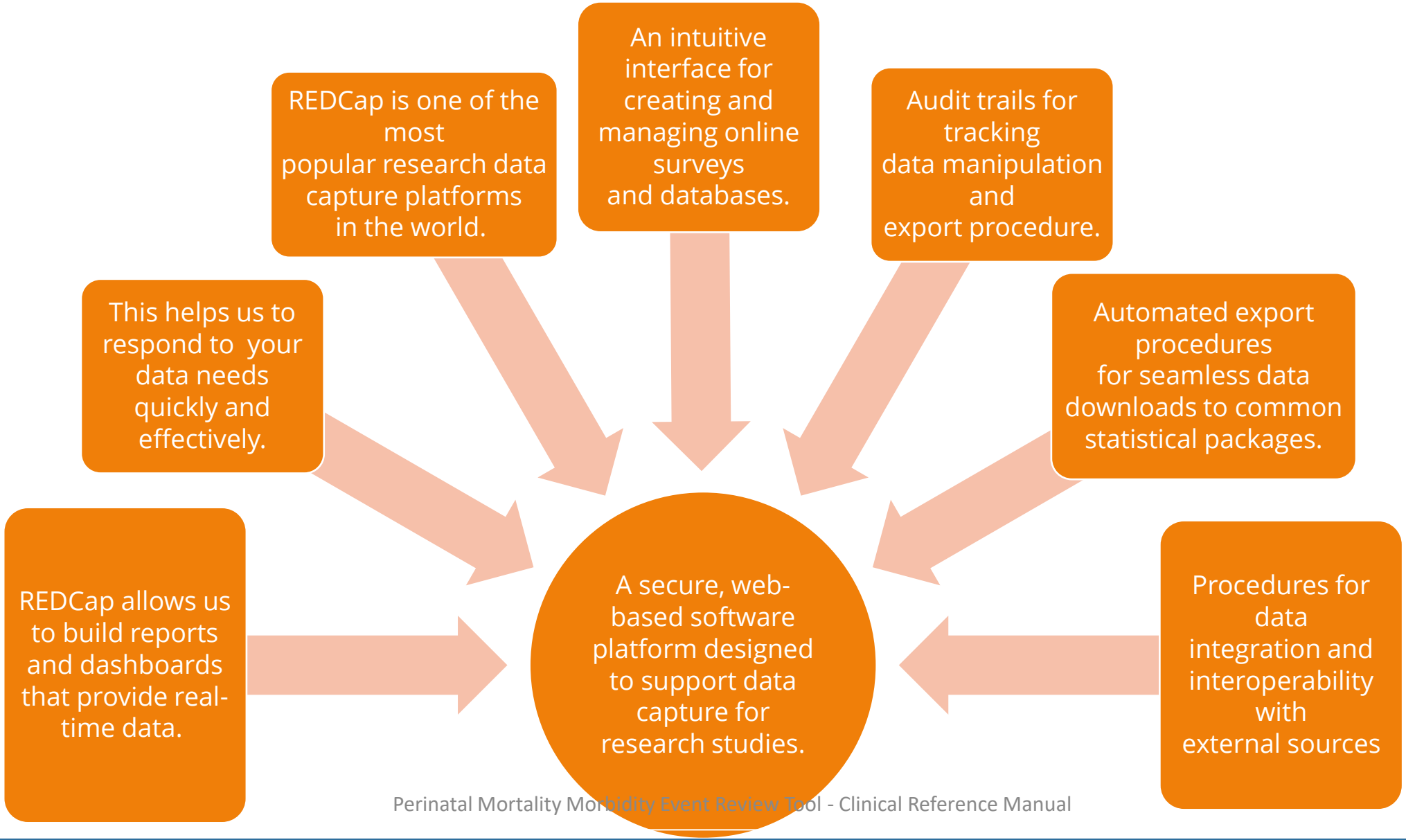
REDCap
Research Electronic Data Capture

- A clinical reference manual and training video for the NPEC online database is available on the NPEC website
- REDCap | University College Cork (ucc.ie)
- RedCap General Training (youtube.com)
- Manual and training video REDCap | University College Cork (ucc.ie)

Severe Maternal Morbidity cases are included in a maternity unit's rate if the woman was delivered in that maternity unit.

The NPEC can assist in communications between unit coordinators if required/requested. This will help validate complete case ascertainment at national level.

REDCap stands for Research Electronic Data Capture



Using the review tool for TOP in Ireland

- It is hoped that this review tool will be utilised by maternity units across the Republic of Ireland

- Information will be added using a secure, online database called REDCap. This data capture system can provide real-time national reviews.
- An operational manual and training video for the NPEC online database is available on the NPEC website.

- REDCap will be used to gather national data. However, each unit only has access to their own unit's data. NPEC & NWIHP will have access to all data.

- It is recommended that all perinatal morbidity and mortality cases be submitted on REDCap for NPEC (National Perinatal Epidemiology Centre) to verify every month.

- An annual submission date for complete data will be given in advance by NPEC quality team

- Participating in this national data collection will improve understanding of service needs across the country to allow optimisation of outcomes and resources and improve knowledge of optimal methods of treatment through analysis and publication of data

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Perinatal Mortality and Morbidity Event Review Tool

Why use a review tool for Perinatal Mortality and Morbidity

Compliance with this reference and coding manual enables clear, consistent, accurate and uniform coding which in turn supports the collection and comparison of local and national data across time.

Review tools allow a streamlined approach to the identification of risk factors and care-related issues

This tool ensure that the quality of the care provided is nationally aggregated and subject to a process of continued improvement through this REDCap database.

Coding references are located throughout each slide of this reference manual and apply to a specific diagnosis, disorder, disease or condition, or describe the correct usage of a code, category or range of codes.

Benefits of using REDCap

Research Electronic Data Capture

Increased efficiency and accuracy:

REDCap automates many tasks associated with data collection and management, such as data entry, validation, and export.

Improved data quality:

REDCap's built-in data validation features help to ensure that data is entered accurately and consistently.

Enhanced security:

REDCap is hosted on secure servers and uses encryption to protect data from unauthorized access.

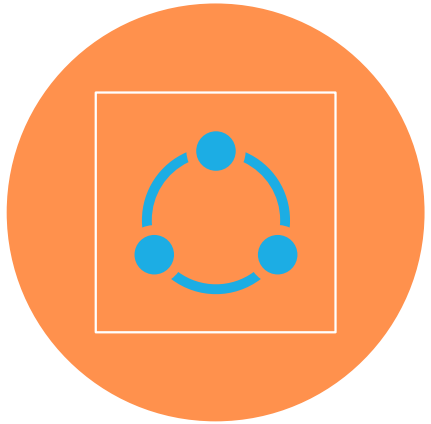
Increased flexibility:

REDCap can be customised to meet the specific needs of any research study.

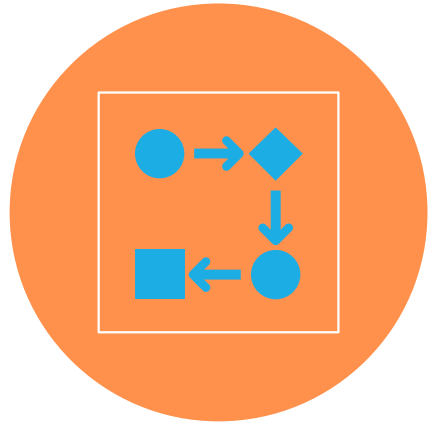
Training available for REDCap on National Perinatal Epidemiology Centre (NPEC) has videos and link to access REDCap

REDCap
Research Electronic Data Capture

Using this reference manual, it will ensure that audit standards are clear, concise and unambiguous.



Review tools allow a streamlined approach to the identification of risk factors and care-related issues.



It will provide a structured process of reviewing, learning, reporting and action planning to improve future care.

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Perinatal Mortality and Morbidity Event Review Tool

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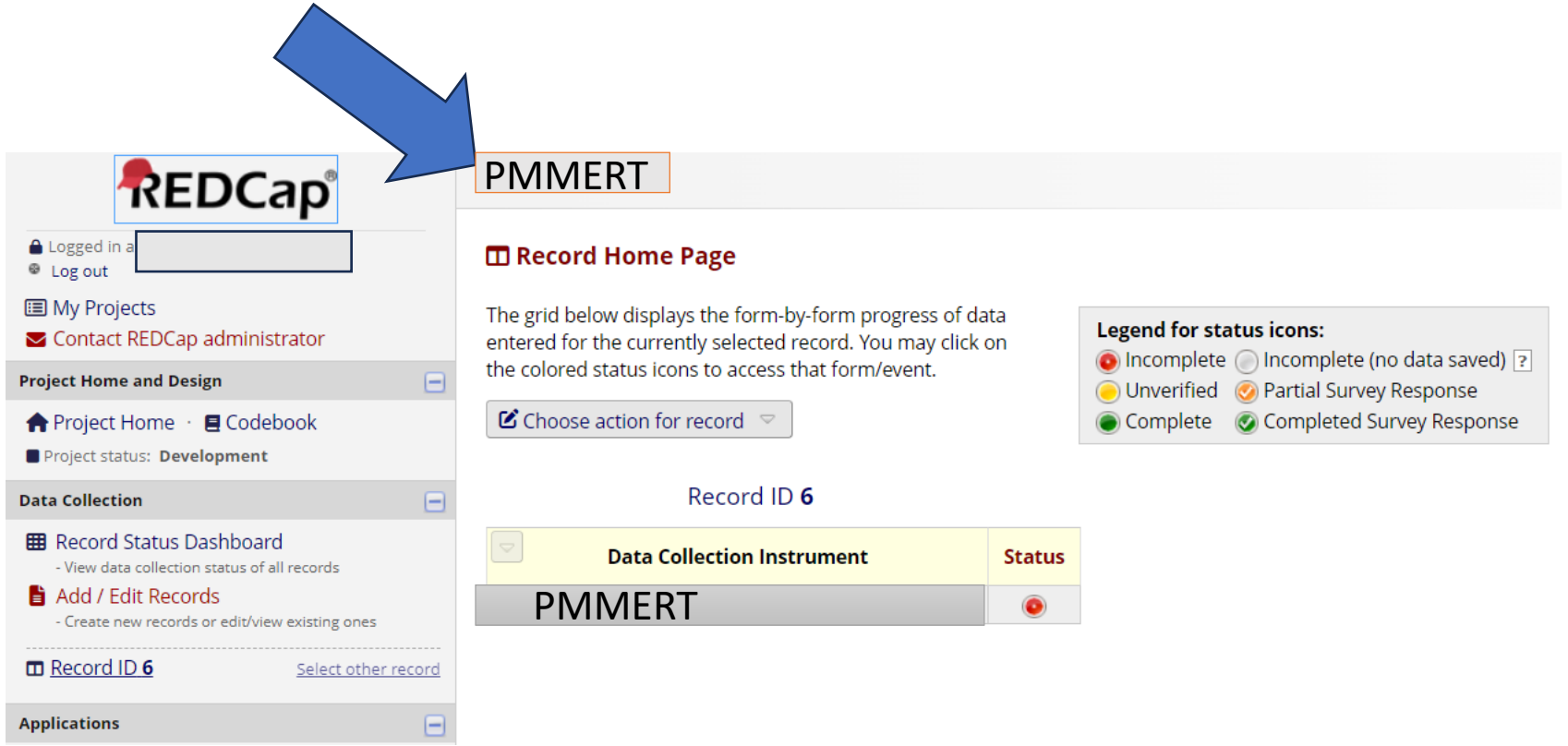
REDCap

To begin



If you run into any issues with log in, please contact tamara.escanuelasanchez@ucc.ie or joye.mckernan@ucc.ie for assistance

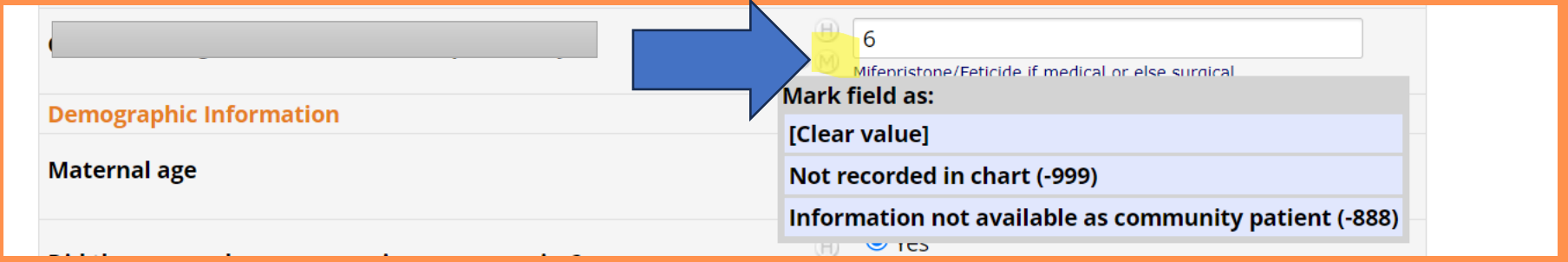
- Once you are in the main **"Add/Edit Records"** page, you may choose an existing record to edit, create a new record by typing in a new Record ID
- Or search for a particular record by a field value (for instance, using the search field "Maternal Age" and typing "28" into the search query).

Quick Tips for REDCap when entering data

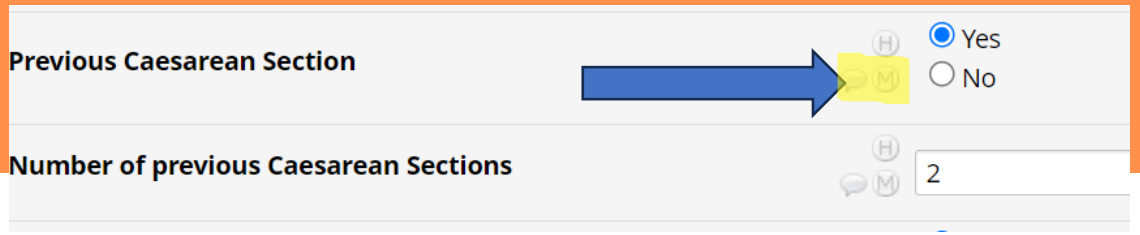
Do not leave any blanks in the form, please

Use the M tab when **data is not available** on the patient's chart

- Clicking on the "M" icon will reveal an option for "**not recorded in chart"** (-999).
- **If information not available as a community** patient (-888)



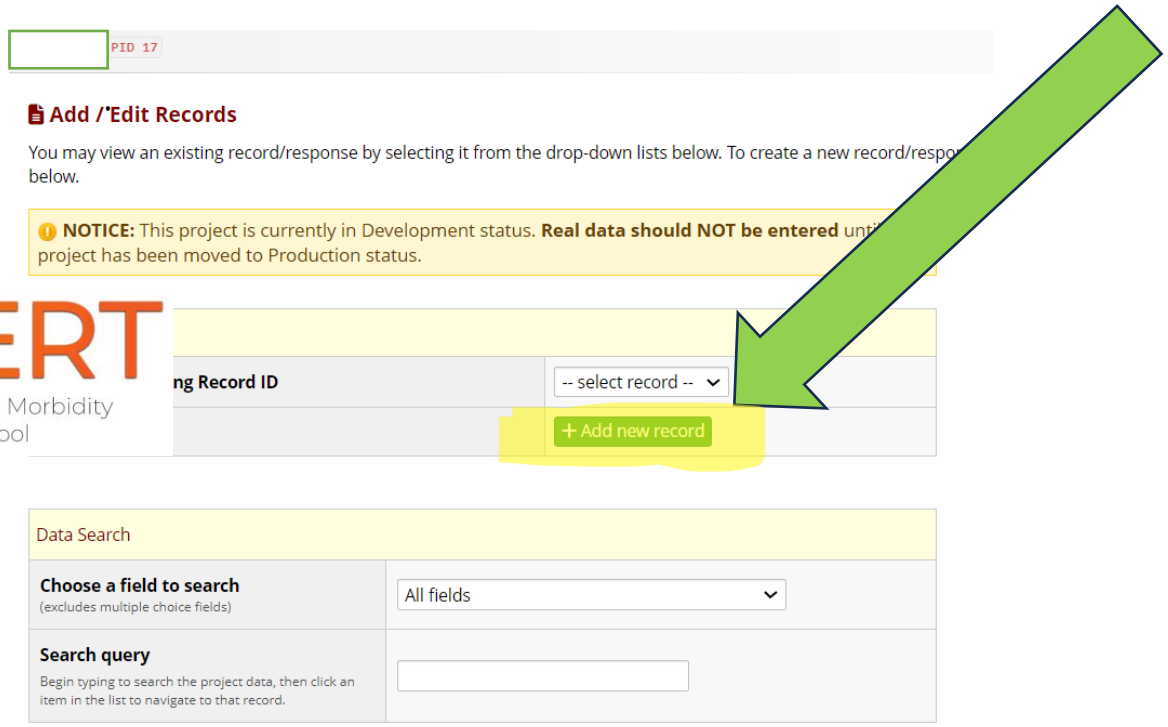
- Use the speech bubble to add a comment or a detail that will enhance your answer to avoid queries



