Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

Midland Hospital Portlaoise

Systems Analysis Review Report
Strictly Private and Confidential

Incident Review Title:	Review of Care of a mother at the Midland Hospital Portlaoise
Incident Date:	6th March 2007
Incident Number:	50576
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Review Commissioner	Dr Susan O'Reilly, CEO Dublin Mid-Leinster Hospital Group (Originally commissioned by David Walsh, Regional Director of Performance and Integration, HSE Dublin Mid Leinster)
Review Report Date:	**16th December 2015**

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Introduction

Whilst there is an increasing commitment in healthcare in Ireland to provide high quality safe care, due to the nature of care delivery there will always be the potential that, on occasions the outcomes for patients will not be as anticipated and harm will occur.

Patient safety incidents can have devastating emotional and physical consequences for patients, their families and carers, and can be distressing for the professionals involved.

When outcomes of care deviate from those that were expected there is an onus on services to identify and report these incidents and to subsequently examine them in an effort to understand what went wrong, why it went wrong and what needs to change to prevent such an incident occurring in the future. Fundamental to the whole process is ongoing open and honest communication with those affected by incidents – service users, employees and others.

This is of particular importance when dealing with peri-natal loss as it forces families to integrate the almost simultaneous experiences of birth and death. It is a traumatic loss which is often sudden and unexpected, where seemingly benign mis-steps by a healthcare provider may be engrained in a bereaved parent's memory and replayed over and over in the years to come.

This is the report of an independent review in relation to the care of a mother at the Midland Regional Hospital Portlaoise. It was commissioned by Mr David Walsh, Regional Director of Performance and Integration, HSE Dublin Mid-Leinster in response to a request by the parents. This request was made following the identification of issues relating to the management of the mother's labour consequent to an examination of care triggered by a Prime Time Investigates programme into issues relating to infant deaths in the Midland Regional Hospital Portlaoise.

The Review Team at the outset would like to acknowledge the level of distress caused to the parents and their family in relation to both the circumstances relating to the death of their baby and also the prolonged nature of the process which has led to the conduct and conclusion of this review. Since first meeting with the parents, the Review Team

have been impressed with them, both in terms of their willingness to engage with and their patience in relation to the completion of this process. What was most impressive was their willingness to share a very authentic story, full of rich detail, in a manner that was focused on how their experience could serve to shape the experience of others in the future. The Review Team thanks them for that on behalf of future families who may find themselves in a similar situation and would encourage healthcare providers to reflect on their perspective and use it to inform future action.

We would hope that this report can provide the parents with the detail they require to allow them to fully understand the events and assist with closure on this most difficult aspect of their life and the impact it has had on them and their family.

We would also like to acknowledge the level of cooperation received from the management and staff at the Midland Regional Hospital Portlaoise (MRHP) in the conduct of the review. Throughout our engagement with them we were impressed by both the high level of openness and commitment made to the process itself and to the implementation of any recommendations that may be made as a consequence of this review.

Executive Summary

This is the report of an independent review in relation to the care of a mother at the MRHP. It was initially commissioned by Mr David Walsh, Regional Director of Performance and Integration, HSE Dublin Mid-Leinster as a commitment to the mother and her husband in relation to concerns raised in relation the mother's care. This commitment was made following a Prime Time Investigates programme into issues relating to infant deaths in the MRHP. In accordance with changes to the establishment of Hospital Groups the role of the commissioner transferred to Dr Susan O'Reilly CEO of the Dublin Midlands Hospital Group, the Hospital Group to which MRHP is now aligned.

The woman, a first time mother was referred to the Antenatal Services at the MRHP by her GP when she was 7 weeks pregnant and was seen at the antenatal booking clinic when she was 19 weeks pregnant. At her first antenatal clinic (ANC) appointment on the 25/09/06 her baby was noted to be small for dates and was subsequently diagnosed with Intra Uterine Growth Restriction (IUGR). On the 09/02/07 when attending at the ANC the mother was reviewed by her primary consultant and a decision was taken to admit her for induction of labour the following day. When she attended the on the 10/02/07 for induction and was examined by the consultant on call it was decided, in discussion with the primary consultant that induction of labour was not indicated at this time.

At her ANC appointment on the 25/02/07 she reported a decrease in fetal movement since the previous day. She was reviewed by the Obstetric Registrar who following tests was satisfied that the baby was fine. She was scheduled for further review and a CTG on the 28/02/07 which she attended for.

On the 05/03/07 she was admitted at term for induction of labour. She was reviewed by the consultant and at 10.00hrs commenced on 2mg Prostin (prostaglandin) a drug administered vaginally to induce labour. Between 10.00hrs and 20.00hrs she had Prostin administered on 4 occasions – the total dose amounting to 6mgs. Despite the administration of Prostin, at 21.50hrs, though she was complaining of severe contractions every two minutes, on examination she was not found to be in active labour. At 22.15 the Obstetric Registrar on call was informed of her pain and subsequently prescribed 10mg of Cyclimorph to be administered intramuscularly. Following this she

slept until 4.40 when she woke with back pain and made her way to the Nurses Station to report this to the midwives.

A CTG was commenced at 4.47 which was non-reassuring and the Obstetric Registrar on Call was contacted to attend as an emergency caesarean section may be required. The Registrar attended at 05.05 and following discussions with the Consultant Obstetrician on Call decided that an emergency section was indicated and arrangements were made for this. At 05.25 the mother arrived in theatre, at 05.33 surgery commenced and at 05.35 her baby was delivered still born RIP.

In an effort to provide her with privacy the mother was cared for in a private room on the Maternity Unit. Arrangements for the Post Mortem and funeral were discussed with both parents and mementos of the baby were gathered.

The mother remained in the hospital until discharged on the 07/03/07

The hospital did not arrange any follow up meetings with the parents to discuss the events relating to their baby's birth or to make arrangements for bereavement support.

Information that the parents subsequently received in relation to the events that occurred in the course of the mother's care and her baby's death were obtained via the Coronial process i.e. meeting with the Coroner to discuss the post mortem report and attendance at the Coroner's inquest.

The review has examined four key areas of the mother's care i.e. the decision to defer her induction on the 10/02/07, the induction of labour, the caeserian section and the care and support provided by the hospital to the parents following their baby's death.

Five Care Management Problems were identified relating to the mother's care and the arrangements put in place following the death of her baby. These were as follows;

Care Management Problem 1: *The total dose of prostaglandin administered, exceeded that recommended for the time period in question.*

Care Management Problem 2: *There was a delay in carrying out an emergency caesarean section*[1]*.*

Care Management Problem 3: *The failure to have in place a consistent individualised approach to the support of parents at the time of a neonatal death.*

Care Management Problem 4: *The level of avoidable distress experienced by parents relating to the arrangements for post mortem.*

Care Management Problem 5: *Failure to have in place a systematic process for the labeling and transport of placental samples from the point of care delivery to the relevant histopathology service.*

A total of 20 recommendations have been made by the Review Team and given the distance of time between the events in 2007 and the completion of this review, the hospital have provided a response to these recommendations to reflect changes that have been since introduced in MRHP.

[1] Whilst the Review Team identified this as a problem it was not possible to determine whether this delay impacted on the outcome for the baby.

Background

In 2007 the Midland Hospital Portlaoise was a 200-bed general hospital servicing the catchment areas of Laois, Offaly, Kildare, Carlow and Tipperary with in-patient, day case, emergency and outpatient services. In 2007 the obstetric and gynecology department provided a consultant-led service that was responsible for 2264 births.

The obstetrics and gynaecology department was situated on the second floor of the hospital and consisted of a combined 30 bed in-patient ward, an assessment unit with three individual rooms, three labour rooms and a 6 bed special care baby unit with its own dedicated staff. The theatre used for caesarean sections was situated on the first floor i.e. the floor below the obstetrics/gynaecology department.

At the time of the mother's admission the Maternity Department was staffed by 3 consultant Obstetrician/Gynaecologists and the daily roster of midwifery staffing consisted of two CNM2's (08.00-17.00), seven Midwives on day duty (08.00hrs – 21.00hrs) and by five Senior Midwives on night duty (20.30 – 08.30). This midwifery staffing was for the entire unit including the labour ward i.e. the wards were not separately staffed.

At the time of the baby's death in 2007, the HSE as a relatively new entity did not have a national policy in place and the incident management policies and procedures of the former Health Boards remained in place. The management of incidents at the MRHP was therefore governed by the following Midland Health Board Guidelines - Incident / Near Miss Reporting Guideline 005 (2005) and the Complaints and Incident Management and Investigation Guideline 006 (2005). The Incident / Near Miss Reporting Guideline required services to complete the HSE Midland Area's Incident report form and forward this to the Midland Healthcare Risk Management Service. As the Complaints and Incident Management and Investigation Guideline would have defined this incident as a critical incident[2] it required an immediate response and investigation. Contact was made with staff from the former Midland Healthcare Risk Management Service who informed the Review Team that two incident report forms had been received in respect of this incident. Both were completed on the 6th March 2007,

[2] A critical incident is an unexpected occurrence resulting in death or serious physical or psychological injury – Midland Health Board Complaints and Incident Management and Investigation Guideline 006 (2005)

the first by a staff midwife at the MHRP and the second was completed by the Clinical Nurse Manager II. They were received in the Healthcare Risk Management Department on the 13th March 2007 and the 15th March 2007 respectively. When received the forms were reviewed and notified to the Risk Manager linked to the MRHP. The agreed procedure in place at this time i.e. 2007 was that requests for incident/complaint investigations to be undertaken by the Healthcare Risk Management Service (HRMS) in respect of the three Midlands Hospitals were undertaken following receipt of a formal request by either the by the General Manager, Midlands Acute Hospitals or the Network Manager who would therefore be the review commissioner. Though there was evidence on file that the Director of Nursing had been in contact with the HRMS on a number of occasions (the first being on the 22/03/07) requesting that a review of this case be carried out there was no evidence that a formal request was received from the General Manager or Network Manager in relation to their commissioning the review. Healthcare Risk Management Services therefore did not carry out a review of this case. The records on file do indicate however that the HRMS Risk Manager linked to the hospital met with the Director of Nursing at the Midland Regional Hospital Portlaoise and that at the meeting that the Risk Manager outlined that the incident required investigation and that the Risk Manager was available to assist the Director of Nursing/Nursing Department to complete the investigation in line with Healthcare Risk Management guidelines for Incident/Complaint investigation. It was noted that the Director of Nursing should contact the Risk Manager when the chronology of the incident had been established and the Risk Manager would assist in the analysis of the incident. There is no evidence available to suggest that this review was ever carried out. The case was however the subject of a Coroner's inquest held on the 28th September 2009.

Terms of reference

The terms of reference were developed in accordance with HSE Policy and agreed with the Royal College of Physicians in Ireland. Full detail of these can be found at Appendix 1 of this report.

Methodology

Following establishment of the terms of reference and the appointment of the Review Team, the Team were provided with the mother's clinical records and documentation relating to the coronial process.

The Review Team engaged in a detailed meeting with the parents on the 28th April 2014. This meeting enabled the Review Team to introduce themselves to the parents, to devote time to listen in detail to their perspectives in relation to the care received in Portlaoise. This provided the Review Team with an understanding of the issues the parents wished to see addressed by the review process and facilitated the Review Team with an opportunity to outline the review process and to answer any questions that the parents had.

Requests to the hospital for further information were also made to include contextual information about the service in place at the time of the mother's pregnancy and labour. A full listing of the information requested is outlined below.

Having considered the time lapse between the incident in 2007 and the review commencing in 2014 the Review Team were aware that a number of key staff on duty at the time of the incident were now retired and of those still in service that a review focused solely on their recollections may distort rather than add to the analysis. The Review Team were also aware from the parents that apart from the review assisting them understanding of what happened and why that it should identify those things that needed to change in order to ensure that lessons were learnt and any improvements identified as required were made.

The Review Team were also aware from its visits to Portlaoise that there was a significant change programme in place in relation to many of the aspects of the service. Therefore, whilst the recommendations made by the Review Team would relate to the situation at the time the incident occurred i.e. 2007, the team also wanted to provide an opportunity for the service to respond to any recommendations made to allow them to outline the extent to which these had been, or were being addressed. This was seen as

important from the perspective of the confidence of the parents and also to acknowledge the work and commitment of the current staff in Portlaoise.

The proposal outlined to the parents and staff in the hospital therefore attempted to marry these elements and to conduct the process in a manner which both provides the parents with the answers they seek whilst being future focused on improvement and learning.

Given that the success of this approach relied on creating an open and honest dialogue to gain the perspectives of all relevant staff, it was agreed to host two briefing meetings with staff to ensure that they understood the planned approach and its objectives and to address any queries they might have.

