



Birmingham and The Black Country Reducing Perinatal Mortality Project

CONFIDENTIAL ENQUIRY INTO STILLBIRTHS WITH FETAL GROWTH RESTRICTION

Final Report- July 2007

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Preface

Stillbirths are the largest contributor to perinatal mortality [1], and the single largest category of conditions relevant to stillbirths is fetal growth restriction [1,2]. It was therefore appropriate for the Reducing Perinatal Mortality Project of the Birmingham and the Black Country 'PCT Accord' to focus on this area, and to ask the Perinatal Institute to conduct a Confidential Enquiry into stillbirths with fetal growth restriction.

The results presented here are in keeping with those of a number of previous regional and national confidential enquiries [3], in demonstrating that the majority of deaths are associated with substandard care. This is not a surprising outcome for any investigation which retrospectively looks only at the mishaps and worst outcomes.

However, the findings of this Enquiry provide important pointers to what the health service needs to do towards prevention, and this should spurn us all into action. If, as shown here, 7 out of 8 cases are potentially avoidable, surely this should fill us with hope that we CAN do better, and motivate us to adopt the measures which will improve care and reduce the incidence of adverse outcome.

Although relatively small in numbers (28 cases, examined at a total of seven panel meetings), the results of the case reviews were so consistent from one panel meeting to the next, and the message considered so urgent, that the Project Board asked for the Enquiry to be concluded early to allow for the results to be presented. This is being done firstly at the recent capacity-attendance Perinatal Forum with wide representation from respective Trusts and PCTs; secondly through this report; and thirdly by planned follow-up visits to all participating units to provide more detailed (anonymised) feedback.

I would like to thank firstly all who are engaged in the RPM project – itself a unique and courageous NHS initiative to address special challenges within the B&BC. It includes the Local Implementation Groups and the Project Team (Appendix I) led initially by Suzanne Jones and since by Toni Martin; the Project Board (Appendix II), chaired by Paul Jennings; the Trust Clinical Directors and Heads of Midwifery and local co-ordinators who facilitated the collection of case notes; and the clinicians - panellists from a total of 10 units outside the B&BC for their time and effort spent on preparatory work and the intensive panel review meetings. Finally, I would like to acknowledge the tireless work of the team at the PI, including Mandy Williams as project manager, her colleagues Kate Morse, Jill Wright and Pat McGeown, and Claire Hallahan and Manjinder Sahota for providing administrative support.

If all this work helps to prevent a single death, it will have been worth it.



Professor Jason O. Gardosi
Director, Perinatal Institute

1 Perinatal Institute, 2007. Reducing Perinatal Mortality Project Interim Report. www.perinatal.nhs.uk/rpnm/

2 Classification of stillbirth by relevant condition at death (ReCoDe) www.bmj.com/cgi/content/full/bmj;331/7525/1113

3 Confidential Enquiries into Maternal and Child Health www.cemach.org.uk/publications.htm

Executive Summary

Background and Methodology (Sections 1 & 2)

- As part of its Reducing Perinatal Mortality project, the Birmingham and the Black Country PCT Accord commissioned the Perinatal Institute (PI) to carry out a Confidential Enquiry into stillbirths with fetal growth restriction.
- Inclusion criteria were any stillbirth from 30 weeks gestation, with evidence of intra-uterine growth restriction diagnosed either during pregnancy, by post-mortem, or by a birth weight <10th customised percentile. Congenital abnormalities were excluded.
- Consecutive cases were identified through PI's Perinatal Death Notification System. Photocopied notes were collected and anonymised from the 8 participating trusts within Birmingham and the Black Country.
- A bank of panel members consisting of consultant obstetricians and senior midwives from Trusts outside of the Birmingham and Black Country area were recruited. In addition, specialists were asked to review special cases (e.g. pregnancies with diabetes), and their comments were included in the discussions at the panel review. In preparation for the panel meeting, members were sent copies of the anonymised case notes along with a special proforma to be completed prior to the meeting.
- Each panel session engaged two obstetricians, two midwives and project staff from the Institute, with four cases being covered at each meeting. All aspects of the antepartum, intrapartum and postpartum care were discussed and the standard of care was graded using traditional CESDI Grading.
- The award of the grade was agreed by consensus in all cases but one, in which the grade was assigned according to the majority view.
- There were 7 panel meetings between Nov 2006 and May 2007, resulting in review of 28 cases. In total, 26 clinicians participated in the panels.
- Following review of the interim results, the Project Board advised that the project should be concluded early to allow immediate feedback of the results.

Main Findings (Sections 3 & 4)

- Overall, 24 of the 28 cases (86%) were Grade 2 or 3 - i.e. where the death was considered potentially avoidable.