To begin

Add New Record
(new patient)
or
Edit existing record
ID

Add New record or choose to edit an existing record



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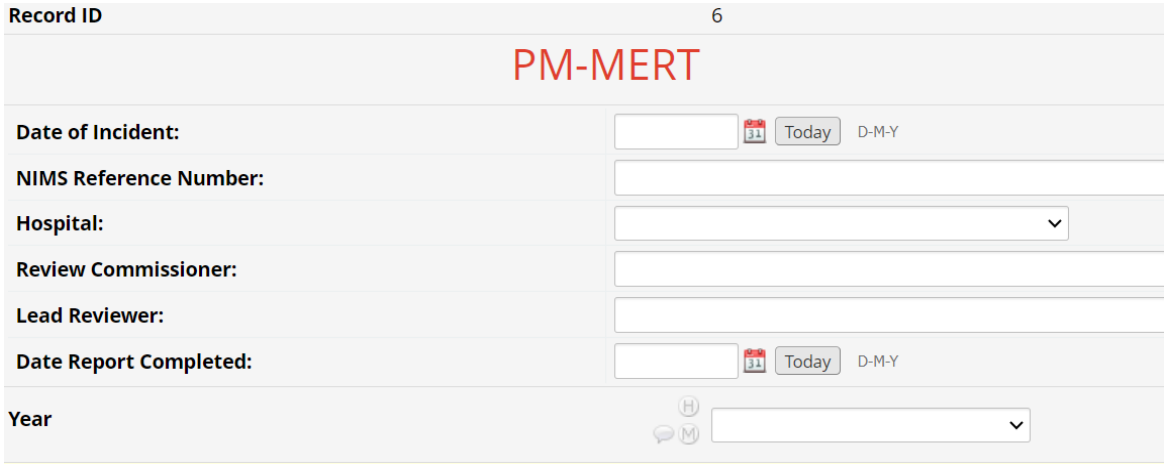
At regular intervals, please click Save & Stay or Save & Exit

Review Record Details



Record ID: Automatically generated by REDCap in sequence

- Date of Incident: Date of reportable event (Serious Reportable Event – SRE)
- NIMS Reference Number: National Incident Management System
- Hospital: The hospital where event occurred
- Review Commissioner: Name of person who
- Lead Reviewer: Name of person completing this form
- Date Review Completed: The date of finishing the REDCap patient entry
-

Section 1 – Demographics - Woman's Details

19. Is this Patient Public/Private:

- Free Public Care under the Maternity and Infant Care Scheme (must have lived in Ireland for 1 year)
- Semi-private care – this is only available in Dublin maternity hospitals, combines public and private care
- Private Care whereby a woman has private health insurance and pays her consultants fees.

22. BMI

Body Mass Index = calculated by dividing weight (in kilograms) by height (in metres squared –a height in metres multiplied by itself). The healthy range is between 19 and 25. (RCOG)

23. Smoking:

include e-cigarettes also? (NICE guidelines 2021)

27: Alcohol use in pregnancy

Include information confirming pregnancy (i.e.. Up to 12 weeks) . Alcohol use during pregnancy causes Fetal Alcohol Spectrum Disorders (FASD).

28. Units of Alcohol: HSE states that one unit of alcohol is equal to:

a pub measure of spirits (35.5ml)

a small glass of wine (12.5% volume)

a half pint of normal beer

an alcopop (275ml bottle)

A bottle of 12.5% alcohol wine has about 7 standard units.

Section 1 – Drug use in Pregnancy

Is there documented history of illicit drug use during this pregnancy, methadone treatment or attendance at a drug rehabilitation unit?

- ○ None recorded
- ○ Prior to this pregnancy
- ○ During

29. Illicit drug use:

- An illicit (forbidden by law) drug is illegal to have (for example, cannabis, heroin, and cocaine), and the non-medical use of legally available drugs such as painkillers and sleeping pills.

30. Drugs of abuse: Associated terms for each

- Cannabis: 'Street' names: marijuana, dope, pot, grass, weed, head, Mary Jane, doobie, bud, ganja, hashish, hash, bhang.
- Cocaine: a short-lasting stimulant drug, known as coke, Charlie, snow
- Heroin: Diamorphine is an opioid drug usually found as a brown powder known as Gear of Smack
- Methadone: an opioid (narcotic) drug commonly prescribed as an opioid substitution therapy. Can be known as Molly
- Benzodiazepines: depressant drugs with sedative and anxiolytic (anti-anxiety) effects. They are taken as tranquilizers. E.G. Alprazolam Xanax: Diazepam, Valium, Etizolam, Lorazepam Ativan – Nitrazepam, Temazepam Restoril,
- Ecstasy: MDMA stimulant, known as pills or yokes.
- **31: Other - I**llegal drugs examples:
- Codeine, Morphine, Ketamine, Tramadol, Oxycodone, LSD, Amphetamine, solvents, some antidepressants and antihistamines, Antipsychotics
- Reference: https://www.drugsandalcohol.i.e./37725/1/radar-a-to-z-a-guide-to-common-drug-names-in-scotland.pdf

Section 2 – Previous Pregnancies

32: Did the woman have previous pregnancies:

Definition: a positive HCG test on a sample of urine or blood to confirm whether a woman is pregnant.

33: Number of completed pregnancies **more than or equal to ≥ 23** weeks and with a birth weight ≥ 500g

"Completed Pregnancy": When all the tissue associated with a pregnancy has gone and the uterus is empty.

34: Number of completed pregnancies **More than or equal to ≥** 24 weeks and with a birth weight **more than or equal to ≥ 5**00g.

35: Number of pregnancies **Less than or equal to < ** 24 weeks and with a birth weight of l**ess than** 500g

SECTION 2. PREVIOUS PREGNANCIES

Did the woman have any previous pregnancies? (H) (M) ◉ Yes ○ No reset

No. of completed pregnancies ≥ 23 weeks and with a birth weight ≥ 500g

No. of pregnancies < 24 weeks and with a birth weight of < 500g

Were there any previous pregnancy problems? (H) (M) ◉ Yes ○ No reset

Note: If previous CS, please select yes

Please select previous pregnancy problems

Maternal complications

- ☐ 3 or more miscarriages
- ☐ Mid-trimester loss (13-23 weeks)
- ☐ Previous caesarean section, if so, how many?
- ☐ Placenta previa
- ☐ Placental abruption
- ☐ Pre-eclampsia and/or HELLP syndrome
- ☐ Post-partum haemorrhage requiring transfusion
- ☐ Other

Fetal complications

- ☐ Preterm birth (< 36 weeks). Please specify gestation at birth
- ☐ Stillbirth, please specify number
- ☐ Infant requiring intensive care
- ☐ Baby with congenital anomaly
- ☐ Neonatal death, please specify number
- ☐ Previous baby with HIE
- ☐ Other

SECTION 3. MOTHERS MEDICAL HISTORY

Section 2- Previous Pregnancy Issues

Q38: Maternal previous pregnancy complications

- Complications from PREVIOUS pregnancies, not this pregnancy, all other deliveries. This pregnancy will be documented later in the form.

1: Three or more miscarriages: When all the tissue associated with pregnancy has gone and the uterus is empty

2: **Mid-trimester loss** (13 – 23 weeks): Pregnancy miscarriage in the middle stage of pregnancy, between 13 and 26 weeks

3: **Previous Caesarean section**: An operation in which a baby is born through a cut made in the wall of the abdomen and the uterus. It may be done as a planned (elective) or an emergency procedure.

4: **Placenta Previa:** A condition where the placenta covers all or part of the cervix. If the placenta does not move sufficiently, it may be necessary to perform a caesarean.

5: **Placental abruption:** associated with Antepartum haemorrhage (APH) is defined as bleeding from or into the genital tract, occurring from 24+0 weeks of pregnancy and before the birth of the baby. Abruption is the placenta separating from the inner wall of your womb (HSE).

6: **Pre-eclampsia and/or HELLP syndrome:** Pre-eclampsia or Toxaemia: A condition that occurs in the second half of pregnancy, associated with high blood pressure and protein in the urine. HELLP syndrome: A combined liver and blood clotting disorder which is a complication of pre-eclampsia.

7: **Post-partum haemorrhage requiring transfusion**: Heavy blood loss after the delivery of the baby requiring a blood transfusion of RCC (red cell count).

8. **Major Obstetric Haemorrhage** = EBL ≥ 2,500mls and/or transfused with ≥ 5 units of blood)

9. Other (see next side for examples of other complications

- Reference (https://www.rcog.org.uk/for-the-public/a-z-of-medical-terms/#preeclampsia)

Section 2- Previous Pregnancy Problems

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Other - Examples of Maternal Complications

- **Deep vein thrombosis (DVT)** : A blood clot that forms in a deep vein.
- **Ectopic Pregnancy:** When a fertilised egg (embryo) implants outside the womb (usually in one of the fallopian tubes).
- **Gestational trophoblastic neoplasia (GTN)** is a rare form of cancer which includes invasive molar pregnancy. GTD is an uncommon group of conditions that includes complete and partial molar pregnancies. Molar pregnancy is an abnormal form of pregnancy that cannot develop into a healthy baby.
- **Perineal tear**: When the perineum (area between your vaginal opening and anus) tears during childbirth. The following classification is described by the RCOG Green Top Guidelines:
    - First-degree tear: Injury to perineal skin and/or vaginal mucosa.
    - Second-degree tear: Injury to the perineum involving perineal muscles but not involving the anal sphincter
    - Third-degree tear: Injury to the perineum involving the anal sphincter complex:
    - Grade 3a tear: Less than 50% of external anal sphincter (EAS) thickness torn. Grade 3b tear: More than 50% of EAS thickness torn. Grade 3c tear: Both EAS and internal anal sphincter (IAS) torn.
    - Fourth-degree tear: Injury to the perineum involving the anal sphincter complex (EAS and IAS) and anorectal mucosa
- **Placenta Accreta**: When the placenta is attached to the muscle of the womb and does not come away properly in the third stage of labour after the birth.
- **Premature Rupture of membranes**: The medical term for the early breaking of waters in pregnancy, treated with antibiotics and can lead to early induction of labour
- **Maternal Sepsis:** i.e. Group A Strep. infection in close contact or Retained products - placenta
- **Shoulder dystocia** A situation during birth when the baby's head has been born but one of the shoulders becomes stuck behind the mother's pelvic bone, preventing the birth of the baby's body, leading to damage to the nerves in the baby's neck (brachial plexus injury) which reduces movement of and feeling in the baby's arm.
- **Uterine rupture:** This is when the muscle of your uterus (womb) tears, usually because of contractions while you are in labour. It is rare but more common if you have had previous operations on your uterus including caesarean births. It is an emergency affecting both you and your baby and if it happens you are likely to need an emergency caesarean birth.
- **Cervical Cerclage**: Cerclage remains one of the standard options performed prophylactic intervention in the care of women at risk of preterm birth and second trimester fetal loss and is used by most obstetricians. he procedure, a stitch inserted into the cervix, for women with a history of second trimester loss or spontaneous preterm birth suggestive of cervical insufficiency, with the aim of preventing recurrent loss.
- **Amniocentesis:** Pregnant women are offered amniocentesis or chorionic villus sampling (CVS) for prenatal diagnosis for a variety of reasons including a higher chance aneuploidy screening result, fetal structural anomaly, or a known risk of inherited genetic disease**.**

Please select previous pregnancy problems - Fetal Complications

Please select previous pregnancy problems: fetal complications

1. **Preterm birth (premature) born before the 37th completed week of pregnancy**

2. **Stillbirth:** a baby born showing no signs of life at a gestation of ≥24 weeks (and zero days) or weighing ≥500g.

3**. Infants requiring intensive care:** (NICU): a special section of a hospital (usually a large regional hospital) that provides intensive care for newborn babies.

4. **Baby with a congenital anomaly:** congenital: present at and existing from the time of birth i.e.: Structural congenital anomalies are related to a problem with the structure of body parts. These can include:

- Cleft lip or cleft palate
- Heart defects, such as missing or misshaped valves
- Atypical limbs, such as a clubfoot
- Neural tube defects, such as spina bifida, and problems related to the growth and development of the brain and spinal cord
- Functional or Developmental Congenital Anomalies
- Nervous system or brain problems: intellectual and developmental disabilities, behavioural disorders, speech or language difficulties, seizures, and movement trouble. the nervous system includes Down syndrome, Prader-Willi syndrome, and Fragile X syndrome. such as blindness or deafness.
- Metabolic disorders.: phenylketonuria and hypothyroidism.
- Degenerative disorders – muscular dystrophy.

5. **Neonatal deaths**: death of a live born baby in the first 28 days of life. Early neonatal death. Death of a live born baby occurring within 7 completed days of birth.

6. **Previous babies with HIE:**

defined as a condition that occurs when the brain is deprived of an adequate oxygen supply, due to either reduced cerebral oxygen concentration (hypoxia) or blood supply (ischemia). It is clinically graded as mild, moderate, or severe, based on the neurological features of the infants

7. **Other**

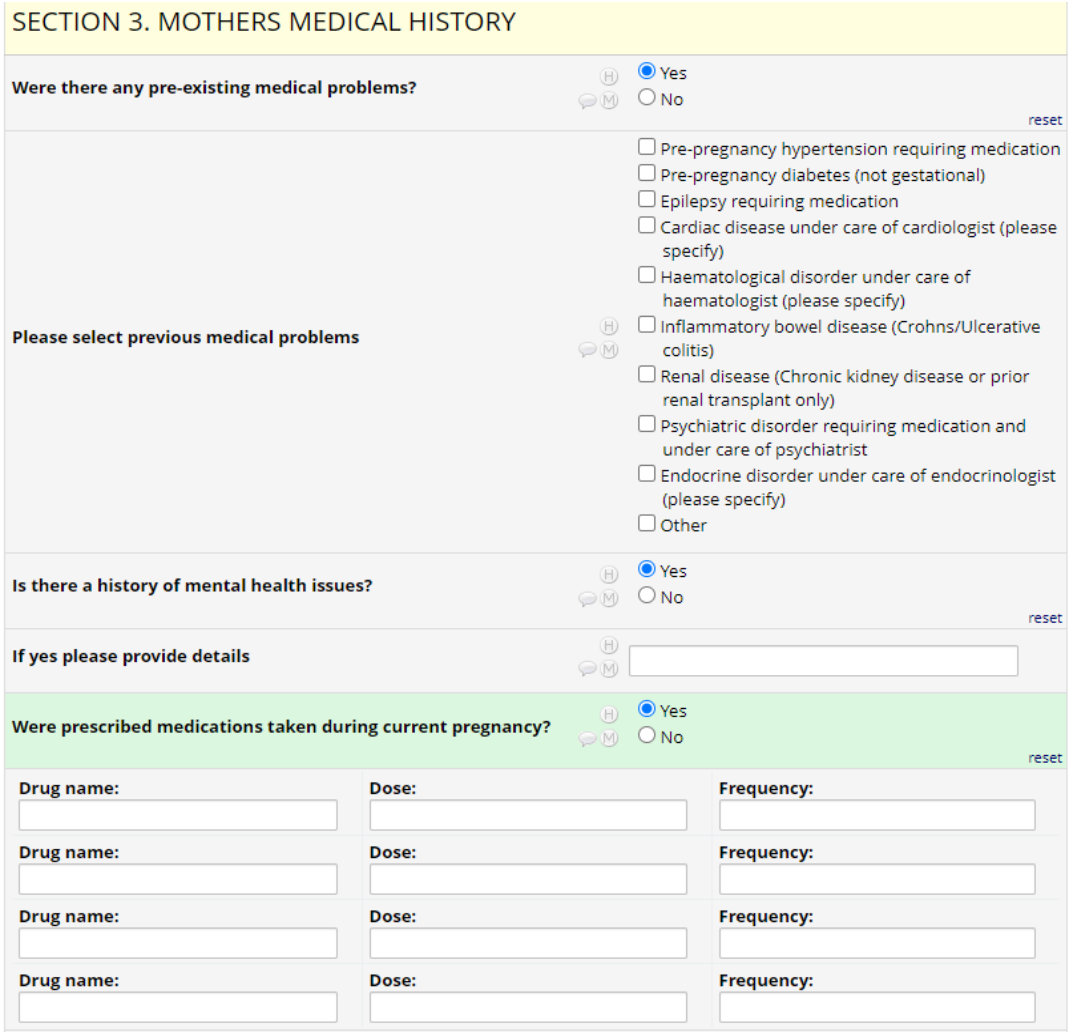
Q41 – Previous Pregnancy Problems - Fetal Complications - Other

7 Other: including but not limited to:

- **Bronchopulmonary Dysplasia (BPD):** chronic breathing problems arising from lung tissue damage due to artificial pulmonary ventilation. Children who require respirator support and/or supplemental oxygen for more than 28 days are diagnosed with this condition. Also known as chronic lung disease (CLD).
- **Congenital Diaphragmatic Hernia**: birth defect involving an opening in the diaphragm, the large muscle that separates the chest from the abdomen. Abdominal organs such as the stomach, liver and intestines can move through the opening into the chest where they interfere with lung development.
- **Cytomegalovirus (CMV):** a viral infection that when contracted by a pregnant woman can result in severe newborn illness and can sometimes lead to chronic disabilities such as intellectual disabilities or vision and hearing loss. CMV can also be acquired after birth and lead to hearing loss.
- **Hydrocephalus:** an abnormal accumulation of fluid in the chambers of the brain, characterized by an abnormal increase in head size hyperbilirubinemia: see “jaundice.”
- **Intracranial Haemorrhage:** see “intraventricular haemorrhage.” abnormal bleeding into the chambers and the surrounding tissue of the brain.
- **Mechanical Ventilation:** Using a mechanical ventilator to breathe for a sick baby while her lungs recover.
- **MAS: Meconium Aspiration Syndrome:** Breathing problems that occur when the fetus inhales meconium (fetal stool) during labour and delivery. The stool usually is released shortly before or after birth.
- **NEC: Necrotizing Enterocolitis**: a disease of the intestinal tract, caused by inflammation of the intestinal tract or decreased blood supply to the bowel. This complication in preterm babies improves but can lead to perforation of the bowel, sepsis, or death.
- **NAS: Neonatal Abstinence Syndrome**: a condition in which the infant exhibits withdrawal features. It occurs when a mother has been on narcotics during pregnancy and the infants appear irritable, unsettled, restless and cry often. They are difficult to feed and require additional nursing. These features can last for up to 6 weeks or more.
- **Patent Ductus Arteriosus (PDA):** a condition in which the blood vessel that connects the aorta (the main artery of the body) and the pulmonary artery (the artery that brings blood to the lungs) does not close as it should shortly after birth.
- **Persistent Pulmonary Hypertension of the Newborn (PPHN):** High blood pressure in the lungs, leading to breathing problems, and reduced levels of oxygen in the blood.
- **Pneumothorax**: When air from the baby’s lungs leaks out into the space between the baby’s lungs and chest wall. While small leaks may cause no problems and require no treatment, larger leaks may cause serious complications such as lung collapse and may need surgical repair.
- **Special Care Baby Unit (SCBU):** an alternative name for a neonatal unit., a step down from Neonatal Intensive Care Unit
- **Spina Bifida**: Birth defect involving the spinal cord, resulting in varying degrees of paralysis, bladder, and bowel problems. Affected babies may require surgery during the newborn period to close the back and prevent further nerve damage and infection; however, surgery cannot reverse nerve damage that already has occurred.