The meetings were multidisciplinary and held on the 21st May 2014. The first took place at the monthly Obstetrics/Gynaecology Mortality and Morbidity Meeting at which approximately 30 staff attended from a variety of specialty groups e.g. obstetrics and gynecology, paediatrics, anaesthetics, midwifery and nursing. The second meeting was attended by approximately 20 midwifery staff of all grades and was held in the Obstetrics/Gynaecology Department. Both briefing meetings were well received and staff engaged in active debate around the planned process i.e. the detail of the case was not the subject of discussion at this stage.

The Review Team were impressed by the number of staff who came in off-duty to attend these meetings, the level of engagement at the meetings and the desire of staff to review the case to assist with the parent's understanding of the incident and identify changes that may be required to improve the delivery of the services to women accessing them.

From the perspective of the Review Team, these meetings provided a strong basis for the subsequent hosting of the multidisciplinary team (MDT) case review.

Subsequent to these meetings a date was agreed with the Maternity Management Team for the hosting of the MDT case review and a letter was issued by the Review Team inviting staff to participate. The Lead Consultant and Director of Midwifery Services

agreed to ensure that the attendance at the MDT meeting was of a manageable size (12-14 staff) and that there was balanced representation of all staff groups and grades in attendance.

In advance of the MDT case review meeting a chronology of the mother's care was developed from the available documentation. This was circulated along with contextual information with regard to activity and staffing in the department at the time of the event, a copy of the draft Induction of Labour policy currently in development (the hospital had confirmed that there was no clinical guideline in place for the use of prostin at the time of the event). Also circulated in advance of the meeting was a document which provided detail of the contributory factors framework which, in line with HSE policy[3], is used to assist with analysis of any key causal factors identified. The MDT case review meeting was held off site from the hospital on the 23rd June 2014.

At the meeting the mother's chronology of care was presented. Staff engaged in clarifying aspects of this and moved then to consideration of issues relating to the delivery of care. Four key areas of care were presented for discussion (antenatal care, induction of labour, the caesarean section and the arrangements for conduct of the baby's post mortem) and an analysis in relation to each was carried out. To assist with the framing of recommendations staff also had the opportunity to provide feedback in relation to their perspective in relation to the areas requiring improvement.

Subsequent to the MDT meeting, a meeting was held with the Maternity QPS Governance Group to discuss both the outcome of the MDT meeting and to focus also on the mechanisms required, from a governance and leadership perspective, to ensure that any recommendations arising from the review are implemented.

A site visit to the Maternity Department and the Theatre was also carried out on the 21st May 2014.

[3] HSE Safety Incident Management Policy May 2014.
http://www.hse.ie/eng/about/Who/qualityandpatientsafety/incidentrisk/Riskmanagement/SafetyIncidentMgtPolicy2014.pdf

An expert report was commissioned by the Review Team from the Royal College of Physicians in Ireland to assist with the process, this related to the mother's obstetric care and was completed by Dr Peter McParland, Consultant Obstetrician, National Maternity Hospital.

Following the meetings in Portlaoise and receipt of the expert report any further clarifications required were sought from staff in Portlaoise. A further engagement with the parents sought to appreciate in detail their experience from an individualised person centred perspective in order to fully understand the nuances of care. This was required to inform the learning which could then be used to improve the care of future families.

Documentation reviewed as part of the process included the following:

- Clinical Notes (medical and nursing) relating to the mother
- Activity and staffing levels in the department at the time of the event
- A copy of the draft Induction of Labour policy currently in development.
- Statements made by staff in preparation for the Coroner's Inquest
- Report of the Coroner
- Post Mortem report relating to the baby
- Expert Report from Dr Peter McParland, Consultant Obstetrician (Appendix 2)

The Review Team then developed a draft report based on the documentation received and the output of the above meetings. This draft report was then provided to the clinical expert to ensure that the report accurately reflected the opinion he provided and any changes identified as required were made.

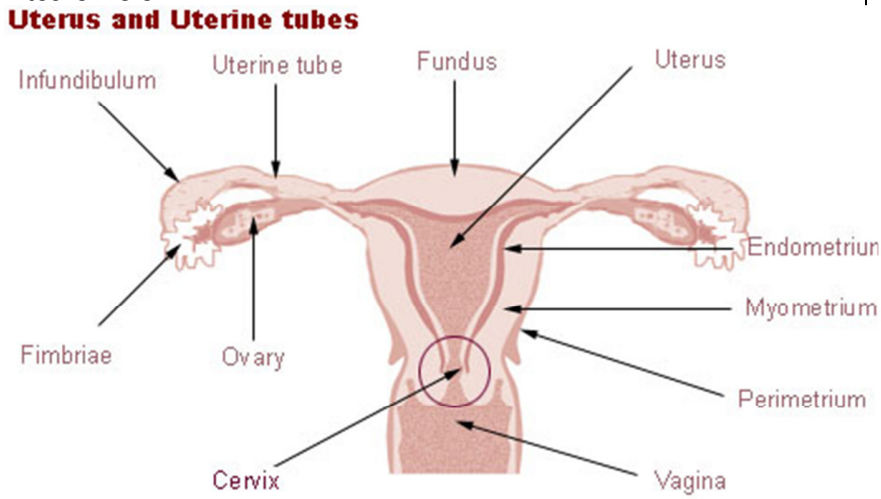
The draft report was then provided to maternity service management with an opportunity for them to include after each of the recommendations an outline the current situation as it related to each of the recommendations. This provided the opportunity for them to reflect the extent to which any of recommendations for change had been made since the incident occurred in 2007. Any gap that existed between the recommendations and current service provision could then become the focus for the development of an action plan.

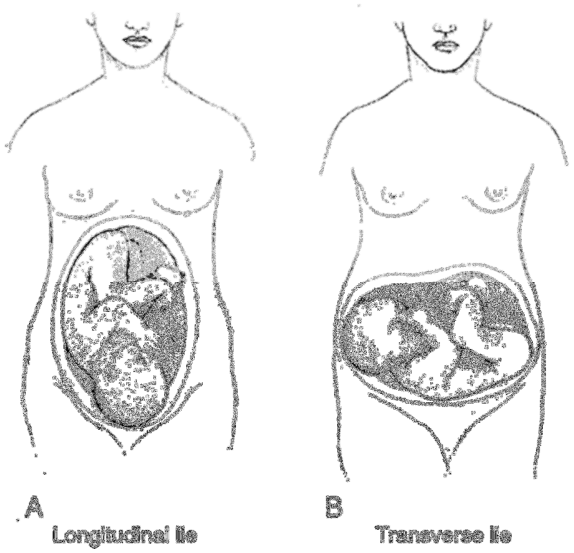
This draft of the report was also circulated to staff from Portlaoise and the Coroner for Laois who were involved in the process. They were asked to check it for factual accuracy and to provide any comments they wished to make. All factual inaccuracies were corrected and comments made were considered in finalising the report.

From the commencement of the process to the finalisation of this report, the Review Team maintained contact with the parents and sought both to keep them informed in relation to the progress of the review and also to offer any supports that might be required by them.

The Review Team then met with the parents, on 14th October 2015 and discussion took place regarding the report and its recommendations. The Review Team acknowledge that the Hospital have indicated that they would like to offer to meet with the parents following the finalisation of this report, to provide assurance to them that the Hospital has learned and taken actions as a result of this incident. The parents would also like to use this opportunity to explain to staff in person of their experience and how it might be used to assist the hospital's future management of parents experiencing neonatal loss.

Glossary of Terms

Artificial Rupture of Membranes (ARM)	To start (induce) or speed up labor, the doctor or midwife may rupture a women's membranes
Bi-parietal diameter (BPD)	This is one of the basic measures used to assess fetal size. BPD together with head circumference (HC), abdominal circumference (AC) and femur length (FL) are computed to produce an estimate of fetal weight. In the second trimester this may be extrapolated to an estimate of gestational age and an estimated due date (EDD).
Cardiotocography (CTG)	CTG is a technical means of recording (*-graphy*) the baby's heartbeat (*cardio-*) and the contractions of the uterus (*-toco-*) during pregnancy
Cephalic presentation	A cephalic presentation is a situation at childbirth where the fetus is in a longitudinal lie and the head enters the pelvis first.
Cervix	The narrow passage forming the lower end of the womb, sometimes referred to as the next of the womb.
Decelerations	These are temporary drops in the fetal heart rate. There are three basic types of decelerations, early decelerations, late decelerations and variable decelerations. Early decelerations are generally normal and not concerning. Late and variable decelerations can be a sign that the baby isn't doing well.
Doppler	Doppler refers to a type of ultrasound test which is used to look at the blood flow in an unborn baby. It can be used to diagnose restricted blood flow, blood clots and foetal health.
Fornix	A recess in the upper part of the vagina caused by the protrusion of the uterine cervix into the vagina. This is referred to as posterior (behind) and anterior (in front) of the cervix.
Fundus	The fundus of the uterus is the top portion, opposite from the cervix. Fundal height, measured from the top of the pubic bone, is routinely measured in pregnancy to determine growth rates. See Pitcure Below 
Induction of labour	Labour is induced when it is thought that the outcome of the pregnancy will be better if labour is artificially started (NICE Quality

	Standard Q560 2014). Induction can be achieved by membrane sweeping, artificial rupture of membranes (ARM) or by pharmacological means e.g. prostin or oxytocin
Liquor	Refers to the amniotic fluid around the baby in the womb
Intrauterine growth restriction (IUGR)	Intrauterine growth restriction (IUGR) is a condition where a baby's growth slows or ceases when it is in the uterus
Longitudinal lie	Longitudinal lie - a situation in which the long axis of the fetus (head to toe) is parallel to that of the mother; in presentation, either the head or breech presents first. If used with the term cephalic it means that the baby is head down. 
Lochia	Refers to the vaginal discharge after giving birth

Abbreviations used in this report

XX/52	Number of weeks e.g. 38/52 = 38 weeks pregnant
36^{+6}	Refers to the weeks and days of pregnancy i.e. 36 weeks and 6 days
AC	Abdominal Circumference
ANC	Antenatal Clinic
ARM	Artificial Rupture of Membranes
BIL	Bilirubin
BP	Blood Pressure
BPD	Biparietal diameter
BPM	Beats per Minute
BPS	Beats per second
Ceph	Cephalic
CTG	Cardiotocography (CTG)
Cx	Cervix
D/W	Discussed with
EDC	Estimated date of conception
EWF	Estimated Foetal Weight
FBC G&H	Full Blood Count, Group and Hold
FHR	Foetal Heart Rate
FHS	Fetal heart sounds
FL	Femur Length
FMF	Fetal Movement Felt
GA	General Anaesthetic
GLU	Glucose
IOL	Induction of labour
IUGR	Intrauterine growth restriction
KET	Ketones
LEU	Leukocytes
LSCS	Lower Segment Caesarean Section
N	normal
NIT	Nitrate
O/P	On palpation
Ph	A numeric scale used to specify the acidity or alkalinity of an aqueous solution (in this case a urine sample)
PHN	Public Health Nurse
$PO+^{0}$	Refers to the parity of the mother, in this case it means that the mother has not had any previous pregnancies
PM	Post Mortem
PRO	Protein
PV	Per Vagina
SCBU	Special care baby unit
SB	Still Birth
UBG	Urobilinogen
USS	Ultrasound Scan
V/E	Vaginal examination

Chronology of events

Date	Time	Event
04/07/06		GP refers the mother to **Consultant A Obs/Gynae** for Antenatal Care (7/40 weeks gestation)
25/09/06		Booked into Hospital (19/40 weeks gestation)
09/02/07		Reviewed in ANC by **Consultant A Obs/Gynae** (Primary Consultant) By own dates 38/40 Initial booking scan Now BPD = 36 AC = 32 Fundus = 34 Small baby Induce tomorrow
10/02/07		Reviewed by **Registrar A Obs/Gynae** Referred from ANC yesterday with small for dates. For IOL today CTG recorded BP 120/80 P 91 CTG complete at 1100hrs
10/02/07		Reviewed by **Consultant B Obs/Gynae** (On Call) 36^{+6} by USS dates (EDD 4/3/07) – 2 USS done Sep/Oct 06 Fundus = 34cms Ceph 3/5 V/E Cervix long, posterior and closed Presenting part just reached USS – BPD **N** (on the 50^{th} centile for gestational age) FL & AC approximately 10^{th} centile for gestational age LV **N** Doppler **N** BPS 8/8 Placenta upper segment – grannum 1 Imp AC just less than 10^{th} centile but other indices are reassuring. IOL not indicated today Stop smoking (10-15/day) Plan Home Stop Smoking Rest ++ See 1/52 See Tuesday 13/02/07 for CTG and LV D/W **Consultant A Obs/Gynae** (not on call)
13/02/07		Reviewed by **Consultant B Obs/Gynae** as arranged. LV – normal, CTG reactive. Advised to return to ANC on following Friday as previously arranged.