Grade 0	No suboptimal / substandard care	1
Grade 1	Suboptimal care, but different management would have made no difference to the outcome	3
Grade 2	Suboptimal care; different care might have made a difference (possibly avoidable death)	16
Grade 3	Suboptimal care; different care would reasonably be expected to have made a difference (probably avoidable death)	8

- There was a frequent lack of appropriate risk assessment and management planning in early pregnancy, including recognition of relevant past obstetric history, high body mass index, fibroids etc which should lead to more intensive surveillance.
- In many instances of recognised high risk, there was insufficient follow up, or long gaps between serial investigations. It appeared that protocols and practice had been adjusted to the reality of limited ultrasound resources.
- No or incorrect use of customised charts and measurement and plotting of fundal height, with resulting lack of referral when fetal growth restriction was present. Use of population charts also resulted in missed warnings.
- Many adverse outcomes resulted from mistakes which panels felt were likely to have resulted from work overload, lack of continuity and understaffing.
- Postnatal care including bereavement support varied considerably and was often substandard.
- Further detail about the above 5 'themes' are listed in **Summary Points (Section 4)**.

Conclusion

- There was a strong association between stillbirths with fetal growth restriction and substandard care, with 6 out of 7 deaths considered potentially avoidable. Panel members gained the impression of an over-stretched service struggling to cope. There is an urgent need for better training, standardised protocols, and enhanced resources to avoid deaths associated with fetal growth restriction.

Actions (Section 5)

- Issues highlighted in the report will be raised with chief executives and medical / clinical directors of PCTs, Trusts and the SHA, with view to exploring how the service can address these challenges.
- PI is commencing a series of feedback meetings with stakeholders at individual provider units within the B&BC, to highlight general and locally pertinent messages.
- PI is commencing a rolling training & accreditation programme of fetal growth assessment for all midwives and obstetricians.
- PI is starting work towards development of regional best practice guidelines for ultrasound scanning in high risk pregnancy, and to map current provision and resource needs.

1. Background

Most infant mortality occurs in the first week of life, and many perinatal and infant deaths have antecedent factors relating to events during pregnancy. The main categories of perinatal mortality relate to fetal growth restriction, prematurity, and congenital anomalies. Each of these categories is also strongly linked to social deprivation, which has a twofold increase of the risk of adverse outcome.

The Reducing Perinatal Mortality Project (RPM) is one of the key initiatives of the Birmingham and the Black Country PCT Accord. It commenced in 2004, with the primary aim to reduce the high rates of perinatal mortality by focussing on enhancements in maternity care to make the service more equitable, evidence based and mother and baby oriented. Further information about the RPM project, PID, governance etc are available on www.perinatal.nhs.uk/rpnm/rpnmmain.htm

The Perinatal Institute was tasked by the PCT Accord with three aspects of the RPM project: to establish routine data collection in all pregnancies, to conduct a maternal experience survey, and to undertake a confidential enquiry into stillbirths with evidence of fetal growth restriction. Overall progress of the RPM project has recently been summarised in an interim report, available on www.perinatal.nhs.uk/rpnm/. The current report presents the findings of the recently concluded Confidential Enquiries.

Confidential Enquiries (CEs) are multidisciplinary case reviews which have been successfully used to assess cases of adverse perinatal outcome nationally and regionally. They are an acknowledged method of assessing complex perinatal health information, and identifying preventable and avoidable factors. The method examines events, actions and omissions in management and care, including systems failures and external factors which could have contributed to the adverse outcome. The success of the Enquiries is dependent on the objectivity of the case review, which is facilitated by strict anonymisation of all identifiable information about patients, staff and units.

2. Methodology

(see also Appendices III & IV)

Inclusion and Exclusion Criteria

All Trusts within the Birmingham and The Black Country agreed to take part in the project and cases were reviewed from the following Trusts:

- Birmingham Women's
- Heart of England
- Good Hope
- City and Sandwell
- Russell's Hall
- Wolverhampton New Cross
- Walsall Manor

The inclusion criteria for the review was any stillbirth case after 30 weeks gestation, with Intra-Uterine Growth Restriction diagnosed either during the pregnancy or following birth - by post-mortem and/or calculation of the customised birth weight centile. Growth restriction is defined as birth weight below the 10th customised percentile. Women with a stillbirth prior to 30 weeks gestation and any baby's diagnosed with a congenital abnormality were excluded from the Enquiry.

Eligible cases were identified from the Perinatal Institute's perinatal death notification (PND) forms. Cases were selected according to the inclusion/exclusion criteria and a customised birth weight centile was calculated on each case using GROW software v. 5.1 (Gestation Network).

Sample size

The initial plan was to conduct these enquiries for a 12 month period, aiming for a total of 40-50 cases. However, preliminary analysis after 7 months (28 cases) showed theoretical saturation with recurrence of the similar themes. The Project Board therefore requested early conclusion of the Enquiry to allow dissemination and feedback of the results.