Reference: Fetal previous complications (as per https://www.inha.i.e./glossary-of-terms/)

Section 3 – Mothers Medical History Questions Q49 – Q55



SECTION 3. MOTHERS MEDICAL HISTORY

Were there any pre-existing medical problems? ○ Yes ○ No reset

Please select previous medical problems

- ☐ Pre-pregnancy hypertension requiring medication
- ☐ Pre-pregnancy diabetes (not gestational)
- ☐ Epilepsy requiring medication
- ☐ Cardiac disease under care of cardiologist (please specify)
- ☐ Haematological disorder under care of haematologist (please specify)
- ☐ Inflammatory bowel disease (Crohns/Ulcerative colitis)
- ☐ Renal disease (Chronic kidney disease or prior renal transplant only)
- ☐ Psychiatric disorder requiring medication and under care of psychiatrist
- ☐ Endocrine disorder under care of endocrinologist (please specify)
- ☐ Other

Is there a history of mental health issues? ○ Yes ○ No reset

If yes please provide details

Were prescribed medications taken during current pregnancy? ○ Yes ○ No reset

Drug name:	Dose:	Frequency:
Drug name:	Dose:	Frequency:
Drug name:	Dose:	Frequency:
Drug name:	Dose:	Frequency:

Pre-existing Medical Problems – Yes or No

If yes; select from list

- **Pre-pregnancy Hypertension requiring medication**: HSE guidelines consider High BP: **140/90mmHg (or 135/85mmHg at home)** - may be offered meds if symptomatic. **160/100mmHg** – offered medicine to lower blood pressure
- **Pre-pregnancy Diabetes (not gestational):**

  Type 1: an autoimmune condition where the immune system attacks and destroys the cells that produce insulin. The only treatment for type 1 diabetes is **insulin, usually by injection or pump.**

  Type 2: a condition that causes the level of glucose in the blood to become higher than normal.

  Pre-diabetes: blood glucose levels are higher than usual. But they are not high enough to diagnose you with type 2 diabetes.

  Medication Reference for Diabetics **(not limited to:)** Metformin, Gliclazide, Glucophage, Diamicron, Trajenta, Trulicity

Q49. Medical Conditions cont.

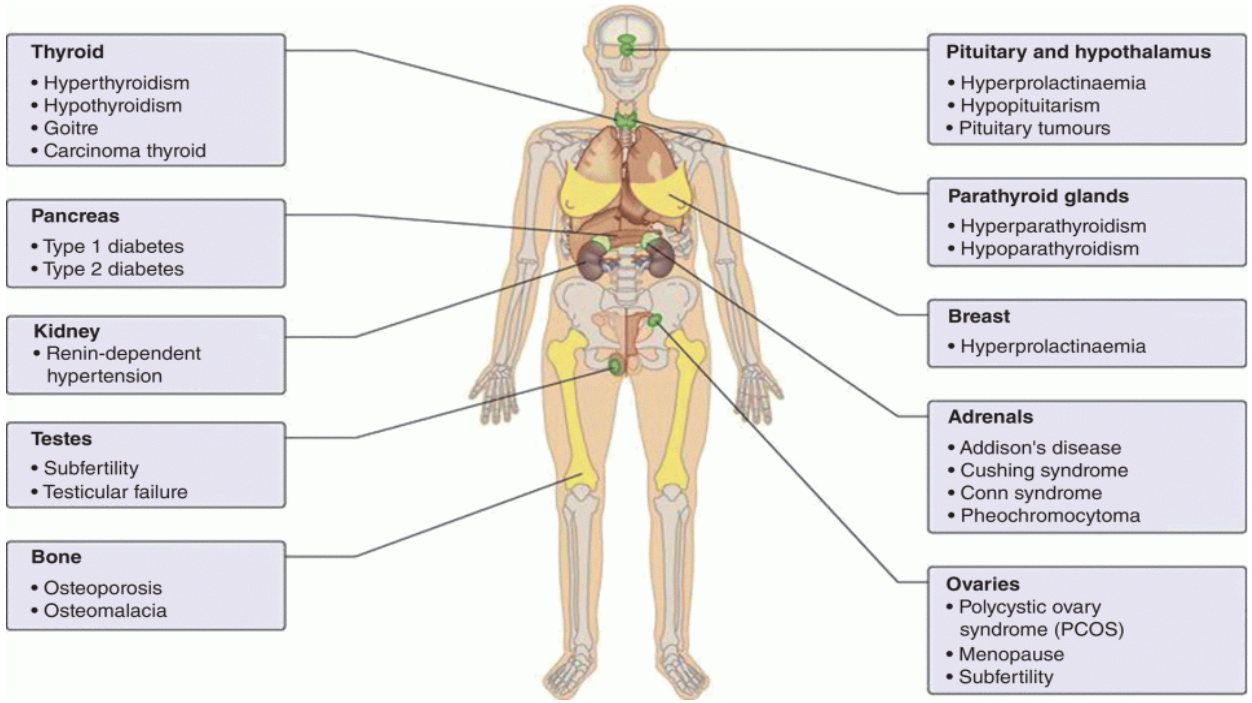
3	Epilepsy requiring medication	a seizure disorder — is a brain condition that causes recurring seizures. Epilepsy is diagnosed if you've had at least two unprovoked seizures at least 24 hours apart. Medications associated with epilepsy: *ATIVAN® (lorazepam) CARBATROL® (extended release carbamazepine, Keppra, Gabitril, Lamictal, Lyrica, NEURONTIN® (gabapentin) PHENOBARBITAL (phenobarbital) PHENYTEK® (extended phenytoin sodium) TEGRETOL® (carbamazepine)	
4	Cardiac disease under care of Cardiologist	Cardiovascular disease is the term for all types of diseases that affect the heart or blood vessels, including coronary heart disease (clogged arteries), heart attacks stroke heart failure peripheral artery disease (as defined by AHA)	
5	Haematological disorder under care of Haematologist	Thrombocytopenia Hemophilia Sickle cell anemia Von Willebrand disease Anemia Aplastic anemia Acute posthemorrhagic anemia Polycythemia vera Myelodysplastic syndrome Erythrocytosis Thalassemia Coagulopathy	Fanconi anemia Hypercoagulable disorder Leukemia Lymphoma Thrombosis White blood cell disorders Hemochromatosis Myeloma Platelet disorders Congenital dyserythropoietic anemia Hemolytic anemia
6	Inflammatory bowel disease (Crohn's/Ulcerative colitis)	**Ulcerative colitis:** affects only the lining of the large intestine (colon) and rectum. **Crohn's disease** can influence any part of the gastrointestinal (GI) tract, from the mouth to the anus.	

Section 3 cont. – Mother's Medical History
Q49 Pre-existing medical conditions examples

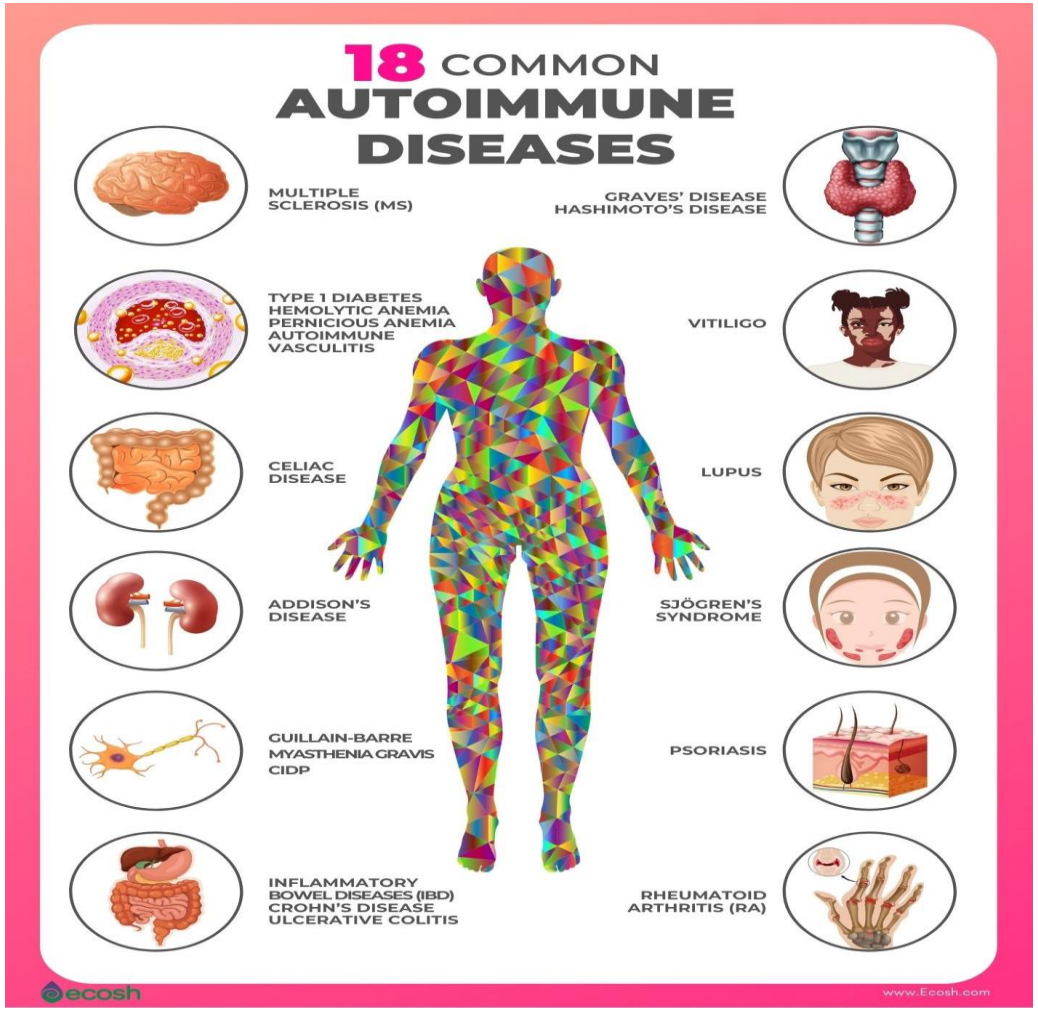
7	Renal disease (Chronic kidney disease or prior renal transplant only)	Polycystic Kidney Disease APOL1-Mediated Kidney Disease Lupus nephritis Glomerulonephritis (Glomerular Disease) IgA nephropathy Cystinosis Complement 3 glomerulopathy (C3G)	aHUS (atypical hemolytic uremic syndrome) Focal segmental glomerulosclerosis (FSGS) Interstitial nephritis Fabry disease Granulomatosis with polyangiitis (GPA) Cardiovascular-kidney-metabolic (CKM) syndrome Primary hyperoxaluria and oxalate Minimal change disease
8	Psychiatric disorder requiring medication and under care of psychiatrist	<u>Mental Health Disorders</u> Anxiety disorders - generalised anxiety disorders • social phobias • specific phobias (for example, agoraphobia and claustrophobia) • panic disorders Obsessive-compulsive disorder (OCD) post-traumatic stress disorder (PTSD). Behavioural and emotional disorders in children • oppositional defiant disorder (ODD) • conduct disorder (CD) • attention deficit hyperactivity disorder (ADHD).	Bipolar affective disorder Depression Dissociation and dissociative disorders Eating disorders • anorexia • binge eating • bulimia Obsessive-compulsive disorder Paranoia Post-traumatic stress disorder Psychosis Schizophrenia Sleep Disorders Substance Misuse • Alcohol • Drugs & Opioids

Section 3 Continued – Mothers Medical History – Q49 Pre-Existing Medical Conditions

9	Endocrine disorder under care of endocrinologist	• Thyroid disease • Polycystic ovary syndrome • Osteoporosis • Disorders of calcium metabolism • Pituitary disorders • Adrenal disorders



Section 3 Continued – Mother's Medical History
Q 49 Pre-existing Medical Conditions Examples



Other: For example, but not limited to:

- Cancer
- Sexually Transmitted Diseases, Genital Herpes, Gonorrhea, HIV/AIDS, HPV, Syphilis
- Chronic Fatigue Syndromes – Myalgia Encephalomyelitis
- Respiratory Syndromes – Chronic Obstructive Pulmonary Disease, Asthma
- Endometriosis, uterine Fibroids
- Hepatitis
- Migraine, Myasthenia Gravis
- Sarcopenia
- Any conditions on left diagram

Section 3 Continued - Q54 History of Mental Health Issues

<u>Mental Health Disorders</u>

Anxiety disorders

Generalised anxiety disorders
- social phobias
- specific phobias (for example, agoraphobia and claustrophobia, Paranoia)
- panic disorders

Obsessive-compulsive disorder (OCD)

Post-traumatic stress disorder (PTSD)

Behavioural and emotional disorders in children
- oppositional defiant disorder (ODD)
- conduct disorder (CD)
- Attention Deficit Hyperactivity Disorder (ADHD)

Bipolar affective disorder

Depression

Dissociation and dissociative disorders

Eating disorders
- anorexia
- binge eating
- Bulimia

Psychosis

Schizophrenia

Sleep Disorders

Substance Misuse
- Alcohol
- Drugs & Opioids

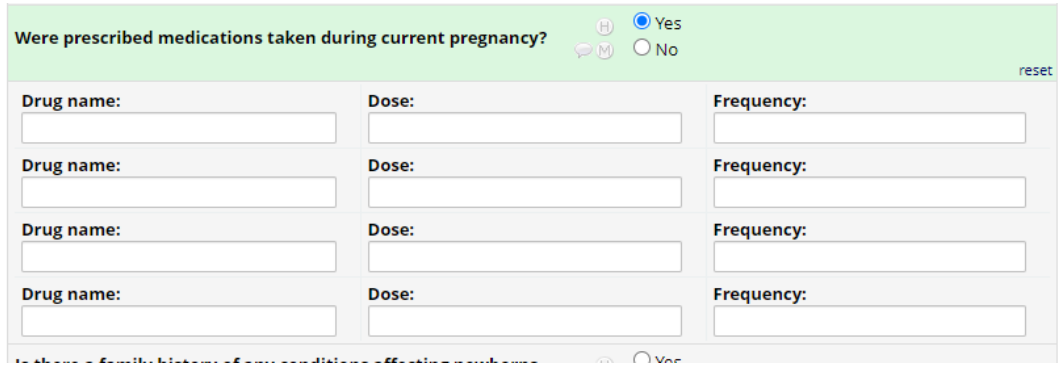
Q56 – Medications in Pregnancy

Please detail in line with the HSE Code of Practice for Healthcare Records Management Abbreviations Date: June 2010

Please use the **Generic Name of the drug -** Do not use the Brand name - innovator's name, proprietary product name

The most commonly prescribed medications in the Irish Maternity servies are :