16/02/07		Adequate Liquor BPD FL – see report EFW < 2.5kg Doppler – slightly reduced Advise CTG in 48hours
18/02/07		EFW: 2.5kg Cephalic √ Placenta healthy looking Liquor very good Doppler N Constitutional small baby Explained to the patient Doppler and CTG Wednesday and Friday Delivery by 40/52 if suitable Currently plenty foetal movements
21/02/07	11.10 11.45	38 3/7 Returned for CTG & Doppler as planned. On admission BP117/70. P86, Temp 35.5 Urinalysis NAD On palpation abdomen soft, Fundus < dates, longitudinal lie, cephalic presentation. FHR 142BPM CTG commenced – lying CTG recorded and reactive
21/02/07		38+ fundus = 33 Liquor N CTG reactive Doppler N Review ANC in 48hrs
23/02/07		Returned for CTG and Doppler
25/02/07	11.30	**Midwife A** notes that the mother; Returned for CTG and scan Hx of IUGR in this pregnancy BP 131/87 Pulse 80BPM O/P Abdo soft - tender Longitudinal Cephalic Presentation Fundus = dates 39/40 $PO+^{0}$ FHHR 104bpm FMF √ >10 in 10hrs Mum feels baby movements reduced since yesterday Slight niggly pains felt CTG recording at present Attempted to call **Registrar B Obs/Gynae** by phone out of coverage at present.
25/02/07	11.40	**Registrar B Obs/Gynae** contacted by **Midwife A** – will come to ward now.
25/02/07	11.45	Recheck BP 127/83 Pulse 78

25/02/07		Reviewed by **Registrar B Obs/Gynae** CTG – good USS – BPD – 92.3 HC 299.6 AC – 304.7 FL – 70.2 EFW – 2757.5g EDC – 30.3.07 Doppler – OK See report in back of folder
28/02/07	11.15	For repeat CTG BP 135/92 P98 CTG – OK USS – See report EFW – 2824g Doppler – normal
05/03/07	09.25	**Midwife B** notes that Mother admitted at term for IOL and IUGR suspected. On palpation fundus equal to dates, lie longitudinal, presentation cephalic, FHS – 154bpm. Bp 130/86, Pulse 81bpm
	9.55	**Multistix** Test number 3778 Color Not Entered Clarity Not Entered GLU Negative *KET Trace BIL Negative Ph 6.5 *PRO 1+ UBG 3.2 umol/L NIT Negative *LEU Trace
	10.00	S/B **Consultant A Obs/Gynae** IOL Cx posterior – Closed Prostin gel 2mg inserted into the posterior fornix
	Not recorded	CTG commenced following Prostin 2mgms as above
	10.30	**Midwife C Labour Ward** noted that CTG discontinued Baseline 150 BPM

		Variability 5-10 BPM Accelerations ↑160 BPM ^{0}decelerations Slight period like cramps
		The mother returned to Ward
	12.35	**Midwife D** noted FHRM 160bpm, no pains at present ^{0}pv loss
	13.30	Review VE. No change 1mg Prostin for repeat CTG reassess in 6hrs of no progress Prostin or ARM Seen by **Registrar C Obs/Gynae**. No contractions. 1mg Prostin inserted.
		Midwife E noted that the CTG was commenced
	14.10	Pt back to bed post Prostin & post CTG, irregular tightenings at present
	15.30	**Midwife E** recorded that FHH 140 p82 No pain
	15.50	Reviewed in Labour Ward. VE no change. D/W **Consultant A Obs/Gynae** 1mgm Prostin inserted PV Plan review in 4-6 hr with a view to ARM, CTG recorded
	17.15	**Midwife E** recorded that the CTG was discontinued
	18.30	FHR 160bpm, no pains, no PV loss
	20.00	**Midwife C** records show Mother reviewed by **Consultant A Obs/Gynae** No contractions. VE Cx closed Prostin gel 2 mgm Commenced CTG
	20.21	CTG Reactive S/B **Registrar C Obs/Gynae** and signed
	20.25	**Midwife C** records show CTG considered satisfactory. Discontinued trace by **Registrar C Obs/Gynae** Baseline 140 BPM Variability 5-10 BPM Accelerations 160 BPM Occasional fleeting decelerations ↓ 110BPM Good recovery to baseline 140 BPM x 2
	20.30	Care of mother transferred to **Midwife F**

	21.50	Mother c/o severe contractions every two minutes. Vaginal examination with consent performed which showed mother was not in active labour
	22.15	**Registrar C Obs/Gynae** informed of contractions and prescribed Cyclimorph 10mg IM which was administered at this time. FH 130. Mother advised to stay in bed and use the call bell for attention if required.
	23.00	Appears sleeping not disturbed
	23.25	H 140 BPM on auscultation. Mild tightenings noted
06/03/2007	02.00	Appears sleeping not disturbed
	04.00	" " " (inferred meaning, as entry at 02.00 i.e. Appears sleeping not disturbed)
		Sticker in chart – Retain this label in the patient records P0024740
	04.40	Mother woke with a pain and reported same to Nurses Station as requested.
	04.47	Attached to CTG – immediately concerned re non reassuring CTG, **Registrar C Obs/Gynae** informed to come immediately. Paediatric doctor and SCBU alerted to Emergency C-Section.
	05.05	**Registrar C Obs/Gynae** attended. Called to see for unsatisfactory CTG, Type II variable decelerations for c/s in theatre. Anaesthesia informed. D/W **Consultant B Obs/Gynae** agreed for C/S
	05.08	**Anaesthetic Registrar A** called for emergency C Section
	05.15	**SHO A Obs/Gynae** Explained procedure in full & possible risks. Obtained informed consent - IV access obtained - FBC G&H - Ranitidine 50mg IV given -
	05.25	Mother arrived in theatre – routine spinal anaesthesia performed by **Anaesthetic Registrar A**
	05.33	Surgery commenced
	05.35	Baby delivered – still born RIP

		Anaesthetic Registrar A - Mother experienced discomfort and anaesthetist decided to administer uneventful GA for the remainder of the procedure
	07.40	Returned from theatre following emergency LSCS for non reassuring CTG. Fully conscious, wound dry. Lochia minimal, IV Hartmanns with 20iu Syntocinon in progress. Husband present. Parents wish to have time with their baby. Parents to let us know when they are ready to have photos, hand prints etc done. $T36^{6}$ P92 BP 120/70. For augmentin 1.2g IV – Ist dose given in theatre. Innohep 3,500 s/c Spinal and GA. Intrathecal Morphine for not opiods x 26hrs
	9.00	Ih B/P 123/68 P76 minimal PV loss. IV Hartmanns 2ith 20mgs Syntocinon. Wound dry.
	10.20	Patient vomited. Obs stable lochia average
	11.30	PHN informed re still birth
	12.30	Mother and partner resting at present. Mum comfortable
	13.00	**Consultant B Obs/Gynae** Rang Consultant Pathologist Rotunda Hospital Suggests → inform Coroner → send placenta to the Rotunda → copy clinical notes to the Rotunda Coroner phoned → at lunch Will phone 14.00
	13.40	Both parents asleep with baby, not disturbed. For review with **Consultant B Obs/Gynae** and PM to be arranged.
	14.10	Phoned Coroner For PM Phoned Mother's GP
	14.45	IV augmentin 1.2g given
	15.00	Reviewed by **Consultant B Obs/Gynae** Day 1 LSCS SB Well – upset Obs **N** Lochia ↓ Plan Leave catheter tonight may go outside Baby for PM 7/3/07 Coroners PM Issues re tissue/organs discussed and forms signed

	16.50	Mother's pads changed, uterus w/c, lochia average, vital signs stable, Mother went outside in a wheelchair for some air with her brother in law.
	17.00	Baby to be accompanied to the Rotunda Hospital tomorrow at 08.30am by Gardaí <name> and a nurse. Taxi organised. … Dr who delivered baby will meet with Gardaí at 20.00hrs this evening to formally identify baby. Parents are aware of the necessity for this formal identification. Father wishes to go to Dublin via his own transport with his brother in the morning also, to hand over baby to the Rotunda. Family plan to take baby home for private burial on Thursday. Father wishes to spend the night in hospital with his wife and baby.
07/03/07		Baby taken to the Rotunda for PM.
22/03/07		*Retrospective note in chart from midwife dated 25/04/07:* *Written retrospectively from midwife's private records of 22/03/07 as notes were misplaced.* On 22/03/07 it came to my attention that the incorrect placenta may have been sent to the Rotunda for examination by the Consultant Histopathologist A. I phoned Consultant Histopathologist A re: same. He advised that the Histopathology Department in Tullamore should send him a copy of the H&E slides and Histopathology report from the placenta they received with the mother's name on it and not to dispose of this placenta as he may also need to see it at a further date.
23/03/07		*Retrospective note in chart from midwife dated 25/04/07:* *Written retrospectively from midwife's private records of 22/03/07 as notes were misplaced.* Chief of Department of Histology Tullamore confirmed that she was organising for the H&E slides and Histology report to be sent directly to Consultant Histopathologist A and would retain the placenta until further notice.

Analysis

The analysis is set out under 4 headings i.e.

- The cancelation of induction of labour for IUGR at 36 weeks and 6 days i.e. 10th February 2007
- The Induction and Labour on the 5th/6th March 2007
- The Caesarean Section
- The Post Natal Period

To assist in this analysis an expert report was requested from Dr Peter McParland, Consultant Obstetrician, National Maternity Hospital, Dublin. A copy of this can be found at Appendix 2

Recommendations required for future change are set out below each heading to which they pertain and are also summarised on page 46 of this report.

The cancelation of induction of labour for IUGR at 36 weeks and 6 days i.e. 10th February 2007

As outlined in Dr McParland's report on page 4 a diagnosis of IUGR in itself is not an indication for immediate induction as *'…one needs to look not only at the biometry/size as many small babies will be constitutionally small, meaning they were always going to be small without any sign of placental compromise."*

Having considered other parameters of fetal wellbeing Dr McParland formed the view that *"I would not have had any issue with the reversal of the decision to induce as repeated ultrasound showed the baby to be in and around the 2.8kgs with all of the other parameters of fetal wellbeing being normal"*

Once induction was deferred the mother attended for regular monitoring and these were all reassuring with the exception where the mother reported feeling reduced fetal movements at approximately 39 weeks when induction could again have been considered as an option.

Dr McParland however states that in cases of pre-term induction of a first time mother that there is need to balance the risks associated with a high chance of caesarean section with a small risk of fetal compromise, which is low with appropriate monitoring. He concludes with the opinion *"that it is possible if induction was carried out one week earlier that the baby would be alive but can't say this for certain."*

This therefore is an issue of clinical judgement i.e. where the practice, experience and knowledge amassed by a doctor is brought to bear on the case that presents to them. Reviews such as this must consider whether, at the time the decision was made whether it was appropriate rather than rely on hindsight. In this set of circumstances, though one might speculate an alternative outcome, one cannot be certain about it. Based on the opinion of Dr McParland, the Review Team have come to the view that the decision taken at the time was appropriate.

The Induction of Labour

In considering the induction of labour the Review Team were particularly interested in gaining expert clinical opinion on the following two issues.

- The use of prostaglandin (Prostin)
- The use of analgesia

The use of prostaglandin (Prostin)

The Review Team identified the following Care Management Problem in relation to the use of prostaglandin.

Care Management Problem 1.
The total dose of prostaglandin administered, exceeded that recommended for the time period in question.

The key factor that contributed to this was the failure of the Maternity Service at MRHP to have in place, an agreed shared clinical guideline for the use of prostaglandin for the induction of labour.

Dr. McParland in his report states that the normal recommended dose of prostaglandin (Prostin) is 4mgs of gel in 24 hours.

In the course of the mother's induction prostaglandin was administered at the following times in the doses listed in the table below.