Procedure

1. Multi-disciplinary panel members

An invitation to all obstetric consultants and senior midwives was sent to all West Midlands Trusts outside the B&BC area. The bank of healthcare professionals (Appendix V) were informed of the Confidential Enquiry process (Appendix III - protocol and IV - information for panel members) and dates for Panel meetings were set and agreed.

2. Collection of eligible cases

Local links from the participating Trusts were identified and lists of cases were forwarded from the PI for collection of the appropriate documentation. This consisted of a photocopy of the pregnancy, intrapartum and postnatal notes and associated documents, as well as a list of staff involved in their care with banding/expertise of each professional. The notes were then anonymised by PI administrators, ensuring all patient, healthcare professional and Trust details were removed; only the job title and banding/grade were documented to allow assessment of care in relation to seniority.

3. Preparation for the panel review

A semi structured proforma was developed by the Perinatal Institute (Appendix VI). This ensured a standardised assessment of cases and aided analysis. The proforma consisted of an overall summary of the case, and sections for booking assessment, antenatal, intrapartum and postnatal care, with basic details summarised by the project manager and space for panel members to document their considerations on the care received during each stage.

Two weeks prior to each panel review, four anonymised casenote bundles and their corresponding proformas were forwarded to each panel member, to allow them sufficient time to read and comment on the case prior to the panel review.

4. The panel review process

Each panel consisted of two obstetricians and two midwives from the panel 'bank', a representative from PI specialising in the GROW protocol, the director of the Perinatal Institute as chair and the project manager. In addition, if there were any cases needing a specialist review (e.g. if a woman had diabetes), a specialist practitioner reported on the case prior to the review and these comments were presented and discussed at the case review.

Each case started with a standardised short summary presentation by the project manager of each woman's care followed by a group discussion examining in detail the care the woman received and whether any suboptimal care factors were identified. The discussion was structured around the eight sections of the proforma (Appendix VI). In each case, the evidence was examined and the care discussed in detail for each section. The assessment of care standards and the grade (Table 2.1) was assigned by consensus.

Table 2.1: CESDI Grading System

Grade 0	No Suboptimal care
Grade 1	Suboptimal care, but different management would have made no difference to the outcome
Grade 2	Suboptimal care - different care MIGHT have made a difference (possibly avoidable death)
Grade 3	Suboptimal care WOULD REASONABLY BE EXPECTED to have made a difference (probably avoidable death)

3. Findings

All Birmingham and The Black Country hospitals participated in the project and 26 panel members from outside of the B&BC were involved. Seven review panels were convened between October 2006 and May 2007, with 28 cases being reviewed in total. Table 3.1 summarises the result of the grading and shows that 24 of the 28 cases examined (86%) were considered to have had avoidable factors, i.e. suboptimal care which may have, or was likely to have, affected the outcome.

Table 3.1: Grading of cases

Grade	0	1	2	3
Number of cases	1	3	16	8

The Panel comments are presented below in the order of the panel assessment of each case, **following the sections in the proforma** (Appendix VI).

Section B - Booking / risk assessment

Of the 28 cases, 18 were concluded to have an inappropriate management plan. This resulted in many women not receiving the appropriate care for their circumstances. The reasons included:

- No risk assessment carried out/incomplete history taking
- Risk factors not identified (e.g. previous IUGR, social/psychological risk factors etc)
- Risk factors identified but not acted on (e.g. previous PET, premature labour, raised BMI, fibroids)
- No management plan documented in either handheld or main case notes
- No specialist referrals made for risk factors (dietician, stop smoking advisors, psychiatric services etc)
- No lead professional identified

Section C - Routine antenatal Care

The standard antenatal care package was offered to all women according to the NICE antenatal guideline, but panel members commented on the overall lack of care being *individualised*. Issues raised by panel members were:

- Not following the plan of care documented
- Missed appointments not followed up
- Anaemia not monitored/investigated/managed
- Appropriate blood tests not carried out or results not documented
- Psychological/social aspects of care not considered
- Poor continuity of carer in most cases
- Interpreters not available for antenatal appointments

Section D - Surveillance of Fetal Growth and Wellbeing

The panel identified key areas of sub-optimal care with the surveillance and management of fetal growth:

Fundal height measurement

- 23 of the 28 cases included a customised growth chart in their notes. However, only 8 had regular fundal height measurements (every 2-3 weeks) and only about half (55%) had the fundal height measurements plotted correctly. In addition, some cases had no customised growth chart despite a Trust policy advising their use.

Other methods of fetal growth surveillance

- A number of women were not suitable for fetal growth surveillance by fundal height measurements alone (e.g. raised BMI, fibroids), but were not offered additional investigation by ultrasound. This resulted in several instances of inaccurate fetal growth assessment.