- systemic anti-infectives (amoxicillin +/− clavulanic acid),
- salbutamol inhalers,
- oral contraceptives
- beclomethasone inhalers



Approved Abbreviation	Unit
cm	Centimetre(s)
g	Gram
kcal	Kilocalorie
Kg	Kilogram
L	Litre
mg	Milligram
mL	Millilitre
mm	Millimetre
Mmol	Millimole

Never abbreviate the following: International Units, Micrograms, Nanograms, Units
e.g. Insulin Actrapid 8 units, Tinzaparin 10,000 International Units

Table 3 Acceptable Latin Terms and Abbreviations

Latin Terms and Abbreviations	English Meaning
b.d./b.i.d.	Twice daily
Mane	In the morning
Nocte	At night
p.r.n.	When required
q.d.s./q.i.d.	Four times daily
STAT	Immediately
Tarde	In the evening
t.d.s./t.i.d.	Three times daily

Abbreviation	Route
IV	Intravenously
IM	Intramuscularly
NG	Nasogastric
PEG	Percutaneous Endoscopic Gastrostomy
PO	Per Oral (i.e. oral by mouth)
PV	Per Vaginal
SC	Subcutaneously
PR	Per Rectum
SL	Sublingually

Section 3 : Family history of any conditions affecting newborns

70	**Is there a family history of any conditions affecting newborns e.g. neurological or metabolic issues?**	Spina bifida
		Hydrocephalus
		Cerebral palsy
		Muscular dystrophy
		Other - Please see examples below
71	**Please specify any history of conditions affecting previous newborns**	Examples: **Bronchopulmonary Dysplasia (BPD):** chronic breathing problems arising from lung tissue damage due to artificial pulmonary ventilation. Children who require respirator support and/or supplemental oxygen for more than 28 days are diagnosed with this condition. Also known as chronic lung disease (CLD). **Congenital Diaphragmatic Hernia:** birth defect involving an opening in the diaphragm, the large muscle that separates the chest from the abdomen. Abdominal organs such as the stomach, liver and intestines can move through the opening into the chest where they interfere with lung development. **Cytomegalovirus (CMV):** a viral infection that when contracted by a pregnant woman can result in severe newborn illness and can sometimes lead to chronic disabilities such as intellectual disabilities or vision and hearing loss. CMV can also be acquired after birth and lead to hearing loss. **Hydrocephalus:** an abnormal accumulation of fluid in the chambers of the brain, characterized by an abnormal increase in head size hyperbilirubinemia: see “jaundice.” **Intracranial Haemorrhage:** see “intraventricular haemorrhage.” abnormal bleeding into the chambers and the surrounding tissue of the brain. **Mechanical ventilation:** Using a mechanical ventilator to breathe for a sick baby while her lungs recover. **MAS: Meconium Aspiration Syndrome:** Breathing problems that occur when the fetus inhales meconium (fetal stool) during labour and delivery. The stool usually is released shortly before or after birth.

Section 3: Please specify any **history of conditions affecting previous newborns**' : continued

- **NEC: necrotizing enterocolitis**: a disease of the intestinal tract, caused by inflammation of the intestinal tract or decreased blood supply to the bowel. This complication in preterm babies improves but can lead to perforation of the bowel, sepsis, or death.
- **NAS: neonatal abstinence syndrome**: a condition in which the infant exhibits withdrawal features. It occurs when a mother has been on narcotics during pregnancy and the infants appear irritable, unsettled, restless and cry often.
- **PDA: Patent Ductus Arteriosus:** a condition in which the blood vessel that connects the aorta (the main artery of the body) and the pulmonary artery (the artery that brings blood to the lungs) does not close as it should shortly after birth.
- **Persistent Pulmonary Hypertension of the Newborn (PPHN)**: High blood pressure in the lungs, leading to breathing problems, and reduced levels of oxygen in the blood.
- **Pneumothorax:** When air from the baby's lungs leaks out into the space between the baby's lungs and chest wall. While small leaks may cause no problems and require no treatment, larger leaks may cause serious complications such as lung collapse and may need surgical repair.
- Babies who spent time in **Special care baby unit (SCBU)**: an alternative name for a neonatal unit.
- **Spina bifida**: Birth defect involving the spinal cord, resulting in varying degrees of paralysis, bladder, and bowel problems. Affected babies may require surgery during the newborn period to close the back and prevent further nerve damage and infection; however, surgery cannot reverse nerve damage that already has occurred.
- Baby with a **congenital anomaly**: congenital: present at and existing from the time of birth i.e.: Structural congenital anomalies are related to a problem with the structure of body parts. These can include:
- **Cleft lip or cleft palate**
- Heart defects, such as missing or misshaped valves
- **Atypical limbs, such** as a clubfoot
- **Neural tube defects,** such as spina bifida, and problems related to the growth and development of the brain and spinal cord.
- **Functional or Developmental Congenital Anomalies**
- **Nervous system or brain problems**: intellectual and developmental disabilities, behavioral disorders, speech or language difficulties, seizures, and movement trouble. the nervous system includes Down syndrome, Prader-Willi syndrome, and Fragile X syndrome. such as blindness or deafness.
- **Metabolic disorders**.: phenylketonuria and hypothyroidism.
- **Degenerative disorders** – muscular dystrophy.

Section 4 - This Pregnancy

Q75 – Q79 – Dates and Gestation of Reportable Event

75. Gestation at time of event

76. Gestation weeks: 1 – 42 number, Min: 1, Max: 42

77. Gestation event days: 0 – 6 days

78. Final Estimated Date of Delivery (EDD)

79. Was this event confirmed by ultrasound- Yes or No

80. Was this a multiple pregnancy at the onset of pregnancy?

81. If yes, see options:

1	Dichorionic diamniotic twins (DCDA)
2	Monochorionic diamniotic twins (MCDA)
3	Monochorionic monoamniotic twins (MCMA)
4	Trichorionic triamniotic triplets
5	Dichorionic triamniotic triplets
6	Dichorionic diamniotic triplets
7	Monochorionic triamniotic triplets
8	Monochorionic diamniotic triplets
9	Monochorionic monoamniotic triplets

Section 4 – Was this pregnancy a result of infertility treatment?

Was this pregnancy a result of infertility treatment?

1. **Intra-uterine Insemination (IUI)** involves placing a sample of prepared sperm inside the uterus around the time of ovulation to facilitate fertilisation
2. **Ovulation Induction (OI**) (for example, clomid) Ovulation induction uses medications to stimulate the development of one or more follicles (immature eggs) in a woman's ovaries
3. **In vitro fertilisation (IVF)** - Alone - fertilisation 'in glass' and it refers to the process where a woman's eggs are fertilised outside of her body in the laboratory. The resulting embryos are then transferred back into the uterus a few days later.
4. **In vitro fertilisation (IVF)** - Intracytoplasmic Sperm Injection (ICSI) ICSI is a variant of IVF. It is when single live sperms are injected directly into ripe eggs
5. **In vitro fertilisation (IVF**) - Egg donation/Donor egg
6. **In vitro fertilisation (IVF)** - Sperm donation
7. **In vitro fertilisation (IVF)** - Preimplantation Genetic Testing for Aneuploidy (PGT-A) - is a specialised diagnostic technique that can be used to test embryos for a chromosomal abnormality. This technique offers an earlier test than alternative ante-natal screening tests which are normally offered between 11-14 weeks of pregnancy.

99. What was the intended type of **Antenatal Care?**

All 19 units and services now have in place antenatal midwifery clinics for normal-risk women

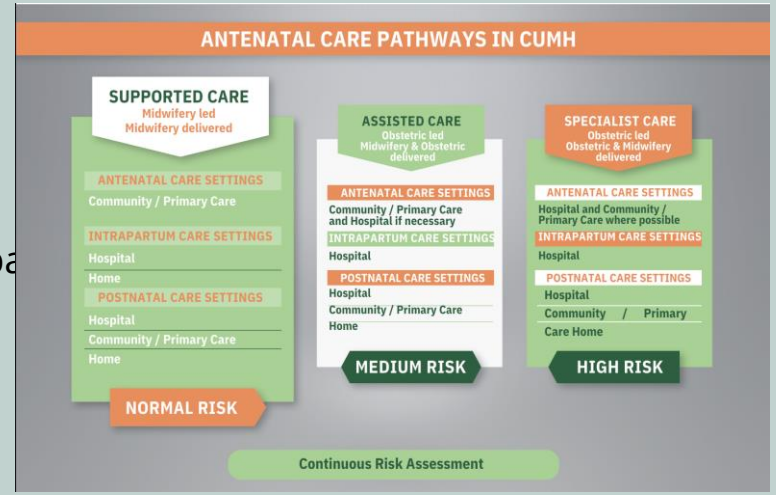
MLU – Midwifery-led clinics being held across the country - 2 MLU units in Ireland – Cavan and Drogheda only

Intended type of **Antenatal Care- where the woman planned to receive her care for the duration of her pregnancy**

1. Midwifery- led / Supportive / DOMINO
2 Assisted / Obstetric - led
3 High-risk / Obstetric - led
4 Homebirth Service
5 Other

Intended type of **delivery** care at booking (Where woman intended to give birth to her ba

1 Midwifery - led / Supportive / DOMINO
2 Assisted / Obstetric - led
3 High-risk / Obstetric - led
4 Homebirth Service
5 Other



Section 4 - Antenatal Care

Concerns with **fetus** in the antenatal period – may lead to a change of care pathway

1	**Concern with fetal heart rate**	Bradycardia, Tachycardia
2	**Diagnosis of oligo/polyhydramnios**	Amniotic Fluid Volume (AFV) Oligo = reduced fluid levels around baby Poly – Increased fluid levels around baby
3	**Intrauterine death**	IUD
4	**Premature rupture of membranes**	PROM – the breaking of waters after 37 weeks and before labour begins P-Prom: Preterm prelabour rupture of the membranes: waters breaking before 37 weeks
5	**Prolonged rupture of membranes (>24hrs)**	Rupture of membranes for more than 24 hours
6	**Reduced fetal movements**	Usually described as less than 10 movements in a 2-hour window- maternal perception of normal movements must be taken into consideration
7	**Small for gestational age/ Intrauterine growth restriction**	Small-for-gestational age (SGA) refers to an infant born with a birth weight less than the 10th centile (RCOG- green top guidelines) IUGR: a rate of fetal growth that is less than normal in light of the growth potential of that specific infant
8	**Preterm labour**	Labour from 24+0 to 36+6 weeks of gestation
9	**Other**	Diagnoses of GBS, signs of infection,

Issues of concern documented during this pregnancy - Maternal Concerns in Pregnancy

1	**Anaemia**	First trimester haemoglobin (Hb) less than 110 g/l, (11g/dl)second/third trimester Hb less than 105 g/l, and postpartum Hb less than 100 g/l (10g/dl)
2	**Antepartum haemorrhage**	APH - bleeding from or into the genital tract, occurring from 24+0 weeks of pregnancy and before the birth of the baby. Causes of APH are placenta praevia and placental abruption (RCOG GTG . 63)
3	**Any indication of maternal infection (incl. viral illness)**	E.g. Hepatitis B virus (HBV), human immunodeficiency virus (HIV), influenza A virus (IAV), ZIKV, and SARS-CoV-2
4	**Atypical antibodies Green top guideline**	Antibody screening is to determine the presence of atypical red cell antibodies of likely clinical significance. Mentions of: ABO and RhD type, non-ABO antibodies such as anti-Kell, anti-c, anti-E, anti-Jka, anti-Jkb, anti-Fya, and anti-Fy
5	**Eclampsia**	Diagnosed by: High blood pressure + proteinuria + full clinical review of symptoms, signs and other investigations for pre-eclampsia. (NICE GUIDELINES)
6	**Group B streptococcus**	group B beta-haemolytic streptococcus infection (Streptococcus agalactiae) is recognised as the most frequent cause of severe early-onset (less than 7 days of age) infection in newborn infants.
7	**Hypertension (PIH/Preeclampsia)**	(PIH) raised blood pressure (>140/90 mmHg) developing in a woman during the second half of pregnancy. It usually resolves within six weeks of delivery and is associated with a better prognosis than pre-eclampsia. (Oxford handbook)
8	**Laparotomy**	performed by making a large incision in the abdomen to gain access to the peritoneal cavity
9	**Low lying placenta/placenta praevia**	low-lying placenta if the placenta is less than 2cm from the cervix. Previa: happens when your placenta attaches in the lower part of your uterus, sometimes completely covering the cervix
10	**Sepsis**	infection plus systemic manifestations of infection. Severe sepsis may be defined as sepsis plus sepsis-induced organ dysfunction or tissue hypoperfusion. Septic shock is defined as the persistence of hypoperfusion despite adequate fluid replacement therapy. WBC taken into account.
11	**Maternal tachycardia**	Over 100 beats per minute
12	**Maternal bacteraemia**	the presence of bacteria in your blood, can progress to sepsis
13	**Mental health deterioration/onset of mental health disorder**	Beginning or worsening of any mental health condition listed in Section: 2
14	**Gestational diabetes**	Diabetes develops in mid-pregnancy whereby blood sugar levels are increase, diagnosed by Glucose Tolerance Test (GTT)
15	**Thromboembolism**	a blood clot developed in the body, also known as DVT or embolism, can develop into a Pulmonary Embolism in the lungs. Or Venous thromboembolism (VTE),
16	**Trauma (incl. road traffic accident)**	Accidental injuries, Falling object accident, Amputations, Fractures Burns, Concussion, Road traffic collisions
17	**Other**	

Section 4 - Scans, Emergency rooms and admissions

- Was the care of the **mother transferred from another unit** with the fetus in utero? Yes or No
- Was there evidence of a **congenital anomaly?** Yes or No
- **What was the congenital anomaly diagnosed?** Enter name here
- If yes: **How was the congenital anomaly diagnosed**?
  - Ultrasound
  - Chorionic Villus Sampling (CVS)
  - Amniocentesis
  - At birth
- **Was there evidence of growth restriction?** Yes or No If Yes, When was the growth restriction diagnosed?
  - Antenatal ultrasound
  - Postnatally
- **Total number of antenatal visits** – enter numbet
- **Did the woman book within the first 12 weeks?**
- **Was the dating scan accurate or inaccurate?**

  Accurate= the EDD stayed the same throughout pregnancy

  Inaccurate= the EDD changed to a different date
- **Was the scan complete or incomplete?**

  Complete – all organs visualised during anatomy scan

  Incomplete – all organs could not be visualised, patient to return for another scan
- **Detail all late third trimester scans are reasons for multiple scans (i.e.. Size, AFV)**
  - All sonographer comments to be entered.
- **Emergency room attendance**: date, reason, if pain
  - Examples: abdominal pain, vaginal bleeding, reduced fetal movements, suspected labour, suspected rupture of membranes, itch and rash, unwell, Urinary tract infections,

-- Detail all admissions to an antenatal ward for medical review.