Time of administration	Dose Administered
10.00hrs	2mgs
13.30hrs	1mg
15.50hrs	1mg
20.00hrs	2mgs
Total 10hrs	**Total 6mgs**

Following the administration of each dose of prostaglandin a CTG is required to monitor the effect of the drugs administration on the wellbeing of the baby. This was routinely carried out in relation to the mother's care and whilst in the opinion of Dr McParland, that *"although the quality of the CTG's are poor they would appear to be normal in as much as one can say"*

Though the total use of prostaglandin exceeded recommendations for use both in terms of dose and time period of administration i.e. that the mother received 6mg in 10 hours rather than a maximum of 4mg in 24hrs, it is Dr McParland's opinion that *"it could be argued that giving the extra prostaglandin in a situation where there was little response was reasonable"* but concludes that *"this case does represent substandard care, in that, too much prostaglandin was administered in too short a time."*

The staff attending the MDT meeting organised to review the chronology of this case did identify that at the time that there was no formal guideline in place in the maternity service relating to the use of prostaglandin or the monitoring requirements associated with its use. They also identified that at the time practice varied between consultants. It would be current best practice to have in place a maternity service guideline which includes requirements for monitoring and that this should be agreed by all consultants. In order to ensure its consistent application a system of staff training supported by regular clinical audit should also accompany its use.

Recommendation:

1. That a guideline for the use of prostaglandin be developed for use across the maternity service and that this is implemented in association with appropriate staff training and its use monitored through regular clinical audit.

The use of analgesia

Dr Mc Parland identifies that patients receiving induction with prostaglandin will almost certainly experience uterine contractions and that these can be severe and frequent. He also notes that the mother did not experience any significant pain until 21.50hrs. He goes on to say that *"Although the mother was not in labour at that time that it was obviously deemed that she needed analgesia and a dose of Cyclimorph, 10mg was given intramuscularly"* This was administered at 22.15hrs by the Registrar after which the mother slept.

Dr McParland identifies in his report that during this time '*she may well have been contracting and it is possible that the Cyclimorph camouflaged these contractions."* He goes on to state that *"On the other hand it is very difficult to predict how any one individual will react to either Pethidine or any opioid and usually severe contractions would not be camouflaged by these medications."*

On the subject of pain relief Dr McParland states that *"If one does not give pain relief there are often accusations of lack of sensitivity and care, and thus one is obliged to give pain relief but it may be argued that 10mgs Cyclimorph was not the appropriate medication."* The staff attending the MDT meeting agreed that Cyclimorph was not an appropriate medication to use in such situations and assured the Review Team that its use in patients in labour has ceased in recent years.

Whilst it is clear from the CTG carried out at 20.25 that the CTG was normal, whilst the one at 04.47 was not and showed that the baby was severely compromised. Dr McParland concludes that the baby was probably compromised after 23.25 as this was the last recording of the baby's heart rate which at this time was 140bpm. Further CTG's were not preformed until 04.47 as the mother was asleep and did not appear to have contractions.

In relation to monitoring after the administration of the Cyclimorph Dr McParland outlines two opposing views. On the one hand he states *"It will be argued that the analgesia given was too strong which camouflaged/disguised the contractions and if the contractions were obvious then a further CTG might have been performed and this may have led to earlier recognition that the baby was compromised and earlier intervention"* He also however argues the opposing view when he states *"However it could also be argued that if someone was having severe labour contractions or, indeed, severe prostaglandin induced contractions that a dose of Cyclimorph would not camouflage these entirely."* He however concludes that in hindsight that it may "*have been prudent to give an injection of Pethidine or perhaps a lower dose of Cycolimorph".*

His overall assessment of this case is that it *"does represent substandard care in that, too much prostaglandin was administered in too short a time. "*

The Caesarean Section

At 04.40hrs the mother woke with a pain, got out of bed and made her way to the Nurses Station and reported same to the midwifes.

At 04.47hrs the mother was attached to the CTG and the midwife was immediately concerned in relation to a non-reassuring CTG and informed the Obstetric Registrar to come immediately. She also alerted the Special Care Baby Unit and the Paediatric doctor on call in relation to a patient requiring an Emergency Caesarean Section.

At 05.05hrs the Obstetric Registrar attended, concurred with the need for an emergency Caesarean Section and informed Anaesthetics. He rang the Obstetric Consultant on Call who also agreed with the decision to move to Emergency Caesarean Section.

At 05.08hrs the Anaesthetic Registrar was called for an Emergency Caesarean Section.

At 5.25hrs The mother arrived in theatre and a spinal anaesthetic was performed.

At 05.33 Surgery commenced and at 05.35 the baby was delivered. He was still born.

The total time from the identification by the midwife of the need for an Emergency Caesarean Section to the time of birth was therefore 46 minutes. The time from review by the Obstetric Registrar (who ultimately made the decision to move to Emergency Caesarean Section) to birth was 28 minutes. The Review Team identified the following Care Management Problem

Care Management Problem 2.

Delay in carrying out an emergency caesarean section[4].

The factors that contributed to this care management problem are illustrated in Figure 1. below.

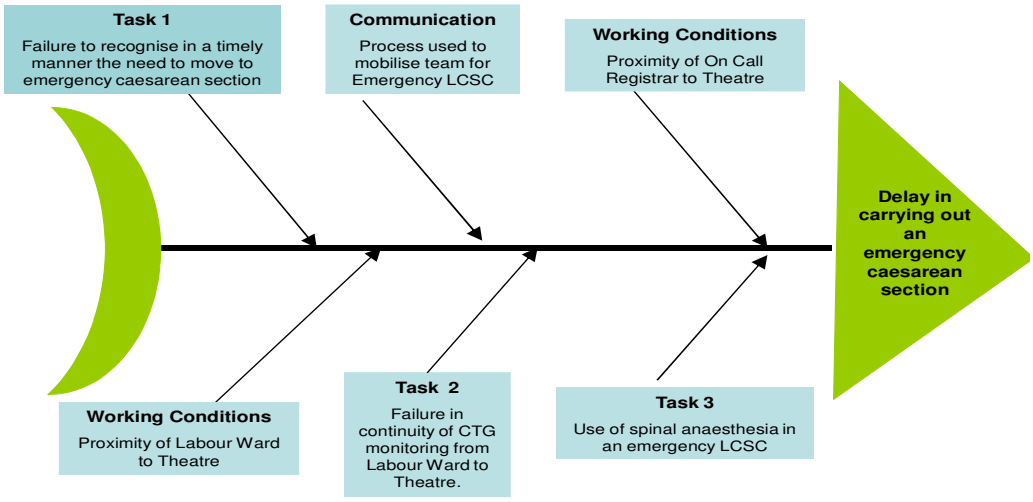


Figure 1. Factors contributing to the delay in carrying out an emergency caesarean section

In considering this issue of time from decision to delivery staff from MRHP attending the MDT identified that at the time the process in place for mobilising staff for out of hours emergency sections could be an issue and could add to the time from decision to delivery. In 2007 whilst on-call the Obstetric Registrar though on site was accommodated in the administration building across in the car park. Today there is an

[4] Whilst the Review Team identified this as a problem it was not possible to determine whether this delay impacted on the outcome for the baby.

on call room for the registrar in the delivery suite.The Review Team in considering this issue also made reference to the Royal College of Obstetricians and Gynaecologists and the Royal College of Anaesthetists Good Practice No. 11[5] which was published in 2011 i.e. since this mother's case.

This Good Practice guide whilst not available at the time of the event is useful in considering areas for improvement that may be required in relation to the time from decision to delivery in cases of emergency caesarean section. This caesarean section using that guide would be classified as a Class 1 i.e. one in which there is an immediate threat to life of a fetus and requiring immediate delivery. A target Decision to Delivery Interval (DDI) for caesarean section for 'fetal compromise' of 30 minutes is identified as an audit tool that allows testing of the efficiency of the whole delivery team and has become accepted practice; however it also identifies that:

- certain clinical situations will require a much quicker DDI than 30 minutes and units should work towards improving their efficiency
- undue haste to achieve a short DDI can introduce its own risk, both surgical and anaesthetic, with the potential for maternal and neonatal harm.

The Good Practice Guide states that *"Once a decision to deliver has been made, therefore, delivery should be carried out with an urgency* ***appropriate to the risk to the baby and the safety of the mother****. Units should strive to design guidelines that result in the shortest safely achievable DDI. Evidence suggests that any delay is usually associated with the delay in transfer to theatre[6]."*

The Review Team's interpretation of this is that emergency caesarean sections should be carried out in the shortest possible time with regard for the safety of both the mother and the baby and that whilst not saying that this should be within 30 minutes that 30 minutes should be the time against which deliveries should be audited. This concurred with the discussions held with staff at the MDT meeting.

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[5] Royal College of Obstetricians and Gynaecologists and the Royal College of Anaesthetists Good Practice 11. Classification of Urgency of Caesarean Section – A Continuum of Risk April 2011 https://www.rcog.org.uk/globalassets/documents/guidelines/goodpractice11classificationofurgency.pdf

[6] Tuffnell DJ, Wilkinson K, Beresford N. Interval between decision and delivery by caesarean section: are current standards achievable?Observational case series. *BMJ* 2001;322:1330–3.

The Review Team are of the opinion that though the timeframe from decision to delivery exceeded 30 minutes this case, it is difficult to conclude that the ultimate outcome for the baby would have been different if he had been born 16 minutes earlier.

The Review Team however consider that this Guide could form the basis for considering the hospitals response in relation to the management of Emergency Caesarean Section and in particular would feel that the recommendations made within the Guide should form the basis of recommendations relating to Caesarean Section for the MRHP given its current case profile. From a national perspective it is essential however that in addressing the issue of response to Emergency Caesarean Section that regard is taken of the requirements set out by the relevant Clinical Programmes and how these apply to the different models of hospitals proposed. They are therefore listed below.

Recommendations:

2. Units are encouraged to adopt the Lucas classification of urgency of caesarean section, which uses four categories of urgency without specific time constraints. The concept that there is a continuum of risk is emphasised by addition of the colour spectrum. An individualised approach to assessment of urgency of delivery is required in all cases.

3. Clear channels of communication are vital in cases requiring emergency caesarean section. Units should define the roles of each member of the multidisciplinary team to facilitate communication and effective management. This is particularly important in those cases defined as category 1 (requiring 'immediate' delivery). The categorisation of risk should be reviewed by the clinical team when the mother arrives in the operating theatre.

4. To 'test' local channels of communication, units should consider introducing a formal drill for 'emergency caesarean section' in their in-house teaching programmes. Such a drill could run from 'decision made for caesarean section' to 'arrival and preparation in theatre'. Again, this is particularly relevant to cases defined as category 1.

The Post Natal Period

In a systematic review of parent experiences with health providers relating to navigating care when a baby dies[7] identifies that

"Parents usually experience late pregnancy and infant loss as an intensely painful and traumatic event….stories that parents tell about perinatal loss virtually always include details about the actual time and experience of death, consistent with the idea that birth and death are times of great emotional arousal. Like for other trauma survivors, parents interviewed years and even decades after a child's death report a surprising level of detail regarding the event and can often retell the story of the loss, comments people made and upsetting aspects of their experience. During these high-stress times, seemingly benign mis-steps by a health care provider may be engrained in a bereaved parent's memory and replayed over and over in the years to come."

The Review Team identified that there were a number of aspects of the parent's care in the post natal period that contributed to adversely impacting on them following their loss of their baby. The Care Management Problem can be summed up as follows;

Care Management Problem 3.

The failure to have in place a consistent individualised approach to the support of parents at the time of a neonatal death.

The factors that contributed to this in the parents' case are outlined on Figure 2. overleaf.

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[7] Gold K. Navigating care after a baby dies: a systematic review of parent experiences with health providers; *Journal of Perinatology* (2007) 27, 230–237. doi:10.1038/sj.jp.7211676 http://www.nature.com/jp/journal/v27/n4/full/7211676a.html

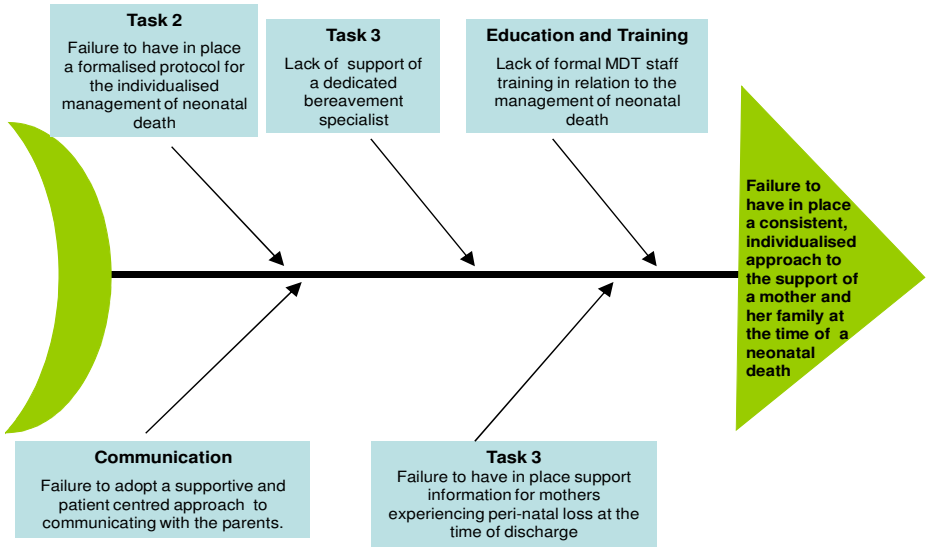

Figure 2. Factors contributing to the failure to have in place a consistent, individualised approach to the support of a mother and her family at the time of a neonatal death

Prior to outlining in detail the events and recommendations relating to this part of the mother's care the one overarching conclusion arrived at by the Review Team relates to the absence of a formal bereavement policy being in place in the MRPH at the time of these events. The Review Team is also of the view that to give effect to such a policy that there is a need for it to be supported by the appointment of a specialist bereavement nurse/midwife. Therefore at the outset of this section of the report two recommendations are made which seek to underpin the remainder of the recommendations in this section. These are as follows;

5. That the Maternity Service should have in place a formalised guideline to ensure the delivery of a consistent approach to the support of mothers and families experiencing neonatal death. Such guidelines should be developed with the involvement of families and relevant advocacy and support groups.