Reasons for Inpatient Admission to Hospital

1	**Antepartum haemorrhage**	APH bleeding from or into the genital tract, occurring from 24+0 weeks of pregnancy and before the birth of the baby. Causes of APH are placenta praevia and placental abruption (RCOG GTG . 63)
2	**Breech**	A malposition of labour: bottom or feet are facing downwards in your uterus (womb) instead of the usual head-down (also known as head-first) position.
3	**Cord prolapse**	An obstetric emergency. the descent of the umbilical cord through the cervix in the presence of ruptured membranes.
4	**Elective caesarean section**	A planned C/S, discussed prior to woman going into labour
5	**Gestational diabetes mellitus**	Diabetes develops in mid-pregnancy whereby blood sugar levels are increase, diagnosed by Glucose Tolerance Test (GTT)
6	**Hypertensive disorders (PET/PIH)**	PIH) raised blood pressure (>140/90 mmHg) developing in a woman during the second half of pregnancy. It usually resolves within six weeks of delivery and is associated with a better prognosis than pre-eclampsia.
7	**Induction of labour**	IOL – a panned augmentation to begin the 1st stage of labour
8	**Intra-uterine growth restriction**	Small for dates
9	**Large for gestational age**	LGA ≥97th percentile
10	**Oligohydramnios**	amniotic fluid index (AFI) less than 5 cm,
11	**Pelvic pain (SPD)**	SPD or pelvic girdle pain (PGP), happens when the ligaments that normally keep your pelvic bone aligned during pregnancy become too relaxed and stretchy soon before birth (as delivery nears, things are supposed to start loosening up
12	**Placenta previa**	A condition where the placenta covers all or part of the cervix. If the placenta does not move sufficiently, it may be necessary to perform a caesarean.
13	**Polyhydramnios**	Too much fluid around the baby, from 8cm to 16cm of fluid
14	**Post-maturity**	Post dates, over-due, over 40 weeks,
15	**Prolonged SROM**	Rupture of membranes for more than 24 hours
16	**Reduced fetal movements**	Reduced fetal movements occur when a pregnant woman feels that her baby is not moving or kicking as much as usual, or if the baby's movements have become weaker, or stopped. Reduced fetal movements can be an early sign, and sometimes the only warning sign, that a baby needs to be checked at hospita
17	**Spontaneous onset of labour**	The onset of labour without induction
18	**Twins**	multiple – two- babies
19	**Other**	Social, personal, safety reasons, mental health reasons

SECTION 5. LABOUR AND DELIVERY

Questions	
When admitted for delivery, where was the woman referred from?	Self-referral to the maternity hospital Referral from the outpatient antenatal clinic Referral from private rooms Referral from the general practitioner Brought in by ambulance Other reset
What department did the woman attend when she presented to the hospital for admission for delivery?	Emergency Department (ED) Antenatal Wards Labour ward Other reset
What was the type of care at delivery?	Obstetric - Led Care Midwifery - Led Care Home Birth Service / Midwife Other reset
Place of delivery (type of unit)	Obstetric Unit Alongside Midwifery Unit Other
Aadmission Date and Time	

SECTION 5. LABOUR AND DELIVERY

Indication for Admission	Antepartum haemorrhage Breech Cord prolapse Elective caesarean section Gestational diabetes mellitus Hypertensive disorders (PET/PIH) Induction of labour Intra-uterine growth restriction	Large for gestational age Oligohydramnios Pelvic pain (SPD) Placenta praevia Polyhydramnios Post-maturity Prolonged SROM Reduced fetal movements Spontaneous onset of labour Twins
Onset of labour ***** The rest of the form is DEPENDENT on this question** The form will vary depending on which answer is given**	**Spontaneous** **Induced** **Never in labour (pre-labour Caesarean Section)**	
Grade of obstetrician who made decision for the Caesarean section		
Was fetal heart monitoring undertaken at admission?	Yes No reset	
If yes, what method was used?	External intermittent, specify type External continuous Internal continuous reset	
Colour of liquor when first seen	Clear Blood stained / pink Meconium, please specify grade Other	

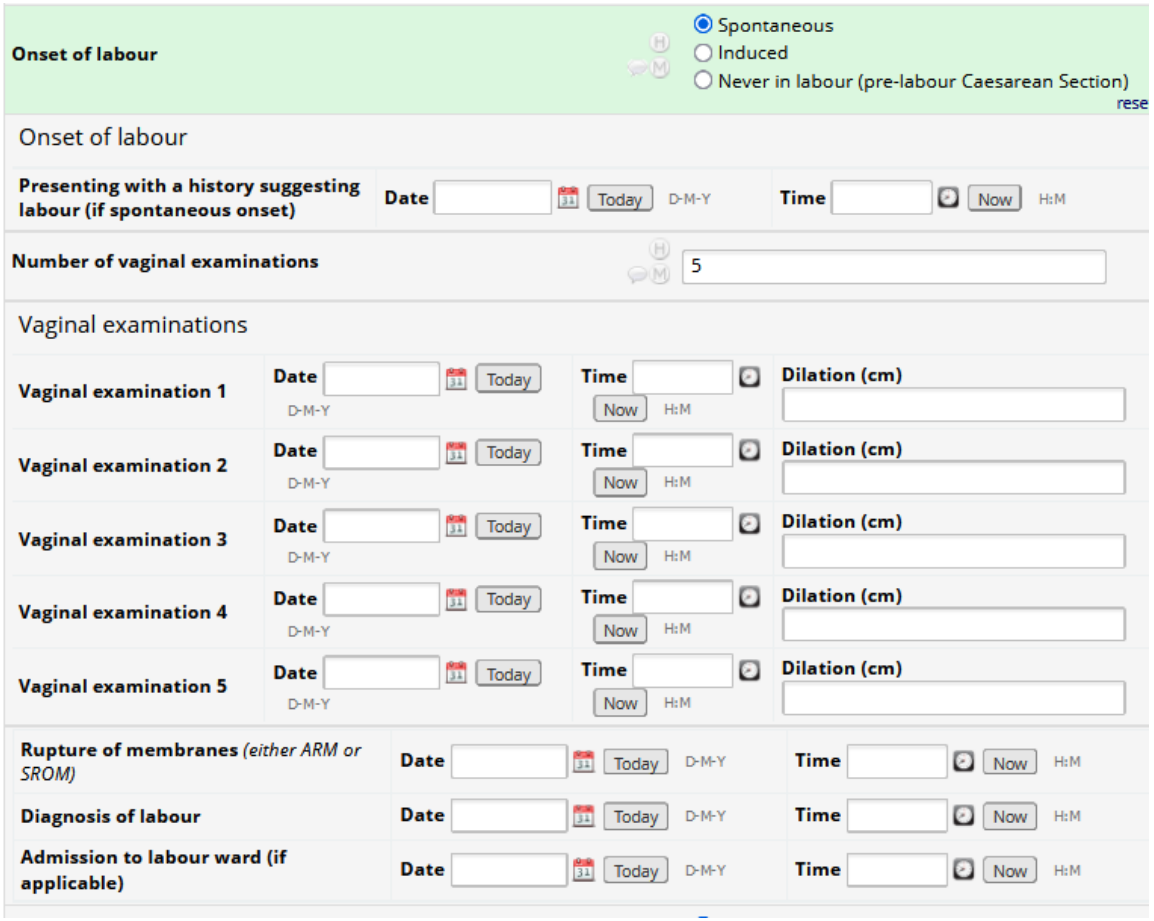
SECTION 5. LABOUR AND DELIVERY

Type of analgesia / anesthesia	Epidural General Anaesthesia Opiatres i.e Pethadine Nitrous Oxide (gas and air) Spinal Please enter date and time of administration of first dose of analgesia
Psychological Support	Yes or No
Presentation at delivery	Vertex Breech Compound (Includes transverse and shoulder presentations) Brow Face reset
What was the position?	Occipito Anterior Occipito Posterior Left or Right Occipito Transverse Left or Right Occipito Posterior Left or Right Occipito Anterior reset
Was a fetal scalp pH taken during labour?	Yes or No Fetal scalp electrode or FSE is a spiral wire that can be placed on the scalp of the fetus to monitor their heart rate and ensure their well-being.
If Caesarean section delivery, what was the CS category?	Emergency -Immediate threat to life of woman and fetus (NICE Category I) Urgent - Maternal or fetal compromise which is not immediately life threatening (NICE Category II) No maternal or fetal compromise but needs expedited delivery (NICE Category III) Elective - timed to suit the woman or staff (NICE Category IV)

Section 5 - Onset of Labour – Spontaneous, example

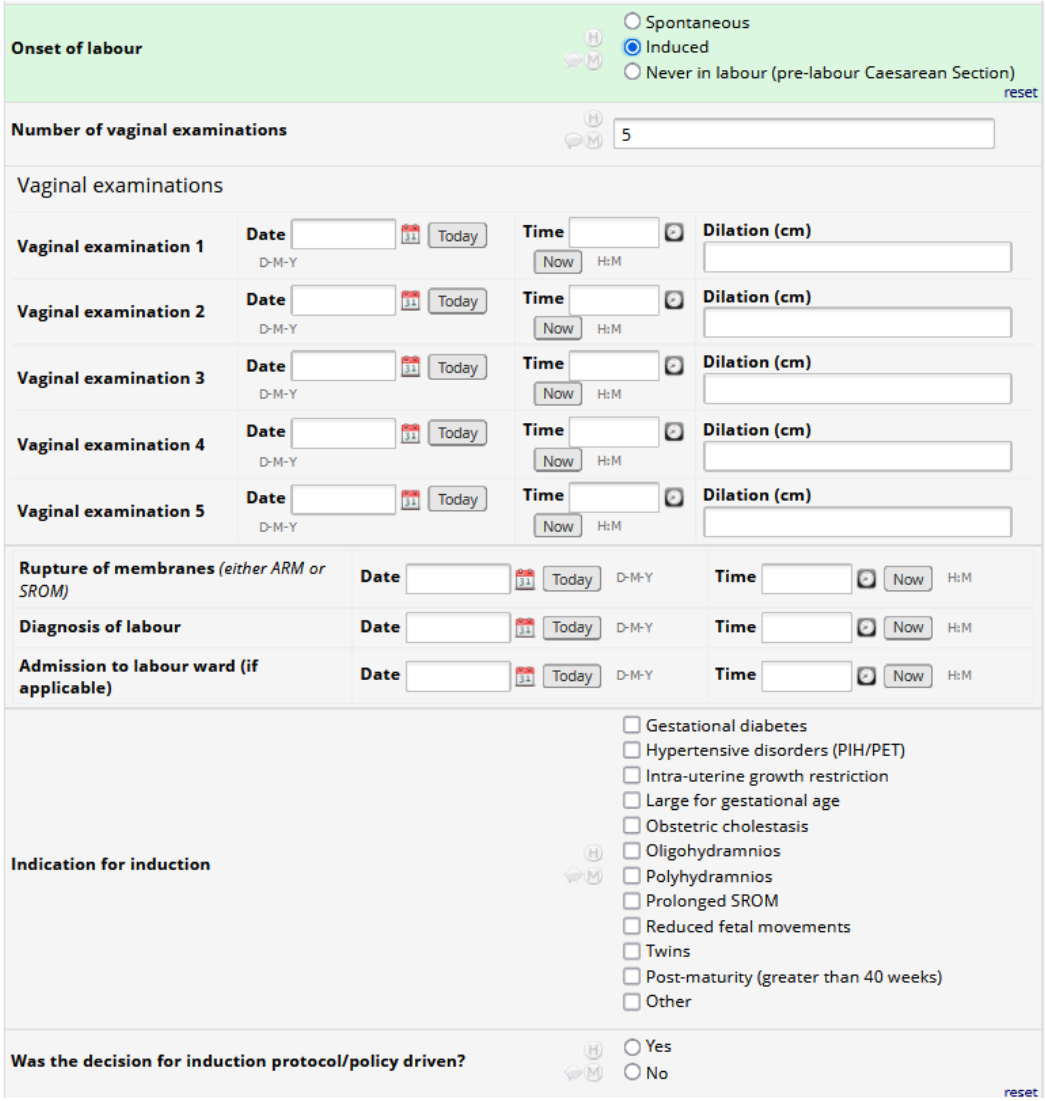
PMMERT

Perinatal Mortality and Morbidity Event Review Tool



Section 5 – Onset of labour – Induced

PMMERT
Perinatal Mortality and Morbidity Event Review Tool



Onset of labour
- ○ Spontaneous
- ◉ Induced
- ○ Never in labour (pre-labour Caesarean Section)

reset

Number of vaginal examinations: 5

Vaginal examinations

	Date (D-M-Y)	Time (H:M)	Dilation (cm)
Vaginal examination 1	Today	Now	
Vaginal examination 2	Today	Now	
Vaginal examination 3	Today	Now	
Vaginal examination 4	Today	Now	
Vaginal examination 5	Today	Now	

	Date (D-M-Y)	Time (H:M)
Rupture of membranes *(either ARM or SROM)*	Today	Now
Diagnosis of labour	Today	Now
Admission to labour ward (if applicable)	Today	Now

Indication for induction
- ☐ Gestational diabetes
- ☐ Hypertensive disorders (PIH/PET)
- ☐ Intra-uterine growth restriction
- ☐ Large for gestational age
- ☐ Obstetric cholestasis
- ☐ Oligohydramnios
- ☐ Polyhydramnios
- ☐ Prolonged SROM
- ☐ Reduced fetal movements
- ☐ Twins
- ☐ Post-maturity (greater than 40 weeks)
- ☐ Other

Was the decision for induction protocol/policy driven?
- ○ Yes
- ○ No

reset

Section 5 - **Onset of labour = Induction**
Induction and vaginal examination questions

204 - Reason for induction :

1. Gestational diabete
2. Hypertensive disorders (PIH/PET)
3. Intra-uterine growth restriction
4. Large for gestational age
5. Obstetric cholestasis
6. Oligohydramnio
7. Polyhydramnios
8. Prolonged SROM
9. Reduced fetal movements
10. Twins
11. Post-maturity (greater than 40 weeks)
12. Other

Was the decision for induction protocol/policy driven? Yes or No

Planned induction: Yes or No

Planned induction Date: Click to select a date

Cervical assessment for induction; yes or no

Cervical assessment Date: Click to select a date

Assesment completed in (location)

- Outpatient
- Inpatient
- ER

Results of assessment

- Favourable
- Not favourable
- Neither

Assesment done by

Midwife, Student midwife, Newly qualified midwife, Staff midwife, Senior midwife

Advanced midwife practitioner

CMM3, CMM2, CMM1

NCHD

Consultant Obstetrician

Decision to induce made by;

Midwife, Student midwife

Newly qualified midwife, Staff midwife, Senior midwife, Advanced midwife practitioner

CMM3, CMM2, CMM1

NCHD, Consultant Obstetrician

If not favourable, was Consultant Obstetrician aware of decision to induce? Yes/ No

Favourable= A Bishop score of 8 or greater is considered to be favourable for induction,

Unfavourable = A score of 6 or less is considered to be unfavourable if an induction is indicated cervical ripening agents may be utilized

Was the Bishop's score used? Yes/ No

Bishop scoring system:

Score	Dilation (cm)	Position of cervix	Effacement (%)	Station (-3 to +3)	Cervical Consistency
0	Closed	Posterior	0-30	-3	Firm
1	1-2	Mid position	40-50	-2	Medium
2	3-4	Anterior	60-70	-1, 0	Soft
3	5-6	--	80	+1, +2	--

Section 5 – Onset of Labour = Induction and vaginal examination questions

231 – Grade of obstetrician who made decision:

1	Intern (Post-Graduate year 1)
2	Senior house officer (Post-Graduate year 2-3)
3	Junior Registrar (Post-Graduate year 4)
4	Specialist Registrar / Senior Registrar (Post-Graduate year 5+)
5	Fellow

232- 240 - Fetal Heart Monitoring:

- External intermittent – Pinnards or Doppler
- External Continuous - CTG monitoring
- Internal Continuous – Fetal Scalp Electrode

242 – 268 Details of Prostin Gel, Propess, Oxytocin, date, time,

269 – Mechanical - ?

271 – 285 – reviews and decisions relating to onset of labour

Q286 – Q380 Labour and C/S details

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286 – Admission to labour ward, partograms dates and times, liqour

302 - Analgesia throughout labour, epidural, opiates

344 – 353 CTG interpretation – see slide on CTG interpretation

354 – Tachysystole: contractions more than 5 contractions per 10 minutes in 2 consecutive intervals

356 – 360 Terbutaline – used to delay or slow down labour and contractions – enter dose, date, time of infusion

361- 374: **Delivery details for vaginal birth**

Stages of labour: End of 1st stage of labour – diagnosed as fully or 10cm.

2nd stage = time of diagnoses of 10cm to delivery

Active maternal pushing (second stage) = time of start of pushing to delivery to Birth date and time

Caesarean Section Details

375 – Caesarean Section details

380 - Emergency Caesarean section delivery, what was the CS indication category?

1	EUA - Cephalopelvic disproportion	efficient uterine action,
2	EUA - Persistent malposition	efficient uterine action,
3	Fetal reason (no oxytocin)	Baby not tolerating labour, brady cardia, tachycardia,
4	IUA - Inability to treat fetal intolerance	inefficient uterine action, progressing at less than 1 cm per hour
5	IUA - Poor response	inefficient uterine action, progressing at less than 1 cm per hour
7	Failed instrumental delivery	unable to deliver with Forceps or KIWI
6	Other	Temperature in labour,

The category of C/S, as per the NICE classification or urgency:

- Category 1. Immediate threat to the life of the woman or fetus (for example, suspected uterine rupture, major placental abruption, cord prolapse, fetal hypoxia or persistent fetal bradycardia).
- Category 2. Maternal or fetal compromise which is not immediately life-threatening.
- Category 3. No maternal or fetal compromise but needs early birth.
- Category 4. Birth timed to suit women or healthcare provider.

Q378 - Pre-labour Caesarean Section

	Pre labour C/S reasons	
1	Fetal Reason	Breech presentation (at term) unstable lie (a presentation that fluctuates from oblique, cephalic, transverse etc.), transverse lie or oblique lie. Twin or multiple pregnancy Fetal compromise – IUGR or Growth issues
2	Maternal Medical Request ???	Previous shoulder dystocia Baby measuring large for dates >4.5kg Maternal health issue (inability to tolerate normal labour due to preexisting medical issue) Fetal disproportion (large baby) HIV virus
3	Maternal Request	? Previous traumatic delivery, Tocophobia
4	Previous C/S	Previous scar. ? Trial of normal labour then deemed unsuitable to continue
5	Other	Cord Prolapse, Advanced maternal age, IVF, other obstetric concern (i.e.. Fibroid), decision for tubal ligations)

All reasons for C/S

Abdominal cerclage
Active herpes outbreak
Congenital anomalies
Conjoined twins
Contracted pelvis (e.g., congenital or prior fracture)
Cord prolapse
Dystocia or failure to progress in labor (e.g., arrest of descent or dilation)
Elective repeat cesarean delivery
Fetal heart rate tracings that suggest fetal distress (sinusoidal pattern or absent variability with recurrent late decelerations, recurrent variable decelerations, or bradycardia)
Human immunodeficiency virus infection
Malpresentation (e.g., breech, brow, face/mentum posterior, transverse lie)
Medical conditions (e.g., cardiac, pulmonary, thrombocytopenia)
Obstructive pelvic tumor
Perimortem (mother in cardiac arrest)
Placenta previa
Placental abruption
Reconstructive vaginal surgery
Vasa previa

No clinical guideline for suspected cephalopelvic disproportion or suspected macrosomia, so it is unclear how decisions about mode of birth are made when such concerns are raised.

Instrumental Delivery Continued

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395 & 396 – Instrumental attempts and pulls – please enter number

402 & 403 – Any issues in relation to instrumental delivery

Fetal complications

- Shoulder Dystocia
- Subaponeurotic / subgalea haemorrhage
- Facial nerve palsy, corneal abrasion, retinal haemorrhage.
- Skull fracture and/or intracranial haemorrhage.
- Cervical spine injury

Maternal Complications:

- vaginal trauma – postpartum haemorrhage,

urinary tract injury leading to urinary incontinence

damage to pelvic floor and anal sphincter

383	Other reasons for instrumental deliver	
1	Failure to Progress	Pushing well but cannot aid descent with pushing, fetal disproportion
2	Fetal Reasons	Brady (under 100 bpm) Tachy (160bpm) NRCTG – non reassuring CTG (Q385)
3	Maternal Exhaustion	Mother has poor pushing technique
4	Other	

Q417 – 442 Delivery complications at the time of Caesarean section

418. Complications at the time of Caesarean section

1. Difficult delivery of the baby (difficult to extract the baby from the uterus – leads to q419)
2. Placental complications (see previous)
3. Uterine rupture
4. Hypertonic uterus
5. Other

419 Difficult delivery

1. Impacted fetal head – The baby's head can become lodged deep in the maternal pelvis making it challenging to deliver the baby
2. Breech extraction
3. Transverse lie -
4. Other – as per delivery notes

420 placental complications during C/S

1. Placenta praevia
2. Placental abruption

433 - Was the placenta sent for histological analysis? If yes, please attach an anonymised placental histology report

434 Was a fetal scalp pH taken? FBS in labour

435 - If fetal scalp was taken, how many were taken? Maximum of 3 samples to be taken

436 - If a fetal scalp was taken, was it abnormal

437 - What was the indication for taking scalp pH?
Interpretation of fetal blood sampling:

INTERREPTATIONS / RESULTS of pH:
pH
Normal: greater than or equal to 7.25
Borderline (repeat in 30 mins): 7.21 to 7.24
Abnormal (birth expedited): less than or equal to 7.20

Lactate:
Normal: less than 4.2 mmol/L
Borderline (repeat in 30 mins): 4.2 to 4.8 mmol/L
Abnormal (birth expedited): greater than 4.8

Section 6 Baby Outcome- Birth Details

	Type of Case	
1	Intrapartum stillbirth	intrapartum stillbirths (those occurring after the onset of labor
2	Early neonatal death	an early neonatal death is the death of a live born baby within 7 completed days of birth
3	Therapeutic Hypothermia	Therapeutic Hypothermia (TH) has been found to be protective in those infants presenting with moderate or severe Neonatal Encephalopathy (NE) by inhibiting various events in the cascade of this injury – see table below
4	Antepartum Stillbirth	Death of baby occurring before the onset of labor
	A stillbirth in Ireland is defined as a baby delivered without signs of life from 24 weeks gestation or with a birth weight equal to or greater than 500 g	

Suggested criteria for an intrapartum hypoxic-ischaemic insult[2] include:

(i) Evidence of metabolic acidosis in fetal umbilical cord arterial blood obtained at delivery (pH <7 and base deficit ≥12 mmol/L).

(ii) Early onset of severe or moderate NE in infants ≥ 34/40.

(iii) A sentinel hypoxic event occuring immediately before or during labour e.g. uterine rupture, placental abruption, cord prolapse etc.

(iv) A sudden and sustained fetal bradycardia or the absence of fetal heart rate variability in the presence of persistent late or persistent variable decelerations on cardiotocography, usually after a hypoxic sentinel event when the pattern was previously normal.

(v) Apgar scores of 0-3 beyond 5 minutes.

(vi) Onset of multisystem involvement within 72 hours of birth.

(vii) Early imaging study showing evidence of acute non-focal cerebral abnormality.

(viii) Exclusion of other identifiable aetiologies e.g. trauma, coagulation disorders, infection or genetic disorders.

The inclusion criteria for TH are:

- ≥ 36 weeks completed gestation with a weight ≥ 1800grams.
- Acidosis (pH<7.0) present in the umbilical cord, or any blood sample taken within 60 minutes of birth.
- Base deficit ≥ -16.0 mmol/L in umbilical cord or any blood sample taken within 60 minutes of birth.
- History of acute perinatal event (such as but not limited to cord prolapse, placental abruption or uterine rupture).
- Apgar score ≤ 5 at 10 minutes or at least 10 minutes of positive-pressure ventilation.
- Evidence of moderate-to-severe encephalopathy, demonstrated by the presence of seizures OR at least one sign in three or more of the six categories shown In the Modified Sarnat Table (see Table 38).

454- Resuscitation at Delivery

454 - Chest compressions – indicated if HR is,60bpm/min

455 - Adrenaline – (given through UVC- umbilical venous catheter)

-Indicated if HR <60bpm/min after chest compressions and 100% O2

456 - 451: Apgar's scores @1, 5, 10, 15 & 20 mins

	Sign	2	1	0
A	Appearance (skin color)	Normal over entire body	Normal except extremities	Cyanotic or pale all over
P	Pulse	>100 bpm	<100 bpm	Absent
G	Grimace (reflex irritability)	Sneezes, coughs, or vigorous cry	Grimaces	No response
A	Activity (muscle tone)	Active	Arms and legs flexed	Absent
R	Respirations	Good, crying	Gasping, irregular	Absent

Management in the NICU

1. Incubator – heats baby, exothermic mattress, warm air

2. IV fluids – for hypovolaemia, to maintain arterial pressure

3. IV Antibiotic – to treat sepsis or suspected sepsis (await blood cultures to return before stopping IV ABS)

4. Parental Nutrition: For preterm babies born **before 31+0 weeks,** start neonatal parenteral nutrition. For preterm babies born **at or after 31+0 weeks**, start parenteral nutrition if sufficient progress is not made with enteral feeding in the first 72 hours after birth. Babies suffering critical illness such as sepsis.

5. Nasal CPAP - continuous positive airway pressure (CPAP) to infants who are breathing spontaneously, but with difficulty, following birth

6. Assisted care

479: Postpartum Complications – from Birth to 6 Weeks

1	Acute respiratory dysfunction	Infections (viral), sepsis, and massive transfusion are the commonest causes of ARDS. Symptoms are hypoxemia, can be caused by amniotic fluid embolism. Needs ventilation supports
2	Anaesthetic problem	Post-dural puncture headache, Nerve injuries due to regional anaesthetic, Accidental awareness under general anaesthesia, failed tracheal intubation
3	Breast concern: blocked duct, mastitis, engorgement	may need antibiotics, may request assistance from lactation consultant
4	Cardiac arrest	Several causes of postpartum cardiac arrest have been reported, such as massive postpartum hemorrhage, pulmonary embolism, peripartum cardiomyopathy (PPCM), magnesium toxicity, and anaphylaxis
5	Cerebro-vascular event	Stroke, can be related to Pulmonary Embolism, Cardiomyopathy, pre-eclampsia
6	Coma	conditions that may put a post partum woman in coma include trauma, seizure, organ failure, or toxic or metabolic dysfunction
7	Eclamptic seizure	episodes of shaking, confusion and disorientation caused by abnormal brain activity
8	Excessive pain	Chronic post-surgical pain results from a combination of nociceptive, inflammatory and neuropathic sources
	Genital Tract Haematoma	Vulvar hematomas are collections of blood that are bounded from bleeding, thereby causing an obvious collection of blood protruding to the vulvar skin or Vaginal Haematomas
9	Haemorrhage - Post-partum haemorrhage (PPH)	primary PPH is the loss of 500 ml or more of blood from the genital tract within 24 hours of the birth of a baby. PPH can be minor (500–1000 ml) or major (more than 1000 ml)
11	Hypertension	BP 90 /140
12	Major obstetric haemorrhage	blood loss of at least 2500 ml, transfusion of five or more units of blood or documented treatment for coagulopathy.

Postpartum Complications for birth to 6 weeks

13	Maternal pyrexia	Temperature over 37.5 on 2 occasions
14	Maternal tachycardia	Heart Beat of over 100bmp
15	Mental health deterioration	worsening mental health from baseline
16	Endometritis	infection of lining of the womb
17	Peripartum hysterectomy	removal of the uterus at the time of delivery
18	Post-partum haemorrhage	primary PPH is the loss of 500 ml or more of blood from the genital tract within 24 hours of the birth of a baby. PPH can be minor (500–1000 ml) or major (more than 1000 ml)
19	Pulmonary embolism	the blockage of the lungs by a blood clot
20	Pulmonary oedema	fluid retention in the lungs
21	Renal or liver dysfunction	abnormal blood results – liver bilirubin, albumin, ast, alt, KIDNEY: urea, creatinine Sodium, Potassium
22	Septicaemic shock	temp, hypovolemia, extremely low Blood Pressure despite IV fluid replacement.
23	Status epilepticus	a seizure that lasts longer than 5 minutes
24	Symptoms of a urinary tract infection	burning, pain, foul-smelling urine, cloudy urine, temperature, more frequent passing urine
25	Uterine rupture	when the lining of the uterus tears
29	Wound Haematoma	a pooled blood clot at the site of the wound
26	Wound infection	Oozing, redness, soreness, swelling
27	Other/other infection	chorioamniitis

Q499. CTG interpretation: follow Intrapartum care for healthy women and babies:
NICE guideline CG190

A normal fetal heart rate is between 110-160 bpm.

The **baseline** rate is the average heart rate of the fetus within a 10-minute window.

Fetal tachycardia is defined as a baseline heart rate greater than 160 bpm.

Causes of fetal tachycardia include: Fetal hypoxia, Chorioamnionitis, Hyperthyroidism, Fetal or maternal anaemia, Fetal tachyarrhythmia

Fetal bradycardia is defined as a baseline heart rate of less than 110 bpm

Severe prolonged bradycardia (less than 80 bpm for more than 3 minutes indicates severe hypoxia. Causes of prolonged severe bradycardia include: Prolonged cord compression, Cord prolapse, Epidural and spinal anaesthesia, Maternal seizures, Rapid fetal descent, Variability

Baseline variability refers to the variation of fetal heart rate from one beat to the next. Variability occurs as a result of the interaction between the nervous system, chemoreceptors, baroreceptors and cardiac responsiveness. Normal variability is between 5-25 bpm.

Variability can be categorised as either reassuring, non-reassuring or abnormal.

Reassuring: 5 – 25 bpm. **Non-reassuring**: less than 5 bpm for between 30-50 minutes or more than 25 bpm for 15-25 minutes
Abnormal: less than 5 bpm for more than 50 minutes or more than 25 bpm for more than 25 minutes

Accelerations are an abrupt increase in the baseline fetal heart rate of greater than 15 bpm for greater than 15 seconds.1 The presence of accelerations is reassuring.

Accelerations occurring alongside uterine contractions is a sign of a healthy fetus.

The absence of accelerations with an otherwise normal CTG is of uncertain significance

Decelerations are an abrupt decrease in the baseline fetal heart rate of greater than 15 bpm for greater than 15 seconds.

Early decelerations start when the uterine contraction begins and recover when uterine contraction stops. This is due to increased fetal intracranial pressure causing increased vagal tone

Late decelerations begin at the peak of the uterine contraction and recover after the contraction end

prolonged deceleration is defined as a deceleration that lasts more than 2 minutes: If it lasts between 2-3 minutes it is classed as non-reassuring. If it lasts longer than 3 minutes it is immediately classed as abnormal.

Sinusoidal CTG pattern is rare, however, if present it is very concerning as it is associated with high rates of fetal morbidity and mortality. A smooth, regular, wave-like pattern. Frequency of around 2-5 cycles a minute. Stable baseline rate around 120-160bpm No beat-to-beat variability

A sinusoidal pattern usually indicates one or more of the following: Severe fetal hypoxia, Severe fetal anaemia, Fetal/maternal haemorrhage.

OVERALL IMPRESSION

Normal : Reassuring: **Baseline heart rate 110 to 160 bpm**

Baseline variability: 5 to 25 bpm

Decelerations: None or early

Variable decelerations with no concerning characteristics for less than 90 minutes

Suspicious or Non-reassuring

Baseline heart rate: 100 to 109 bpm or 161 to 180 bpm

Baseline variability: Either of the below would be classed as **non-reassuring:** Less than 5 for 30 to 50 minutes or More than 25 for 15 to 25 minutes

Decelerations Any of the below would be classed **as non-reassuring**: **Variable decelerations** with no concerning characteristics for 90 minutes or more. **Variable decelerations** with any concerning characteristics in up to 50% of contractions for 30 minutes or more. Variable **decelerations** with any concerning characteristics in over 50% of contractions for less than 30 minutes. Late **decelerations** in over 50% of contractions for less than 30 minutes, with no maternal or fetal clinical risk factors such as vaginal bleeding or significant meconium.

Abnormal or Pathological

Baseline heart rate: Below 100 bpm or Above 180 bpm. Baseline variability: Any of the below would be classed as abnormal: Less than 5 for more than 50 minutes, More than 25 for more than 25 minutes or Sinusoidal

Decelerations Any of the below would be classed as abnormal: Variable decelerations with any concerning characteristics in over 50% of contractions for 30 minutes (or less if any maternal or fetal clinical risk factors – see above). Late decelerations for 30 minutes (or less if any maternal or fetal clinical risk factors). Acute bradycardia, or a single prolonged deceleration lasting 3 minutes or more.

Regard the following as concerning characteristics of variable decelerations:: Lasting more than 60 seconds. Reduced baseline variability within the deceleration. Failure to return to baseline Biphasic (W) shape, No shouldering

Q 499. CTG Interpretation Guidance

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8.1. NICE Intrapartum CTG Sticker

Sticker No:	CTG in Labour: NICE 2022 classification	Maternal pulse:	Initial risk factors: Evolving risks:
Contractions	• < 5:10	• ≥ 5:10 • Contraction lasting ≥ 2 mins	
Baseline bpm Original baseline bpm	• 110 – 160bpm **AND** • Stable baseline **AND** • Appropriate for gestation	• Increase of ≥ 20bpm from start of labour or in last 1 hour • 100 - 109bpm (unless otherwise normal) • Unable to determine baseline	• < 100 bpm, • > 160 bpm • Increase of 20bpm in Active 2nd stage
Variability (bpm)	• 5 – 25 bpm	• < 5 bpm for 30 – 50 minutes, • > 25 bpm for up to 10 minutes	• < 5 bpm for > 50 minutes, • > 25 bpm for > 10 minutes, • Sinusoidal pattern
Decelerations	**Concerning characteristics** Lasting >60 secs; reduced variability within decel; slow / failure return baseline; loss of shouldering		
	• No decelerations, • Early decelerations, • Variable decelerations with no concerning characteristics	• Repetitive variable decelerations with concerning characteristics < 30 mins, • Variable decelerations with any concerning characteristics > 30 mins, • Repetitive late decels < 30 mins	• Repetitive variable decelerations with any concerning characteristics > 30 mins • Repetitive late decelerations > 30 mins • Acute bradycardia, or single prolonged deceleration lasting > 3mins
Classification & Management:	**NORMAL** All 4 features are White Continue current care	**SUSPICIOUS: Any 1 Amber** Full risk assessment incl. maternal observations; Senior Midwife or Obstetric review if additional risk factors; Start conservative measures, consider fetal scalp stimulation or expediting birth	**PATHOLOGICAL: 1 Red / 2 or more Amber** Full assessment incl. maternal observations; Urgent Obstetric review; Start conservative measures, consider fetal scalp stimulation and exclude acute events
Time:	**Signature 1:**	**Name & Job Role:**	**Document plan in the notes**
Time:	**Signature 2:**	**Name & Job Role:**	**Agree ☐ Disagree ☐**

NOR1035

552 – 558 Acute Perinatal Event, Infection and Hypoxia

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553. Was there an acute perinatal event (i.e. acute clinical event that could account for the outcome)? **Details of perinatal event;**

1 Placental abruption
2 Shoulder dystocia
3 Cord prolapse
4 Uterine rupture
5 Other

554. Other perinatal event: hypoxic-ischemic encephalopathy (HIE), perinatal infections, placental abnormalities, metabolic disorders, coagulopathies and neonatal vascular stroke

555. Was there an acute hypoxic event noted?

- Yes, if so, please specify in 556 or Pending PM report (Postmortem)

556. Specify the hypoxic event: examples:

Trauma in utero: trauma to the mother may threaten the blood supply to the baby.

Problems with placenta: if the placenta separates too early from the uterus (placental abruption) the baby will become starved of oxygen.

Umbilical cord problems: the umbilical cord may prolapse prior to or during birth, which can lead to the oxygen supply to the baby being cut off.