6. That the Maternity Service should appoint a specially trained bereavement nurse/midwife responsible for implementation of the bereavement guideline to include staff training and support and the ongoing monitoring and audit of the guideline to ensure that bereaved parents consistently receive high quality care.

Whilst the mother's post natal period in hospital from a clinical perspective was uneventful the Review Team sought to explore with her and her husband the emotional journey from their perspective and what they felt would have made a difference. It is in the rich narrative of their story that the true lessons can be elucidated. First and foremost to really understand the situation faced by them, staff must view this story from the perspective of the family. Too often it would appear that services focus on the range of tasks to be completed in the aftermath of the event rather than considering how the manner in which these tasks are completed might impact adversely on the emotional well-being of the family. To illustrate this, the impact of the events following the baby's death on the parents have been set out below. The parent's motivation in sharing this information is future focused in the hope that it will assist staff in changing the focus on care delivery to one which is truly patient centred and individualised.

Breaking the news to the husband

As the mother required an emergency caesarean section the father was not in the hospital at the time. He therefore received a call at home to alert him to the situation and to advise him to attend. His home was approximately 50km from the hospital and he left immediately. When he arrived at the hospital he went to the maternity ward and was shown to a small room to wait – he describes this room as more of a store room than a waiting room. He waited alone for 10 minutes before a junior doctor and midwife arrived with the news that their baby had died and his wife was still in theatre. He was then left alone for approximately 10 minutes before being advised that his wife was out of theatre and he could go to be with her.

This was the parent's first baby and the father had never anticipated this as an outcome. He appreciated the early call to advise him to come to the hospital and got there as quickly as he could. Apart from the lack of an appropriate facility for him to be shown to, the initial ten minutes wait alone was distressing as he was unsure what had happened. The doctor breaking the news was junior and obviously inexperienced in such matters and following the breaking of the news he found himself again alone and coping with the enormity of it all. He used the time to ring both his and his wife's mothers.

The father felt that in a situation like he was faced with, that he should have been shown into a more appropriate room e.g. a waiting room, that someone could have stayed with

him until the doctor arrived to break the news, the job of breaking bad news should be allocated to someone with appropriate experience and that after the news was broken that he would have valued the continued support of a staff member until he could be brought to his wife.

Recommendation

7. That in breaking bad news to a partner in a situation where they have not been present at the birth, that this is done in an suitable environment, by an experienced staff member and that the person is supported throughout the process i.e. from first contact until they can be with the mother.

Support post-natally whilst in hospital

It is often not the "what" is done rather it is the "how" of doing that is most critical, especially from the perspective of grieving parents. In relation to the mother's care there are a number of areas requiring improvement but there are also a number of positives areas.

One of the positive areas cited was that whilst both parents were both from large families and understandably they wished to support the couple, the hospital showed considerable flexibility in relation to them visiting. They also provided additional chairs and tea and sandwiches for them.

The staff also advised the parents to take lots of photos, which they would not have considered at the time. These photos are now amongst their most treasured possessions. These aspects of care were truly appreciated and considered by the family as aspects of care and should be replicated as standard for all families.

The overarching theme in another study[8] carried out to obtain the views of bereaved parents about their interactions with healthcare staff when their baby died just before or during labour was that *"everyone involved only has one chance to get it right. This includes the parents and their family themselves, the professionals and support staff*

[8] Downe, Schmidt et al Bereaved Parents Experience of Still Birth: a Qualitative Interview Study, *BMJ Open* 2013;**3:**e002237 doi:10.1136/bmjopen-2012-002237 http://bmjopen.bmj.com/content/3/2/e002237.full

who care for them directly, and the service that indirectly provides the resources, governance procedures and a caring (or uncaring) ethos within which each individual event occurs.

Once the hospital experience had passed, respondents in this study spent a great deal of time processing what had happened to them. When care was not delivered well, parents were further distressed, on top of their grief for their child, with unpredictable long-term consequences. However, when this one chance was seized and used to its full capacity, the benefits appeared to be significant and long term. Parents were particularly negative about perceived emotional distance on the part of health professionals."

The need for consistent high quality communication that has its basis in empathy and compassion is evident from the above. Of particular note from the above quote is the issue of perceived emotional distance on the part of health professionals and is worth considering. On the one hand staff are afraid to do or say anything that will add to the grief of the mother and consequently may skirt around the issue of grief in a manner that may be perceived as uncaring and on the other hand there is a mother who wants their grief acknowledged at a time of overwhelming loss of what might have been. This loss can be felt by parents not only in relation to the baby as a physical presence, but also the loss of joy, of celebration, of parenthood and, in some cases, of their sense of self.

The mother was firmly of the opinion that the issue of emotional distance by staff was a feature of her care throughout her stay in MRHP and was something which she would wish staff to be aware of and have addressed.

There were also a number of areas identified by the parents that could be the focus for improvement. One such area is a common focus of concern with many mothers, that of location of the mother on the post natal ward. The mother had anticipated the outcome of her pregnancy as one where she and her husband would be welcoming their first baby into the world and had not anticipated that this would not be the outcome.

The mother describes the additional sense of grief associated with being amongst women caring for their new born babies, the sounds of babies crying etc. Whilst space is commonly an issue in maternity units every effort should be made to accommodate

bereaved mothers in a room which is away from other post natal mothers whilst remaining within arm's reach of maternity staff.

Whilst the importance of gathering mementos is accepted by all maternity services as an important part of the bereavement process the manner in which this is carried out requires consideration. From the mother's perspective this was viewed as a task for staff and done in a manner that lacked empathy and explanation. She describes a midwife coming into her room saying that she needed to gather a lock of her baby's hair and take his hand and foot prints for the memento book and proceeded to do so without further discussion or explanation. From the mother's perspective there was a lack of acknowledgement of her and her grief in the process. She felt that it would have been more appropriate if the midwife could have prefaced the process with an explanation of what the memento book was, it's importance in later times and subsequently sought her permission and inclusion in proceeding.

From the perspective of the parents, staff being aware of the impact of such issues such as those outlined above will be what makes the difference between a good and a great service and if addressed will assist significantly in shaping their future memories of the event.

Recommendations

8. That in recognising the important role that families and close friends can play at the time of bereavement the hospital should continue to, within the constraints of the service and having regard for other mothers, seek to accommodate their attendance in a flexible manner.

9. That staff should be provided with the appropriate training and support to address the perception of there being emotional distance between them and bereaved parents.

10. That whilst the creation of a book of memento's is highly valued by parents, midwives should prior to collecting memento's from the baby, preface the process with an explanation of what the memento book is, it's importance in later times and seek the permission and inclusion of the mother in proceeding.

The Post-Mortem

There is a legal requirement to report deaths such as that of the baby to the Coroner and in many instances a post-mortem will also be required.

For parents of a recently deceased baby this can be a particularly emotional event and the sensitivity surrounding the process is critical so as not to add to their distress.

The Review Team in considering the issues surrounding the post-mortem process identified that there were issues for the parents in relation to events surrounding the organisation of the post-mortem. This Care Management Problem was described as follows;

Care Management Problem 4.

Level of avoidable distress experienced by parents relating to the arrangements for post mortem.

The factors that contributed to this in the parent's case are outlined on Figure 3. below.

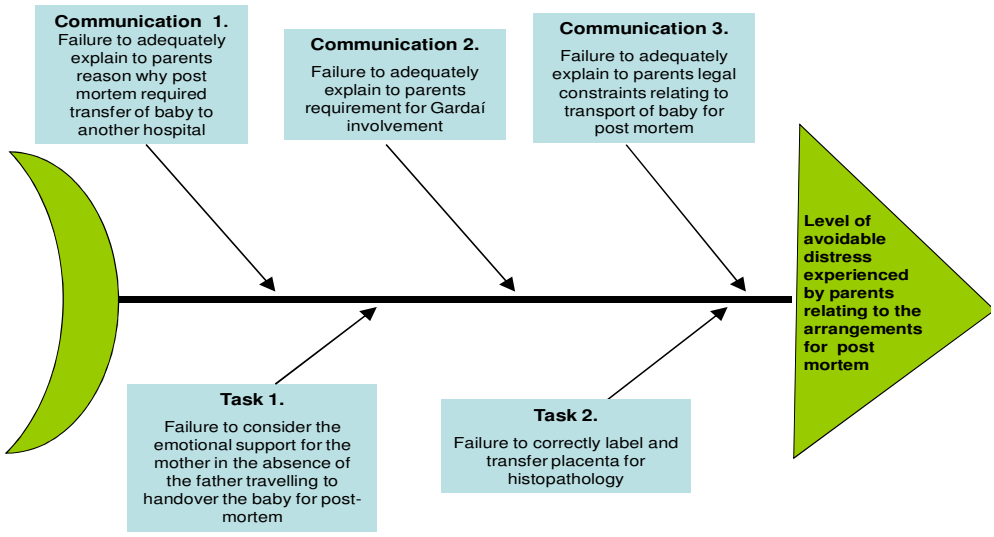

Figure 3. Factors contributing to the level of avoidable distress experienced by parents relating to the arrangements for post mortem

Part of the process requires that the deceased infant be formally identified by a member of An Gardaí Siochana in the presence of a doctor and the next of kin. Though the nursing notes state that the need for identification by a Gardaí was discussed with the parents it would appear that the process when it occurred caused significant distress.

The mother reported that a doctor and member of Gardaí Siochana came unannounced into her room to formally identify her baby. This she felt was conducted in a matter of fact way and lacked empathy or explanation and that she was unprepared for this and found this most distressing.

The father took the decision to accompany their baby to Dublin for the post mortem (PM). The hospital had arranged for their baby and a midwife to be brought by taxi to the Rotunda where the PM was due to take place. The father was not allowed to travel in the taxi; rather he followed behind in a car driven by his brother. On arrival at the Rotunda the father was allowed to hand his baby to the clinical staff, which given the circumstances which led up to the event felt was important but one which he found to be most distressing. As the PM was not going to be completed within the same day he travelled again the following day (in a taxi provided by the hospital) to collect their baby and bring him back to the hospital.

The father was unsure as to the rationale for his not being able to travel up to Dublin with his baby and the midwife but being allowed to travel back unaccompanied in a taxi with his baby the next day. The explanation for this is that until the PM is completed the remains must be escorted under the auspices of the Gardaí until formally accepted by the pathologist. The situation changes after the PM is complete in that the remains can then be released directly to the next of kin hence the father was able to collect his baby from the Rotunda unaccompanied and bring him back to his wife in MRHP.

The father also queried the need for his baby to travel to Dublin for the PM and whether it would not be possible to have this done more locally. The explanation for this is that the area of peri-natal pathology is highly specialised and requires the skills of a qualified peri-natal pathologist. Given the size of Ireland and the need for a critical mass of PM's to maintain the skills of such specialists there will always be a requirement for such specialists to be located in the bigger tertiary maternity units rather than at a local hospital level. There will always therefore be the need to travel for such a service.

Feedback received from the hospital confirmed that information and explanation in relation to the post mortem and other relevant issues is provided verbally to parents at the time by senior clinical staff, most commonly the treating consultant.

As parents may not be best positioned at the time to process this information it is also set out in a written leaflet which is provided to them. It was confirmed to the Review Team that the hospital has had this 'frequently asked questions' leaflet in place for some years. This is most helpful but it was not clear if this was available at the time of the baby's death. On checking with the parents they cannot recall receiving this and therefore it is probable that it may not have been available at the time.

During her husband's absence on the day when their baby was going for PM, the mother was still in hospital and apart from the periodic attendance of staff to carry out any clinical care tasks required, she felt there was little acknowledgement of her distress and she for the most part felt alone. She did not feel 'cared for' from an emotional perspective.