Preeclampsia and eclampsia: high blood pressure or seizures suffered by the mother during birth can lead to oxygen starvation.

Shoulder dystocia: this is where a baby's head has been born, but its shoulders are stuck during birth, resulting in problems during delivery.

557. Did infection/pyrexia play a role? Yes, No or awaiting PM report

Mention of chorioamnionitis will present with maternal pyrexia or tachycardia

552 – 558 Acute Perinatal Event, Infection and Hypoxia

PMMERT
Perinatal Mortality and Morbidity Event Review Tool

558. Details of Infection

1 - Maternal – can be bacterial, viral, parasitic, and fungal infections - Urinary Tract infection, Group B strep or E.coli, Toxoplasmosis, Other, Rubella, Cytomegalovirus (CMV), and Herpes infections, listeriosis, bacterial vaginosis or chlamydial, Influenza H1n1, respiratory tract infections. Salmonella. Viral Coxsackie virus, Hep b or Hep C, HIV, Measles, Parvo 19, Zika, Malaria, Pneumonia

2 - Fetal – meningitis, Hydrocephaly, microcephaly, sepsis, Campylobacter, Rubella, CMV, Staph A

3 - Both - Vertical transmission of pathogens across the maternal-fetal interface can cause fetal infection, which can disrupt organogenesis and is associated with congenital anomalies in every major organ system

Details of Hypoxia using 4 subtypes

- **Acute hypoxia**, is characterised by a sudden prolonged deceleration lasting more than 10 min under 80 bpm and requiring birth within 15 min.
- **Subacute hypoxia,** corresponding to hypoxia developing between 30 and 60 min, characterised by the deepening and widening of ongoing decelerations, whereby the fetus spends more time within the deceleration (>90 s) than at baseline (<30 s).
- **Gradually evolving hypoxia**, with a slower course of a few hours with the onset of different successive FHR abnormalities, which allowed time for FHR abnormalities to appear. Pinas & Chandraharan7 described the sequence of this type as the onset of deceleration, loss of accelerations, followed by a baseline heart rate increase, then a loss of variability, and finally heart failure with terminal bradycardia.
- **Chronic hypoxia,** corresponding to exposure of the fetus over a prolonged period to hypoxia, is often associated with uteroplacental insufficiency. The features observed on the CTG trace in chronic hypoxia include an increase in the baseline rate with reduced variability and the presence of shallow decelerations.

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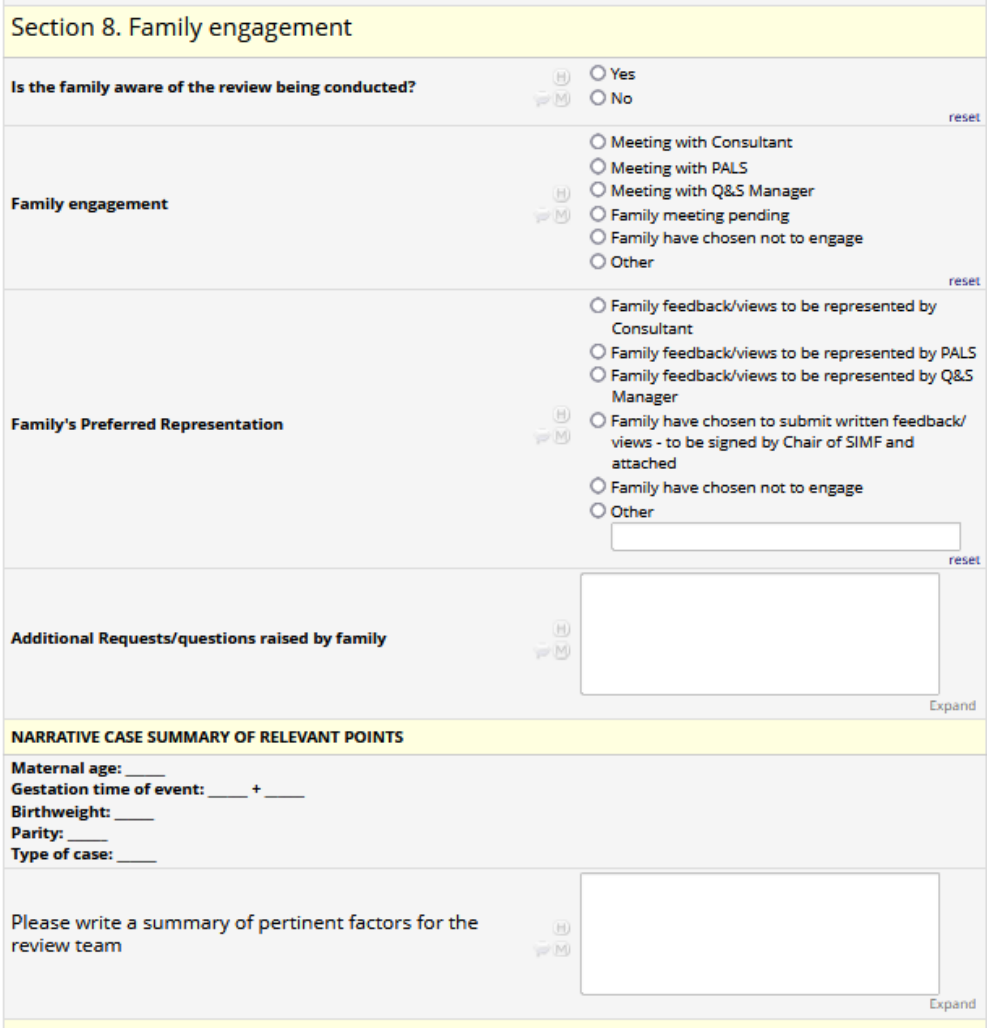
Section 8 – Family Engagement

- **Parental involvement and engagement:**

Promote timely communications with parents to ensure the family are told that a review of their care and that of their baby will be carried out and how they can contribute to the process.

This section of the form is in line with the **National Open Disclosure Framework** which complements **the Patient Safety (Notifiable Incidents and Open Disclosure) Act 2023** and aims to promote a clear and consistent approach to open communication and guides the review procedures and standards in communication when something goes wrong in the course of clinical care.

(Interdepartmental Working Group on the Rising Cost of Health-Related Claims Report 2024)


Section 8. Family engagement

Is the family aware of the review being conducted?
- Yes
- No

reset

Family engagement
- Meeting with Consultant
- Meeting with PALS
- Meeting with Q&S Manager
- Family meeting pending
- Family have chosen not to engage
- Other

reset

Family's Preferred Representation
- Family feedback/views to be represented by Consultant
- Family feedback/views to be represented by PALS
- Family feedback/views to be represented by Q&S Manager
- Family have chosen to submit written feedback/ views - to be signed by Chair of SIMF and attached
- Family have chosen not to engage
- Other

reset

Additional Requests/questions raised by family

Expand

NARRATIVE CASE SUMMARY OF RELEVANT POINTS

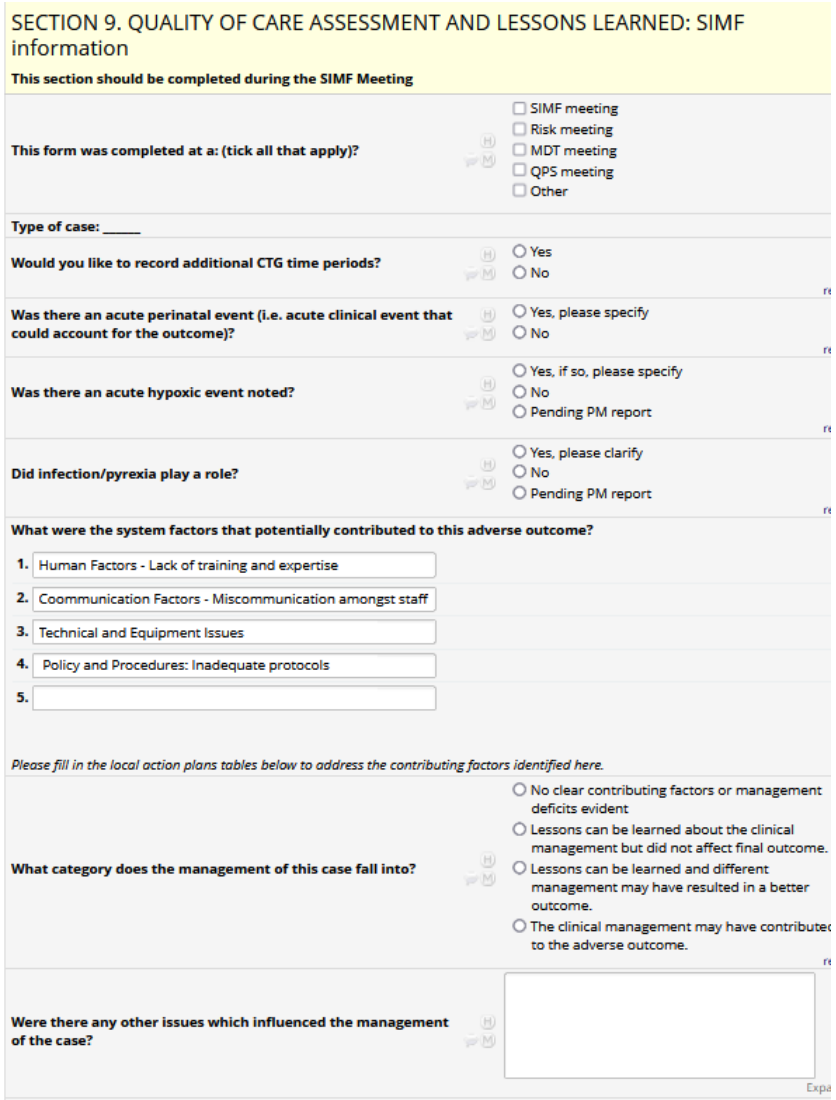
Maternal age: ____
Gestation time of event: ____ + ____
Birthweight: ____
Parity: ____
Type of case: ____

Please write a summary of pertinent factors for the review team

Expand

Section 9 : Quality of care assessment and lessons learned completed during the serious incident management forum (SIMF) Meeting

Developing action plans that aim to **address the contributory factors** identified and achieve organisational change and service improvements



SECTION 9. QUALITY OF CARE ASSESSMENT AND LESSONS LEARNED: SIMF information

This section should be completed during the SIMF Meeting

This form was completed at a: (tick all that apply)?
- ☐ SIMF meeting
- ☐ Risk meeting
- ☐ MDT meeting
- ☐ QPS meeting
- ☐ Other

Type of case: _____

Would you like to record additional CTG time periods?
- ○ Yes
- ○ No

Was there an acute perinatal event (i.e. acute clinical event that could account for the outcome)?
- ○ Yes, please specify
- ○ No

Was there an acute hypoxic event noted?
- ○ Yes, if so, please specify
- ○ No
- ○ Pending PM report

Did infection/pyrexia play a role?
- ○ Yes, please clarify
- ○ No
- ○ Pending PM report

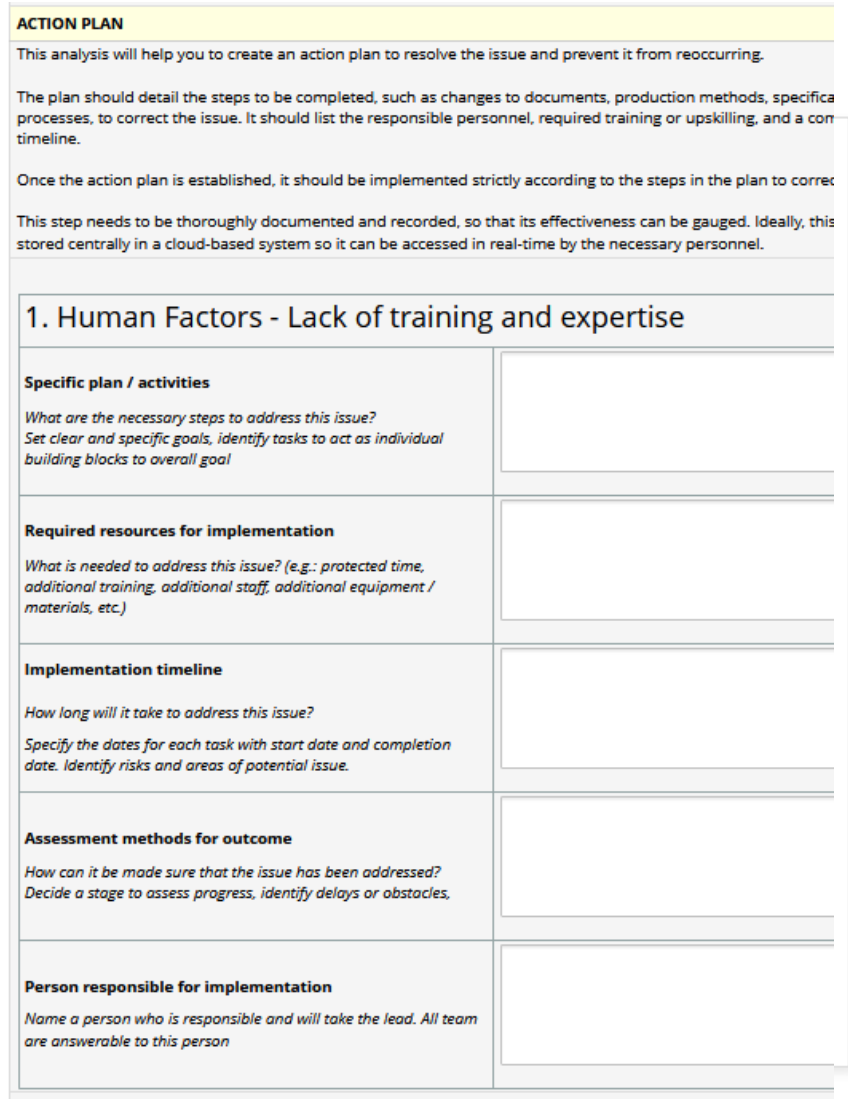
What were the system factors that potentially contributed to this adverse outcome?

1. Human Factors - Lack of training and expertise
2. Coommunication Factors - Miscommunication amongst staff
3. Technical and Equipment Issues
4. Policy and Procedures: Inadequate protocols
5.

Please fill in the local action plans tables below to address the contributing factors identified here.

What category does the management of this case fall into?
- ○ No clear contributing factors or management deficits evident
- ○ Lessons can be learned about the clinical management but did not affect final outcome.
- ○ Lessons can be learned and different management may have resulted in a better outcome.
- ○ The clinical management may have contributed to the adverse outcome.

Were there any other issues which influenced the management of the case?



ACTION PLAN

This analysis will help you to create an action plan to resolve the issue and prevent it from reoccurring.

The plan should detail the steps to be completed, such as changes to documents, production methods, specifica processes, to correct the issue. It should list the responsible personnel, required training or upskilling, and a cor timeline.

Once the action plan is established, it should be implemented strictly according to the steps in the plan to correc

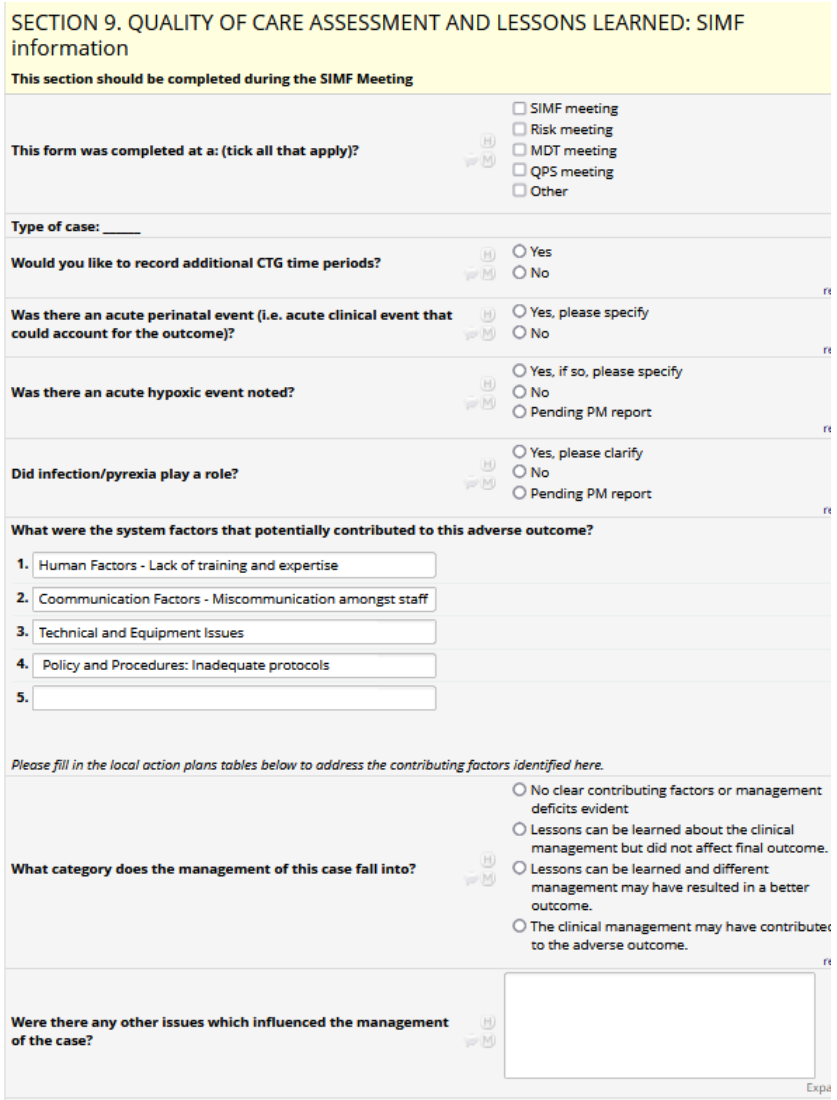
This step needs to be thoroughly documented and recorded, so that its effectiveness can be gauged. Ideally, this stored centrally in a cloud-based system so it can be accessed in real-time by the necessary personnel.