The following day when her husband returned with their baby from Dublin, the mother describes her "sense of complete shock" at the physical coldness of her baby. It was not that she would have anticipated that he would be warm; rather that she felt unprepared for the physical coldness she experienced. The mother's recollection of this is supported by Gold's systematic review i.e. *"parents interviewed years and even decades after a child's death report a surprising level of detail regarding the event ….*and certain events can be *… engrained in a bereaved parent's memory and replayed over and over in the years to come."*

Recommendations

11. That in advising parents experiencing neonatal death, of the associated legal requirements i.e. the need for formal identification of babies by a member of the Gardaí Siochana, the reporting of their baby's death to the coroner, and the requirement for a post mortem that staff consider the range of supports that parents may require in dealing with the attending processes.

12. That at a national level, the HSE engages with relevant stakeholders to seek a review of the current legal requirement for the formal identification of babies by a

member of an Gardaí Siochana who have suffered a peri-natal death in a maternity unit setting.

13. That the hospital reviews its 'frequently asked questions' leaflet for parents to ensure that it addresses fully the issues raised by the parents in this review.

14. That as a primary aspect of care provision that there is ongoing regard given to the provision of empathic emotional support to the bereaved mother and that all opportunities for providing this are taken especially at times when their partner or next of kin is not available.

15. That it should be explained to parents to expect the 'physical coldness' associated with the remains of the baby, especially if the mother and baby were separated for PM.

Sending the placenta for Histopathology

From the retrospective notes written in the medical record by a midwife on the 25/04/07 it would appear that there was an issue in relation to the labeling and transfer of placentas for histology following the baby's birth. The notes would suggest that this came to light when a placental histology report was sent from MRHT to the MRHP and that this consequently was sent to the Histopathologist in the Rotunda who was preparing the PM report on the baby. The Histopathologist in the Rotunda queried the origin of this report in the context that the body of the baby had been accompanied by a placenta and as such the arrival of a Placental Histology Report from MRHP would indicate that there may be two placentas labeled as belonging to the mother. This has remained a significant issue for the family as they have not gained insight into how this occurred nor have they been sufficiently assured that the placenta referred to in their baby's post mortem report was correctly identified as belonging to their baby.

The Review Team made contact with MRHP, the laboratory in MRHT and the Rotunda Hospital in order to better understand what happened and the outcome of this. Prior to outlining the details relating to this error it is important to understand the arrangements in place at MRHP for the management of Histopathology samples. The Histopathology

Service for MRHP is provided by the Pathology Lab in Midland Regional Hospital Tullamore (MRHT) i.e. tissue samples requiring Histopathological examination are labeled in MRHP and sent to the MRHP with results when available being sent back to referring consultant in the MRHP.

The Review Team in examining this issue contacted all 3 hospitals i.e. the MRHP, MRHT and the Rotunda. The Rotunda in turn facilitated contact with the relevant Consultant Histopathologist who had since retired from that hospital. The Consultant Histopathologist (Rotunda) was most helpful and assisted by reviewing the files related to this.

Subsequent to the review of issues relating to this it would appear that the sequence of events was as follows:

The baby was transferred to the Rotunda for PM on the 07/03/07 and his placenta was also received by the Rotunda at this time.

It would appear that despite the baby's placenta being transferred with him that in line with normal hospital practice a placenta was labeled as belonging to the mother and was sent to the Pathology Lab in Midland Regional Hospital Tullamore (MRHT).

The histopathology results from the placenta examined in MRHT were sent to MRHP per normal practice and as the PM relating to this placenta was being carried out in the Rotunda a copy of the histopathology report relating to the placenta was sent by MRHP to the Consultant Histopathologist in the Rotunda.

On receipt of the results by the Consultant Histopathologist at the Rotunda he enquired from MRHP on the 22/04/07 as to how MRHT had conducted the histopathology review of the placenta considering that the placenta had been provided with the baby for PM to the Rotunda. He requested that MRHP contact MRHT and request that a copy of the report and the related H+E slides be sent to him.

His review of both sets of slides prepared from the two placentas demonstrated in one set of slides a pathological profile completely in keeping with the clinical outcome which occurred with the baby, i.e. fatal intra-partum asphyxia associated with evidence of

protracted antenatal intrauterine growth restriction. The pathological profile was one of chronic utero-placental insufficiency. This was present in the placenta sent along with the body of the baby to the Rotunda for post mortem investigation. The microscopic examination of the slides sent from the MRHT Laboratory, in contrast, did not contain any specific pathology, which could explain the baby's demise.

While these findings allowed the Consultant Histopathologist to form a view with reasonable certainty as to which was the correct the placenta, the legal setting clearly required a greater order of confirmation. For this reason the assistance of the molecular pathology at St James' Hospital was sought. Placental specimens from both placentas were sent to St James on the 24th August 2009.

The test carried out in St James confirmed that the placenta which was transferred with the baby to the Rotunda was a match and that the one which had been sent from MRHP and examined in MRHT was not in fact the placenta relating to the baby but most probably a placenta from another mother who had delivered on the same day. The Review Team identified the Care Management Problem as follows:

Care Management Problem 5.
Failure to have in place a systematic process for the labeling and transport of placental samples from the point of delivery to the relevant histopathology service.

The Review Team has concluded that the error occurred in the labeling of the placenta at the MRHP and was identified by the Consultant Histopathologist in the Rotunda. At this point it is difficult to identify exactly where in the specimen transport chain the error occurred i.e. at labour ward or laboratory level and the factors which contributed to that but in going forward the most important issue is to ensure systems are in place throughout the specimen transport chain to reduce the risk of recurrence. It is in this vein that the following recommendation is made.

Recommendation

16. That labeling placentas and the transport of placentas from one hospital site to another conform to the requirements of the ISO 15189:2012 (E) Medical Laboratories – Requirements for Quality and Competence, and in particular section 5.4 Pre Examination Processes of this standard.

Support following discharge

On enquiring about support following discharge, apart from the routine post natal check there was no follow up from the hospital. This included the failure to provide leaflets or information on bereavement. It would appear that the only sources of information received by the parents at this time was from the undertaker who provided some leaflets and from a woman in town who had also suffered a neonatal death and met the mother one day. This woman provided her with information in relation to ISANDS, the Irish Stillbirth and Neonatal Death Society.

The mother compared this with the level of information provided by maternity services to women at both the antenatal and post natal stages in relation to care of themselves and their babies. She appreciated that parents experiencing bereavement require different levels of information and support at various stages in the bereavement process but would feel that the hospital should have a comprehensive booklet dealing with all aspects to include information sources and details of voluntary agencies that may be accessed following discharge from the hospital.

She also felt that tangible acknowledgement of the bereavement by the maternity service was important and suggested that having a representative of the service at the funeral of the baby or at a minimum the sending a sympathy card to the family would be appropriate.

The family stated that until the coroner's inquest and in the absence of follow up from the hospital the family was left with no formal explanation in relation to what happened.

Recommendations

17. That the maternity service provide bereavement support both within the hospital, at discharge (by way of the provision of appropriate information) and also by follow up in the community.

18. That all parents experiencing a neo-natal death are offered a follow up meeting with senior maternity staff so as to obtain a clear picture and understanding of events. This meeting should be held in accordance with the requirements of the HSE's Open Disclosure Policy.

The Coronial Process

A number of months later the father contacted the Coroner to inquire about the inquest, he was advised that the Coroner was awaiting the PM report from the Rotunda before a date could be set. The father rang the Rotunda on a number of occasions subsequently to enquire about progress. When the Coroner received the report he contacted the parents, sent them a copy of the PM report and arranged to meet with them to discuss its content. At the meeting he explained that the inquest would be held as soon as he could coordinate the availability of all required persons. The inquest was held on the 28/09/09.

In preparation for the inquest the parents were advised that the support of a solicitor would be helpful to assist them with the process on the day. The parents subsequently arranged this. The role of the solicitor was to support them from the perspective of the legal process rather than provide them with personal support. They found that they had little knowledge of what to expect and would have welcomed access to some information in relation to this in advance of the inquest and would also have welcomed support from an advocate on the day. In his response to the Review Team the Coroner for Laois acknowledged that experiences such as neonatal death cause particular stresses for families and *'would welcome additional support groups for very particular cases'.* He understands that there are support groups for neonatal death and deaths in young children and *'thinks further development in this area is very much to be welcomed.'*

The mother stated that she found the prospect of reliving the events again terrifying but was relieved when the HSE's legal representative stated at the outset that he did not

intend to cross examine her and also that the Coroner suggested that she read her statement into the record rather than being questioned directly.

Incidental Finding

The main purpose of conducting a review is to find out what happened, why it happened and what needs to change to reduce the risk of a similar event occurring in the future. The focus of attention is therefore on the event itself but not uncommonly during the conduct of the review a team may identify an area where an opportunity for improvement exists that did not in itself contribute to the event i.e. an incidental finding. One such opportunity was identified and this related to the system for allocation of appointments for the Antenatal Booking Clinic at Midland Hospital Portlaoise.

The mother attended her GP initially on the 4th July 2006 and was referred by him to the Obstetric Service at MPH. She was 7 weeks pregnant at this time. It is at the Antenatal Booking Clinic that the first ultrasound scan (also known as the dating scan) is carried out. Evidence shows that the best time for a dating scan is in the first trimester[9]. Dating scans carried out after this time can be less reliable as fetal growth rates can vary. Referral to the Antenatal Booking Clinic at 7 weeks therefore should have allowed time for the conduct of the dating scan with the first trimester.

The Midland Hospital Portlaoise however had at this time a waiting list in place for first visits to the Antenatal Clinic. The mother was ultimately seen at the booking clinic on the 25/09/06 i.e. 12 weeks after referral by her GP. She was by this time 19 weeks pregnant. The Review Team understand that at the time there was no system in place at the time to prioritise referrals for attendance at the Antenatal Booking Clinic to ensure where possible that women were seen within the first trimester.

Whereas the Review Team are not of the opinion that the delay in being seen for the first antenatal visit directly contributed to the incident i.e. the death of the baby, it is worth noting that the accuracy of the EDD was identified a number of times though-out the

[9] https://www.nice.org.uk/guidance/cg62/chapter/appendix-d-antenatal-appointments-schedule-and-content

chronology of care especially as the baby was diagnosed as being small for dates and Intra Uterine Growth Restriction (IUGR) was suspected.

Recommendations

19. That the Department of Obstetrics and Gynaecology at the Midland Regional Hospital Portlaoise develop, implement and monitor a Maternity Booking and Antenatal Care Policy. This policy should set out evidence based information on best practice for baseline clinical care at the point of early contact in pregnancy and comprehensive information on the booking process, to enable clinicians and pregnant women to make decisions about appropriate care

20. That the waiting list for the Antenatal Booking Clinics be actively monitored to ensure that women referred are, where possible, seen prior to 13 weeks gravid.

Summary of Recommendations made in this Report

The table below sets out in summary all recommendations made in this report. The recommendations made pertained to the circumstances which existed in 2007 when the majority of the events reviewed occurred. In recognition of the fact that the Maternity Service in Portlaoise has in recent years seen the introduction of significant change, the hospital was requested by the Review Team, to review the recommendations prior to finalisation of the report and to provide a response to each recommendation. This allowed the service an opportunity to reflect instances where the recommendation may already have been addressed or where there is a change programme in process or required.

No	Recommendation
1.	That a guideline for the use of prostaglandin be developed for use across the maternity service and that this is implemented in association with appropriate staff training and its use monitored through regular clinical audit.
	Hospital Response: A Guideline on the Management of the Induction of Labour which includes the use of prostaglandin has been developed to ensure consistency of care.across the maternity service. This has been implemented in association with appropriate staff training and its use is monitored through the Quality Assurance programme which is submitted to Senior Management on a monthly basis.
2.	Units are encouraged to adopt the Lucas classification of urgency of caesarean section, which uses four categories of urgency without specific time constraints. The concept that there is a continuum of risk is emphasised by addition of the colour spectrum. An individualised approach to assessment of urgency of delivery is required in all cases.
	Hospital Response: Lucas classification of urgency of caesarean section has been adopted into use and an individualised approach to assessment of urgency of delivery is in place in all cases.
3.	Clear channels of communication are vital in cases requiring emergency caesarean section. Units should define the roles of each member of the multidisciplinary team to facilitate communication and effective management.

	This is particularly important in those cases defined as category 1 (requiring 'immediate' delivery). The categorisation of risk should be reviewed by the clinical team when the mother arrives in the operating theatre.
	Hospital Response: The HSE's ISBAR (Identify -Situation-Background-Assessment-Recommendation) clinical communication tool has been implemented to ensure that there is a structured approach to the clear communication of clinical information in clinical handover situations. This is supported by a Communication policy which is in place at the hospital. Each member of the Multidisciplinary team is aware of their roles and responsibilities. Practical Obstetric Multi-disciplinary Training (PROMPT) and drills to support this are in place. This is closely monitored and audited on an ongoing basis.
4.	To 'test' local channels of communication, units should consider introducing a formal drill for 'emergency caesarean section' in their in-house teaching programmes. Such a drill could run from 'decision made for caesarean section' to 'arrival and preparation in theatre'. Again, this is particularly relevant to cases defined as category 1.
	Hospital Response: Emergency drills are used by the multidisciplinary team to improve and reduce the time taken from decision to incision.
5.	That the Maternity Service should have in place a formalised guideline to ensure the delivery of a consistent approach to the support of mothers and families experiencing neonatal death. Such guidelines should be developed with the involvement of families and relevant advocacy and support groups.
	Hospital Response: There is a Management of Intrauterine Fetal Death Guideline now in place. This Guideline has been developed with feedback from meetings with the Serious Incident Management Team [SIMT]. There is also a Bereavement Committee in place. A number of Bereavement Study Days have been held for staff. These study days were facilitated by the Centre of Nurse Education and by the Irish Hospice Foundation.
6.	That the Maternity Service should appoint a specially trained bereavement nurse/midwife responsible for implementation of the bereavement guideline to include staff training and support and the ongoing monitoring and audit of the

	guideline to ensure that bereaved parents consistently receive high quality care.
	Hospital Response: The hospital has appointed a midwife with special interest and training in bereavement to this post.
7.	That in breaking bad news to a partner in a situation where they have not been present at the birth, that this is done in an suitable environment, by an experienced staff member and that the person is supported throughout the process i.e. from first contact until they can be with the mother.
	Hospital Response: Staff are aware of the need to make every effort to locate a suitable environment to break bad news to both mothers and their partners. Support to mothers and partners is provided throughout this process by our bereavement midwife where possible or by other members of senior staff. As there is now a shift leader on duty each shift, this means that a where the bereavement midwife is not available that there is always a senior staff member on duty 24 hours a day. Training has been rolled out on Breaking Bad News, to which a number of staff in the unit have attended
8.	That in recognising the important role that families and close friends can play at the time of bereavement the hospital should continue to, within the constraints of the service and having regard for other mothers, seek to accommodate their attendance in a flexible manner.
	Hospital Response: The Maternity Services at Portlaoise recognize the important role that families and close friends can play at the time of bereavement. The hospital routinely seeks to accommodate their attendance in a flexible manner.
9.	That staff should be provided with the appropriate training and support to address the perception of there being emotional distance between them and bereaved parents.
	Hospital Response: A number of training sessions have been provided for staff to address the

	perception of there being emotional distance between them and bereaved parents. This will continue to be a feature of bereavement training for all staff.
10	That whilst the creation of a book of memento's is highly valued by parents, midwives should prior to collecting memento's from the baby, preface the process with an explanation of what the memento book is, it's importance in later times and seek the permission and inclusion of the mother in proceeding.
	Hospital Response: The Bereavement Midwife and/or Midwife in charge at the time of a neonatal death now routinely provides a timely explanation of the memento book and seeks the permission and inclusion of the mother in its development. A Memento Guideline has been developed locally and is implemented and audited.
11.	That in advising parents experiencing neonatal death, of the associated legal requirements i.e. the need for formal identification of babies by a member of the Gardaí Siochana, the reporting of their baby's death to the coroner, and the requirement for a post mortem that staff consider the range of supports that parents may require in dealing with the attending processes.
	Hospital Response: This is now included in our Bereavement Guideline and staff have been trained on same.
12.	That at a national level, the HSE engages with relevant stakeholders to seek a review of the current legal requirement for the formal identification of babies by a member of an Gardaí Siochana who have suffered a peri-natal death in a maternity unit setting.
	Hospital Response: No Hospital Response required as this is a national not a local recommendation
13.	That the hospital reviews its 'frequently asked questions' leaflet for parents to ensure that it addresses fully the issues raised by the parents in this review.
	Hospital Response: The need for the provision of a sensitive explanation of the legal requirements for post-mortem has been included in the Intrauterine Fetal Death Guideline. Education and training has been provided to staff on same. *The "frequently asked question*s" booklet pertaining to the process surrounding port mortem's is

	discussed with the mother and her partner for their information by the Bereavement Midwife or Senior Staff Member.
14.	That as a primary aspect of care provision that there is ongoing regard given to the provision of empathic emotional support to the bereaved mother and that all opportunities for providing this are taken especially at times when their partner or next of kin is not available.
	Hospital Response: The primary aspect of care provision is ongoing and special regard is given to the provision of empathic emotional support to the bereaved mother and that all opportunities for providing this are taken especially at times when their partner or next of kin is not available.
15.	That it should be explained to parents to expect the 'physical coldness' associated with the remains of the baby, especially if the mother and baby were separated for PM.
	Hospital Response: This has been included in the Bereavement Policy and is a feature of the education and training provided to staff.
16.	That the labeling placentas and the transport of placentas from one hospital site to another conform to the requirements of the ISO 15189:2012 (E) Medical Laboratories – Requirements for Quality and Competence, and in particular section 5.4 Pre Examination Processes of this standard.
	Hospital Response: While the hospital has improved the tracking of samples we recognise that there are still improvements that can be made. The hospital is in the process of reviewing same.
17.	That the maternity service provide bereavement support both within the hospital, at discharge (by way of the provision of appropriate information) and also by follow up in the community.
	Hospital Response: This is included in Bereavement Policy and is a feature of the education and training. Appropriate information is provided by staff to the mother at discharge. There is also an arrangement in place for the Bereavement midwife to follow up with the family after discharge.

18.	That all parents experiencing a neo-natal death are offered a follow up meeting with senior maternity staff so as to obtain a clear picture and understanding of events. This meeting should be held in accordance with the requirements of the HSE's Open Disclosure Policy.
	Hospital Response: This recommendation is in place within the hospital and training on the HSE's Open Disclosure Policy has been provided to staff.
19.	That the Department of Obstetrics and Gynaecology at the Midland Hospital Portlaoise develop, implement and monitor a Maternity Booking and Antenatal Care Policy. This policy should set out evidence based information on best practice for baseline clinical care at the point of early contact in pregnancy and comprehensive information on the booking process, to enable clinicians and pregnant women to make decisions about appropriate care
	Hospital Response: The Department of Obstetrics and Gynecology at the Midland Hospital Portlaoise has developed, implemented and monitors a Maternity Booking and Antenatal Care Policy. This policy sets out evidence based information on best practice for baseline clinical care at the point of early contact in pregnancy and comprehensive information on the booking process, which enable clinicians and pregnant women to make decisions about appropriate care.
20.	That the waiting list for the Antenatal Booking Clinics be actively monitored to ensure that women referred are, where possible, seen prior to 13 weeks gravid.
	Hospital Response: Pregnant women who attend unscheduled to hospital for treatment associated with or for a condition that could adversely impact on their pregnancy, before their first antenatal clinic visit are now, as routine, offered a soon/early booking visit.

Action plans

The recommendations made in this report that relate to MRHP should now be considered by the Hospital Group CEO in conjunction with the Hospital Manager and cross referenced with the hospitals overall improvement plan for maternity services. Any actions required to implement recommendations made in this report, which are not already included in this improvement plan, should be included and responsibility for them assigned to a named individual and a timeframe for implementation agreed. The achievement of the overall improvement plan should be monitored and verified by the Hospital Group CEO so that assurance is gained in relation to implementation of all actions within the agreed timeframes.

Arrangements for shared learning

At a local level i.e. MHRP this report should be considered at the Maternity Services Management Team meeting and shared with staff within the service at a multidisciplinary meeting within the service.

It should also be shared with other relevant services within the Hospital Group by the Hospital Group Clinical Director for Obstetrics and Gynaecology where learning can be considered and applied within those services.

The sharing of learning with other services nationally should be coordinated by the Acute Hospitals Division and carried out in conjunction with the National Clinical Lead for Obstetrics and Gynaecology and the HSE Director of the Office of Nursing and Midwifery Services.

Appendices

Appendix 1. Terms of reference

Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

Terms of Reference for investigation ref 50576

Introduction
These are the terms of reference for a systems review commissioned by Mr David Walsh, Regional Director Performance and Integration Dublin Mid Leinster into an incident related to the care of a mother and the death of her baby on the 6th of March 2007 at the Midland Regional Hospital Portlaoise.

Purpose
The purpose of this review is to:
→ Establish the factual circumstances relating to the case
→ Identify any key causal factors that may have occurred
→ Identify the factors that contributed to the key causal factors
→ Recommend actions that will when implemented reduce the risk of recurrence of a similar incident within the hospital

Scope of the Review
The review will consider the care provided to the mother from her admission to Portlaoise Hospital on the 05/03/07 date until the time of her baby's death on the 06/03/07. The review will also consider the support provided by the hospital to the mother and her partner following the baby's death.

Review Team Membership
Membership of the review team includes:

→ Cornelia Stuart, Regional Quality and Patient Safety Manager HSE Dublin North East Review Team Chairperson
→ Ms Sheila Sugrue, HSE National Lead in Midwifery

The team will access support and advice from the Institute of Obstetricians and Gynaecologists as follows:
Dr Peter McParland – Consultant Obstetrician and Gynaecologist

The involvement in this case of Dr McParland is limited to providing a report based on the case notes and information provided to them by Ms Shelia Sugrue and Cornelia Stuart and reviewing and providing comment on the final draft report.

Ms Sugrue and Ms Stuart will meet with the parents at the outset of the process in order to fully understand their perspective on issues pertaining to the review. The chronology of a care developed as part of the process will be provided to them by Ms Sugrue and Ms Stuart. Staff meetings will be the remit of Ms Sugrue and Ms Stuart.

Dr McParland will be given the final report incorporating their reports for review of context of environment in which care was delivered.

The final report and HSE exec report should take account of findings from other ongoing investigations at the same hospital.

Through the Chairperson, the review team will:

→ Be afforded the assistance of all relevant staff in Midland Hospital Portlaoise and other relevant personnel.
→ Have access to all relevant files and records (subject to any necessary consent/Data Protection requirements).

Methodology
The review will follow a systems review methodology and will be cognisant of the rights of all involved to privacy and confidentiality; dignity and respect; due process; and natural and constitutional justice.

The review will commence on 8th May 2015 and will be expected to last for a period of approximately 3 months provided unforeseen circumstance does not arise.

Following completion of the investigation, an anonymised draft report will be prepared by the investigation team outlining the chronology, findings and recommendations. All who participated in the investigation will have an opportunity to give input to the extracts from the report relevant to them to ensure that they are factually accurate and fair from their perspective.

Staff at the hospital will also have an opportunity to review the report.

The anonymised Report may be published and may be subject to a freedom of information request.

Recommendations and Implementation
The report, when finalised, will be presented to the commissioner. The commissioner is responsible for ensuring that an action plan is developed to ensure that recommendations are implemented. The action plan will outline the actions, persons responsible for implementation of each action and an agreed timeframe for implementation. The action plan will provide the basis for monitoring and will be overseen as part of the hospitals service plan monitoring process with the HSE.

Local managers will communicate nationally applicable recommendations to the National Director and National Directors will oversee the implementation of the nationally applicable recommendations.

Reference:
HSE 2012 Guideline for Systems Analysis Investigation of Incidents and Complaints

Mr. David Walsh
Chief Officer
Community Healthcare Organisation 7

Appendix 2. Expert Report of Dr Peter McParland, Consultant Obstetrician

Dr. Peter McParland

MD, FRCPI, FRCOG.

Consultations by Appointment

Tel: 01-6635072
Fax:01-6635071

Private Consulting Rooms
National Maternity Hospital
60 Lower Mount Street
Dublin 2

Medical Report on the management of [redacted]

I have been asked by the HSE to review the patient notes and produce a medical report and to specifically comment on issues brought to the fore by the investigation team. They apparently form the basis for the parents' ongoing distress and these are as follows:

1. Induction
2. Prostin
3. Analgesia

Pregnancy details

[redacted] **The mother** was a 27 year old lady in her first pregnancy from [redacted] There was nothing significant in her medical history that would impact on this pregnancy. Her last menstrual period which is documented as being sure was 15/5/2006 but it would appear that her estimated date of delivery was revised by a scan to the 4/3/2007. She had a regular cycle every 28 – 30 days lasting 4-5 days. She was a smoker of 15 cigarettes per day. She commenced taking folic acid on 4th July 2006.