1. Human Factors - Lack of training and expertise

Specific plan / activities *What are the necessary steps to address this issue?* *Set clear and specific goals, identify tasks to act as individual building blocks to overall goal*	
Required resources for implementation *What is needed to address this issue? (e.g.: protected time, additional training, additional staff, additional equipment / materials, etc.)*	
Implementation timeline *How long will it take to address this issue?* *Specify the dates for each task with start date and completion date. Identify risks and areas of potential issue.*	
Assessment methods for outcome *How can it be made sure that the issue has been addressed?* *Decide a stage to assess progress, identify delays or obstacles,*	
Person responsible for implementation *Name a person who is responsible and will take the lead. All team are answerable to this person*	

Section 9 : Quality of care assessment and lessons learned completed during the serious incident management forum (SIMF) Meeting

Developing action plans that aim to **address the contributory factors** identified and achieve organisational change and service improvements



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- ☐ SIMF meeting
- ☐ Risk meeting
- ☐ MDT meeting
- ☐ QPS meeting
- ☐ Other

Type of case: _____

Would you like to record additional CTG time periods?
- ○ Yes
- ○ No

Was there an acute perinatal event (i.e. acute clinical event that could account for the outcome)?
- ○ Yes, please specify
- ○ No

Was there an acute hypoxic event noted?
- ○ Yes, if so, please specify
- ○ No
- ○ Pending PM report

Did infection/pyrexia play a role?
- ○ Yes, please clarify
- ○ No
- ○ Pending PM report

What were the system factors that potentially contributed to this adverse outcome?

1. Human Factors - Lack of training and expertise
2. Coommunication Factors - Miscommunication amongst staff
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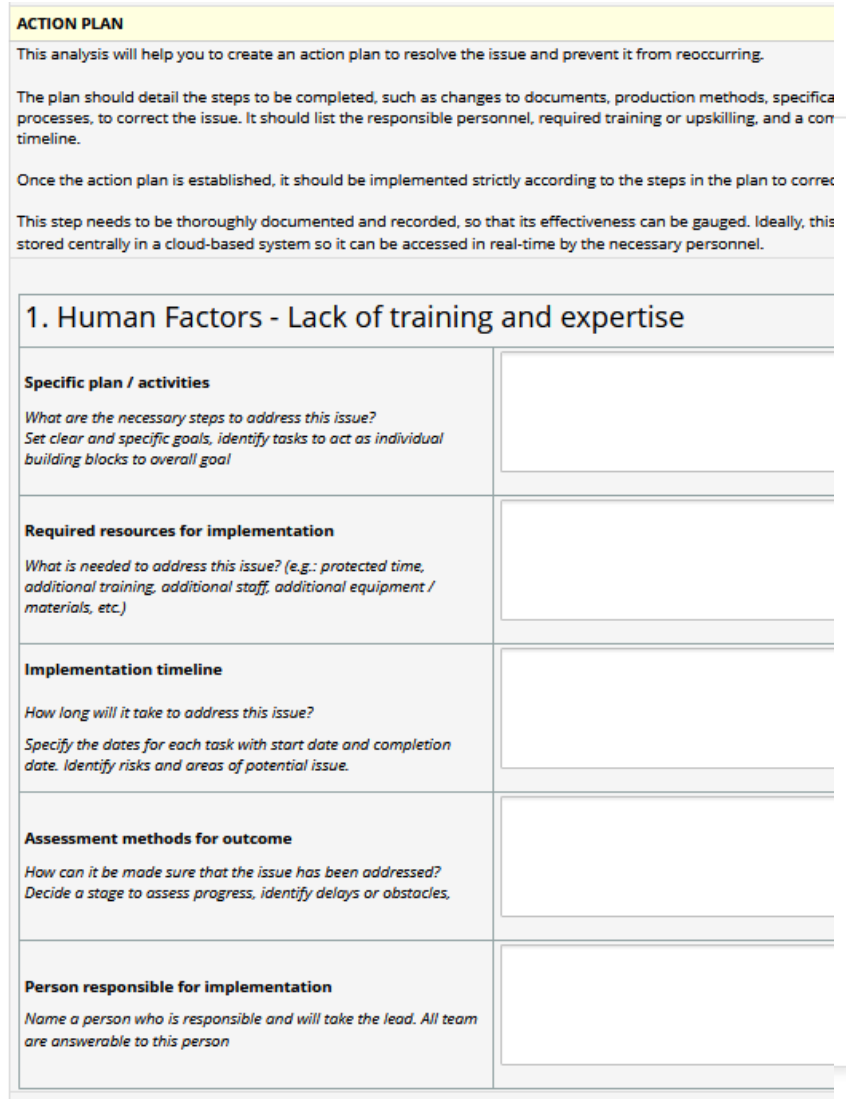
- ○ Lessons can be learned about the clinical management but did not affect final outcome.
- ○ Lessons can be learned and different management may have resulted in a better outcome.
- ○ The clinical management may have contributed to the adverse outcome.

Were there any other issues which influenced the management of the case?



ACTION PLAN

This analysis will help you to create an action plan to resolve the issue and prevent it from reoccurring.

The plan should detail the steps to be completed, such as changes to documents, production methods, specifica processes, to correct the issue. It should list the responsible personnel, required training or upskilling, and a cor timeline.

Once the action plan is established, it should be implemented strictly according to the steps in the plan to correc

This step needs to be thoroughly documented and recorded, so that its effectiveness can be gauged. Ideally, this stored centrally in a cloud-based system so it can be accessed in real-time by the necessary personnel.

1. Human Factors - Lack of training and expertise

Specific plan / activities *What are the necessary steps to address this issue? Set clear and specific goals, identify tasks to act as individual building blocks to overall goal*	
Required resources for implementation *What is needed to address this issue? (e.g.: protected time, additional training, additional staff, additional equipment / materials, etc.)*	
Implementation timeline *How long will it take to address this issue?* *Specify the dates for each task with start date and completion date. Identify risks and areas of potential issue.*	
Assessment methods for outcome *How can it be made sure that the issue has been addressed? Decide a stage to assess progress, identify delays or obstacles,*	
Person responsible for implementation *Name a person who is responsible and will take the lead. All team are answerable to this person*	

Section 9. Quality of care assessment and lessons learned: SIMF Information

- Were there any other issues which influenced the management of the case?
- Examples of good practice – seen throughout the case
- Issues noted requiring action plan – issues needing correction, actions thought to be below recommended standard of safe care
- Details of local action plan
- Dissemination of learning from adverse incidents and PMMERT data can then be monitored centrally

Action plan	Set clear and specific goals, identify tasks to act as individual building blocks to overall goal
Resources plan	Money / Budget, equipment, permissions, people or manpower
Timeline plan	Specify the dates for each task with start date and completion date. Identify risks and areas of potential issue
Assessment plan	Decide a stage to assess progress, identify delays or obstacles,
Additional information	SMART Goals: Specific, Measurable, Achievable, Relevant, Time-bound
Person responsible for implementation	Name a person who is responsible and will take the lead. All team are answerable to this person

Developing Action Plans that Aim to Address the Contributory Factors Identified and Achieve Organisational Change and Service Improvements;

What were the system factors that potentially contributed to this adverse outcome?

Based on the details provided please consider if a full systems analysis review is appropriate.

What category does the **management of this case** fall into?

1. **No clear contributing factors** or management deficits evident – (a problem or accident is one of the things which caused it to exist or happen)

2. Lessons **can be learned** about clinical management **but did not affect final outcome**.

3. Lessons can be learned and **different management may have resulted in a better outcome**.- i.e. reaction rime, engagement with more senior staff,

4. The clinical management may have contributed to the adverse outcome.

PMMERT
Perinatal Mortality and Morbidity Event Review Tool

Abbreviations used in Section 9.

OEST: Obstetric Event Support Team provides support and oversight to adverse incidents that occur in the maternity services. The team supports hospitals in reviewing the incident so that we address what occurred, why, and how it might be prevented in the future

NWHIP: National Women and Infants' Health Programme

CGEC: Clinical Governance Executive Committee

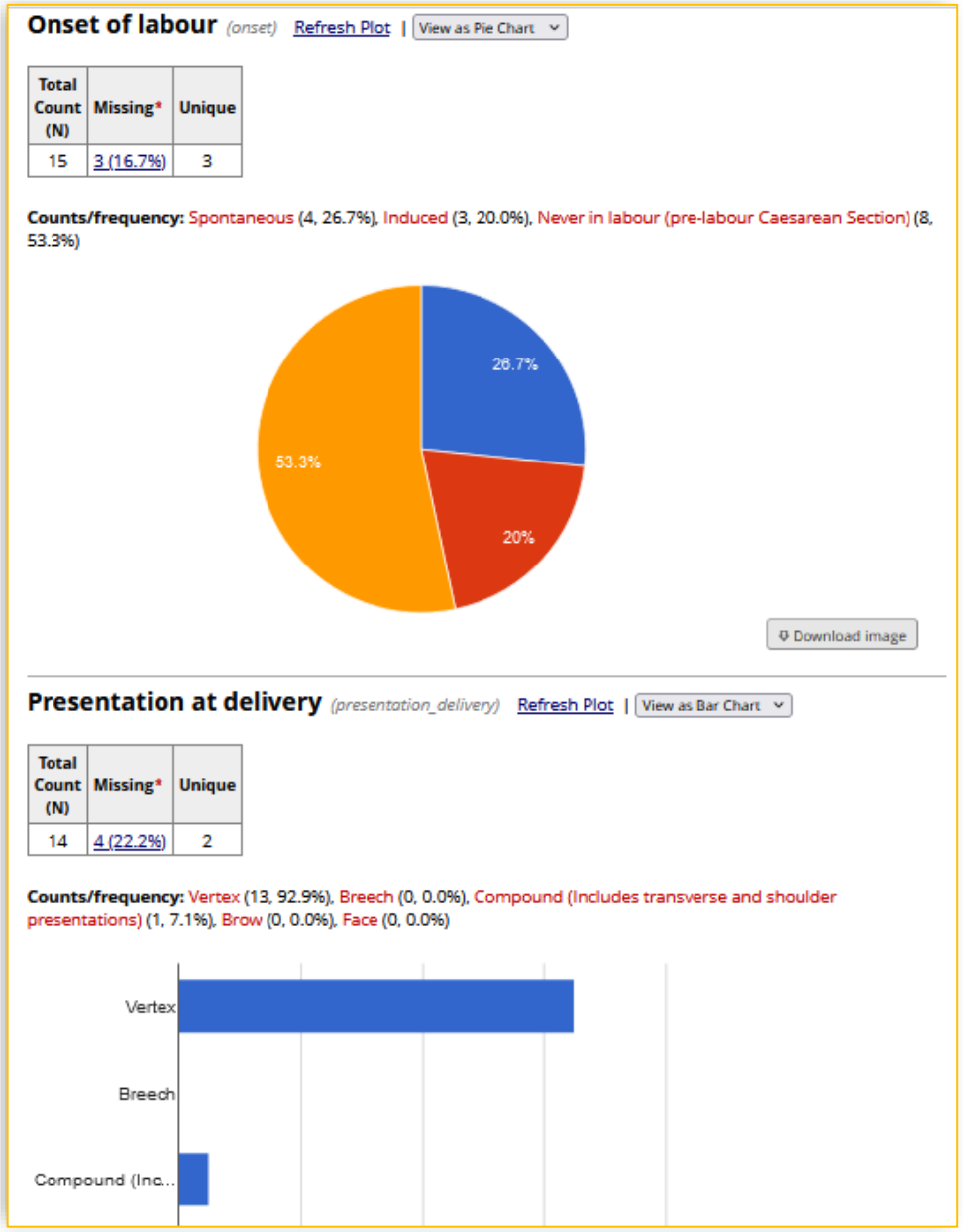
SIMF: Serious Incident Management Forum

MDT: Multidisciplinary Teams

QRMT: Quality and Risk Management Team

Reports and Dashboards

- REDCap allows us to build individual or aggregated reports and dashboards that provide real-time data
- Each report can be customisable to any requirements
- Shared learning and knowledge across hospitals



PMMERT
Perinatal Mortality and Morbidity Event Review Tool

National Women & Infants Health Programme

Severe Morbidity and Mortality Reviewable Events audited by SMM

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 O2 saturation <95%, requiring O2, 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	Interventional radiology	Received planned (a) or unplanned (b) interventional radiology
17	Theraperutic Hypothermia	Babies requiring Therapeutic Hypothermia

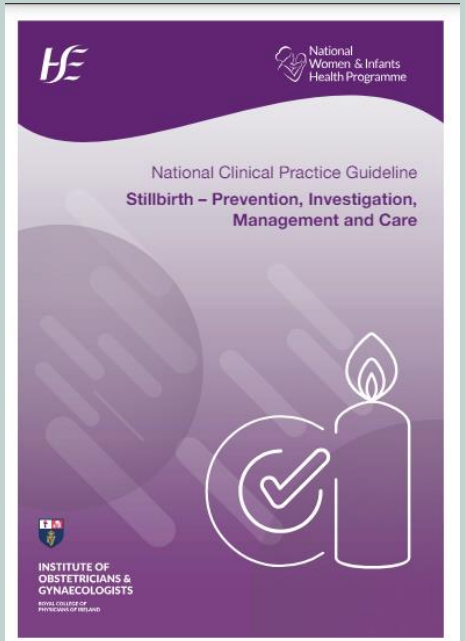
Please see attached guidelines on contributory factors that can be used to guide your assessment

https://www.npeu.ox.ac.uk/assets/downloads/pmrt/3_Contributory%20Factors%20Classification%20Framework.pdf

From the NHS Root Cause Analysis Investigation tools - Contributory Factors Classification Framework

Useful links

National Clinical Practice Guideline Stillbirth – Prevention, Investigation, Management and Care

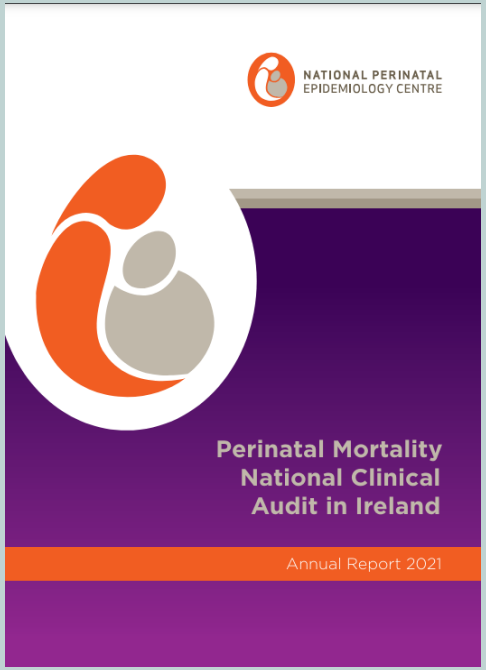


https://www.hse.ie/eng/about/who/acute-hospitals-division/woman-infants/clinical-guidelines/stillbirth-prevention-investigation-management-and-care.pdf

Each Baby Counts Report, March 2021

https://www.rcog.org.uk/media/a4eg2xnm/ebc-2020-final-progress-report.pdf

Perinatal Mortality National Clinical Audit in Ireland Annual Report 2021



https://www.ucc.ie/en/media/research/nationalperinatalepidemiologycentre/NPECPMreport2021_digital.pdf

National Women & Infants Health Programme

PMMERT
Perinatal Mortality and Morbidity Event Review Tool

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10. 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
11. Gynaecologists of the Royal College Physicians of Ireland. Available at: https://www.hse.i.e./eng/about/who/acute-hospitals-division/woman-infants/clinical-guidelines/
12. HSE (2023) National Clinical Practice Guideline Diagnosis and Management of Placenta Accreta Spectrum (PAS) Available at: https://www.hse.i.e./eng/about/who/acute-hospitals-division/woman-infants/clinical-guidelines/diagnosis-and-management-of-placenta-accreta-spectrum.pdf
13. The National Clinical Guidelines are a programme of work agreed between the National Women and Infants Health Programme (NWIHP) and the Institute of Obstetricians and Gynaecologistsw

National Women & Infants Health Programme

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