Her first visit was on 25th September 2006 when she weighed 64.6 kilograms and at this stage a scan was performed and it would appear that her dates were changed to the above due date of 4th March 2007, possibly confirmed at her next visit, though on this visit on 6th October 2006 the EDD is written down as the 30/2/2007. She attended for further visits on 27th October when she would have been 21 weeks and a biparietal diameter measured 21 weeks and 5 days and an abdominal circumference measured 23 weeks suggesting the baby was appropriately grown. There was a further visit at the hospital at 28 weeks and 6 days on 15th December and a plan made to see her GP in 3 weeks and come back to the hospital in 6 weeks, which she duly did on 26th January 2007 at 34 weeks and 5 days. The fundal height at this time was thought to be consistent with

gestation and the baby was in a vertex position. A further appointment was made for 9th February 2007 which she duly attended. Her blood pressure was normal. She, at this stage, was 36 weeks and 6 days and the fundal height is documented as being 35 which is appropriate for this gestation on a clinical basis. She also underwent a scan at this time which showed an abdominal circumference of 289 which is documented as being equivalent to about 33 weeks and thus a decision was made at this time to induce labour after discussion with [redacted] **Consultant Obs/Gynae A**.

In the in-patient notes dated 9th February 2007 it is documented that she was 38+ weeks and that the BPD was 36, AC 32 and fundus 34. The comment on the liquor is blocked by a post-it note and I only have a photocopied version of the notes. She was reviewed on 10th February and a vaginal examination was performed which revealed the cervix to be long and posterior enclosed and that the presenting part was just reached. This clinical felt the fundus was 34 cms and that the baby was in a cephalic position with 3/5 of the head palpable. Another ultrasound performed by a different clinician showed the BPD to be normal size, a femur length and abdominal circumference approximately equivalent to the 10th Centile, the liquor volume was normal and doppler was normal. It is not stated whether this is of the umbilical artery but I presume that it is. The biophysical score was 8/8 and the placenta was placed in the upper segment. It is documented that as the AC was just under the 10th Centile but the other indices were reassuring that on further consideration an induction was not indicated that day. The patient was advised to stop smoking, to rest and be reviewed in a week with a plan to have a CTG and an assessment of liquor volume in the meantime. This was duly performed on 13th February and was reported as being normal with a CTG being reactive.

On 16th February, once again, part of the clinical note is blocked with what I assume was some form of post-it and thus I am unable to discern the full content of the written note other than to say that a scan was performed which showed adequate liquor. BPD, femur length, EFW less than 2.5 kg. There is a comment to say see report but the rest is blocked out. There is a comment about the doppler which is slightly something which I cannot clarify due to the above reason. Advice was given to have the CTG repeated in 48 hours. On 18th February it was thought the estimated fetal rate was 2.5 kgs, the baby was in a cephalic position, the placenta was healthy looking and liquor was very good. Doppler, which I again assume is of the umbilical artery, was normal and an opinion was formed that this was a constitutionally small baby as documented and this was explained to the patient. A doppler and CTG were planned for the following Wednesday and on the following Friday. This was duly performed, in that, she returned for a CTG on 21st February and had the doppler planned and both of these were documented as being normal with the CTG being reactive. She, once again, returned on 25th February and was seen at 11.30. Mum reported on this occasion that although there were more than 10 movements in 12 hours that the movements were reduced since the previous day and that she had started to have slight niggly pains. There was an attempt to call one of the registrars who was out of coverage but contact was made 10 minutes later and it is documented in the notes that the CTG was good and that the ultrasound now suggested that the estimated fetal weight was 2757 grammes. The doppler is documented as being okay and thus a further plan was made for her to be seen 3 days later. On this occasion

on 28th February the CTG is documented as being okay, the ultrasound report showed an EFW of 2824 grammes and the doppler was normal. On 2nd March it is documented in the continuation notes, which may be part of the out-patient section, that induction was planned for Monday. A scan was performed with liquor being documented which I assume meant that liquor was adequate but am unable to clarify this.

Induction of Labour

A CTG number 143 / 143A was performed commencing at 09.07 but the quality of the trace recording is very poor as the print has faded with time but in general it would appear normal. On 5th March 2007 [redacted] **the mother** was admitted for induction of labour because of suspected IUGR. Of relevance on palpation the fundus was thought to be equal to dates by the admitting midwife and at 10.27 (this is slightly illegible and is different to the time documented on the chronology provided by the HSE) and on looking at the midwife's notes it would appear that prostaglandin was administered at 08.55 but this would appear unlikely as she was only admitted at 09.20, but this is what is documented. A CTG was performed and is documented as having a base line of 150 beats per minute, variability of 5-10 beats per minute and accelerations going to over 160. There were no decelerations and slight period cramps were documented. The quality of this CTG, No 147 and 147A has faded with time but is interpretable and would appear to be normal in my opinion.

At 12.35 the fetal heart rate is documented as being 160 beats per minute with no pains at present and no PV loss. At 13.30 a further 1mg of prostaglandin was given vaginally as there appeared to be no change in the cervix and the CTG was requested and a plan was made to further reassess in 6 hours to either repeat the prostaglandin or to perform an artificial rupture of the membranes. A CTG was thus commenced. This CTG number 141 and 141A is again fading with time though is normal in my opinion. The patient went back to bed after the prostaglandin at 14.10 and was documented as having irregular tightenings. At 15.50 the patient was reviewed on the Labour Ward and a prostaglandin 1mg was inserted. This decision was discussed with [redacted] **Consultant Obs/Gynae A**. and a plan made to review in 4-6 hours with a view to artificial rupture of the membranes. A CTG was discontinued at 17.15. I am assuming that this is CTG 149 / 149A and 149B but it is extremely difficult to interpret though would appear to be normal. It is difficult to read the timing of this CTG and I think this relates to the CTG that was discontinued at 17.15 on the basis of exclusion of other CTGs which appear to be interpretable and timed.

At 18.30 it is documented that the heart rate is 160 beats per minute and there were no pains and no PV loss. At 20.00 hours it is documented there were no contractions, a further examination was done and the cervix was closed and prostaglandin gel, 2mgs, was inserted. A CTG was thus commenced and discontinued at 20.25. This CTG annotated as 151, 151A has also faded with time but is easily interpretable and is normal. At 21.50 it is documented that there were severe contractions, 1.2 which I assume means 1 every 2 minutes though I am unsure. A vaginal examination was performed and the

cervical os was not reached, once again suggesting this lady was not in labour. Cyclomorph, 10mgs, was given intramuscularly at 22.15 and the fetal heart is documented as being 130. At 23.00 it is documented the patient appeared to be sleeping and was not disturbed. At 23.25 the fetal heart was listened to and was documented as being 140 beats per minute and oscultation. On 6th March 2007 at 2 o'clock and 4 o'clock it is documented that the patient appeared to be asleep and was not disturbed as a result on both of these occasions.

I am unable to discern the exact time because it looks like 04.40 but could be 04.10 the patient awoke with a contraction and was attached to the CTG at 04.47 so I assume the time was 04.40. This CTG is uninterpretable as the quality has faded but it is possible to see that there are decelerations and an impression of poor baseline variability. It is documented in the notes that **Registrar C Obs/Gynae** [redacted] was requested to come at 04.47 and it would appear he was in attendance at 05.05 for an unsatisfactory CTG. At 05.10 the CTG is documented as showing Type 2 decelerations, Type 2 / variable decelerations and a caesarean section was organised. This was discussed with [redacted] **Consultant Obs/Gynae A.** who was in agreement. At 05.15 the SHO explained the procedure and obtained formal consent and set up an IV and performed a full blood count and group and gave Rinitidine. A spinal anaesthetic was inserted at 05.25 and surgery commenced at 05.33 with baby [redacted] being stillborn. [redacted] **The mother** returned from Theatre at 07.40 and would have appeared to have recovered physically well from her caesarean section, and I will not go into detail about her post-natal stay other than an arrangement was made on 6th March at 13.00 for the coroner to be informed as a result of a telephone conversation with [redacted], Consultant Pathologist at the Rotunda. Arrangements were made for the baby and placenta to be transported to the Rotunda the following day. The mother's [redacted] GP, [redacted], was informed and baby [redacted] was taken to the Rotunda for a post-mortem examination on 7th March.

Key issues - Cancelled induction of labour for IUGR at 36 weeks and 6 days

The diagnosis of IUGR is usually firstly a clinical diagnosis to be confirmed by an ultrasound. The diagnosis of IUGR is not specific but will be generally defined as an estimated fetal weight less than the 10th Centile or an abdominal circumference less than the 10th Centile, and would appear that **the mother's** [redacted] baby fulfilled this criteria. This is not of itself an indication for immediate induction as one needs to look not only at the biometry/size as many small babies will be constitutionally small, meaning that they were always going to be small without any sign of placental compromise. Thus, one looks at other parameters of fetal wellbeing which include assessment of liquor volume, doppler ultrasound of the umbilical artery and biophysical profile scoring, in addition to inspecting the placenta. I would not have any issue with the reversal of the decision to induce as repeated ultrasound showed the baby to be in and around 2.8 kgs with all of the other parameters of fetal wellbeing being normal. Once the induction was deferred **the mother** [redacted] attended for regular monitoring and these were all reassuring though it will be argued that with **the mother** [redacted] feeling

reduced movements on 25th February which would have been approximately 39 weeks that induction could have been brought forward. It can be counter argued that a CTG performed that day was entirely normal and an ultrasound showed the baby to be a reasonable size with normal liquor and normal doppler. I do not think that it is unreasonable for a change of decision to be made based on all the information that was gathered. If one decides to induce an nulliparous patient 2-3 weeks before their due date the cervix is nearly always quite unfavourable and one embarks on a long and difficult induction with a high chance of a caesarean section, and thus one is balancing the risks of this, which is very high, with the small risk of fetal compromise, which is low with appropriate monitoring. It is possible that this baby would be alive if the induction was carried out one week earlier though I don't think I can state this for certain.

Use of prostaglandin

The total use of prostaglandin (5/6mgs) in less than 12 hours exceeds the normal recommended dose of 4mgs of gel in 24 hours. Though when one uses a different type of prostaglandin called Propess this is a slow release preparation which would give up to 10mgs in 24 hours. I believe that the monitoring was adequate, in that, regular CTGs were performed after prostaglandin administration and although the quality of the CTGs are poor they would appear to be normal in as much as one can say. In addition it would appear that this lady was not contracting and thus it could be argued that giving the extra prostaglandin in a situation where there was little response was reasonable.

Analgesia

It is always a difficult dilemma when a patient is being induced with prostaglandin that they will almost certainly experience uterine contractions. These can be quite severe in nature and very frequent. Of relevance this patient did not appear to have any significant pain until 21.50 and on most occasions before that there were irregular tightenings only. Thus, it would be my view that monitoring was entirely appropriate up to that time. Although [redacted] **the mother** was not in labour at that time it was obviously deemed that she needed analgesia and a dose of Cyclomorph, 10mgs, was given intramuscularly. The patient thereafter slept for several hours during which time she may well have been contracting and it is possible that the Cyclomorph camouflaged these contractions. On the other hand it is very difficult to predict how any one individual will react to either Pethidine or an opioid and usually severe contractions would not be camouflaged by these medications. If one does not give pain relief there are often accusations of lack of sensitivity and care, and thus one is obliged to give pain relief but it will be argued that 10mgs Cyclomorph was not the appropriate medication.

It is clear that from the time of the CTG at 20.25 when the CTG was normal and healthy and 04.40 that this baby became severely compromised. It would appear that this may have been after 23.25 because of heart rate of 140 beats per minute is documented on auscultation but a CTG was not performed as the patient was asleep and did not appear to

have contractions. It will be argued that the analgesia given was too strong which camouflaged/disguised the contractions and if the contractions were obvious then a further CTG might have been performed and this may have led to earlier recognition that the baby was compromised and earlier intervention. However, it could also be argued that if someone was having severe labour contractions or, indeed, severe prostaglandin induced contractions that a dose of Cyclomorph would not camouflage these entirely. It will also be argued that a baby being induced for suspected intrauterine growth restriction should have a higher degree of vigilance than was shown in this case. It is always easy to be critical in hindsight but I think this type of case of induced labour requiring analgesia is seen in our hospitals on a daily basis and needs to be dealt with some form of analgesia. It may in hindsight have been prudent to give an injection of Pethidine or perhaps a lower dose of Cyclomorph.

Overall I think this case does represent substandard care, in that, too much prostaglandin was administered in too short a time. I think there is an extremely unfortunate outcome in what is seen as an everyday dilemma in modern obstetric practice.

Signed: Dr Peter McParland