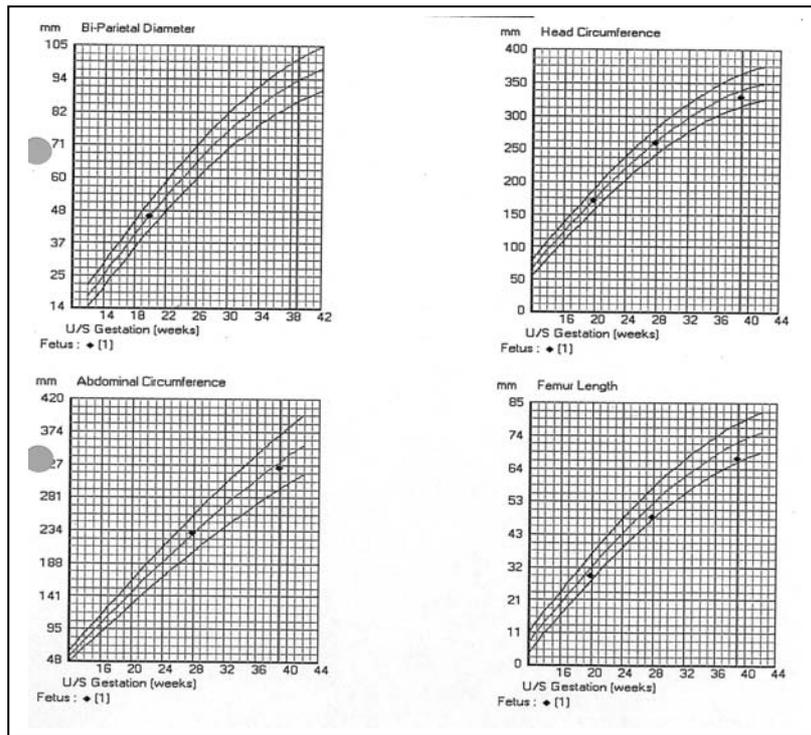
Detection of intrauterine growth restriction (IUGR)

- In only 6 of 28 cases (21%) was IUGR detected antenatally, and in only 4 of these was it recognised at the first sign or opportunity, e.g. low fundal height. The panel also found a case with an unacceptable delay between the midwife referring the woman for a growth scan and eventual diagnosis of growth restriction.

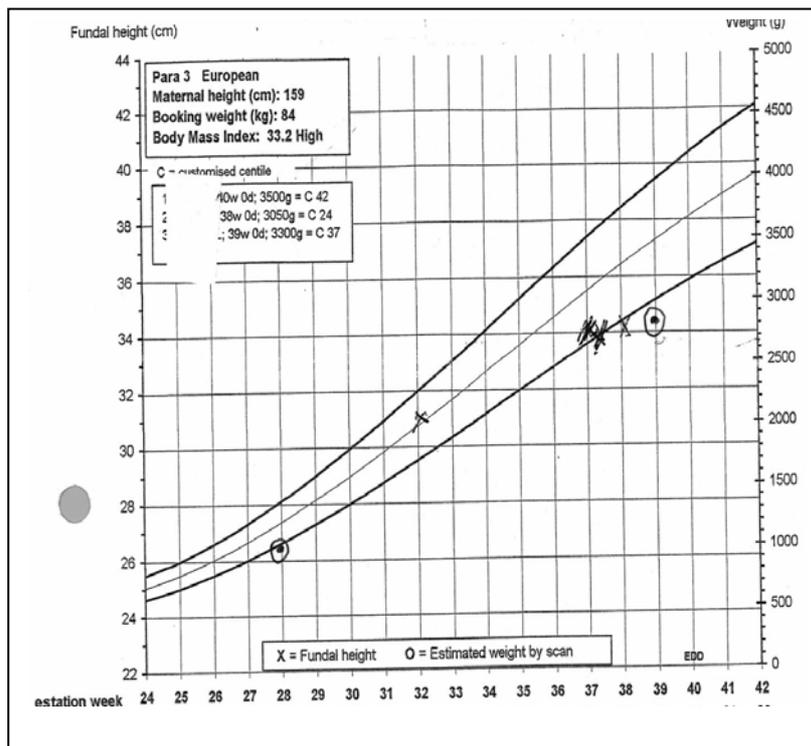
Ultrasound Scanning

- The panel identified cases with unacceptable discrepancies between the estimated fetal weight by scan and the actual birth weight at delivery. Comment was also made about the lack of detail documented with some of the scan reports.
- In some cases customised growth charts were used in combination with ultrasound population charts. This gave false re-assurance before demise, while the fetal weight according to the customised chart would in fact have identified that the fetus was growth restricted. See Example 1:

Fig 3.1 & 3.2: Combined use of customised and population growth charts (see text)

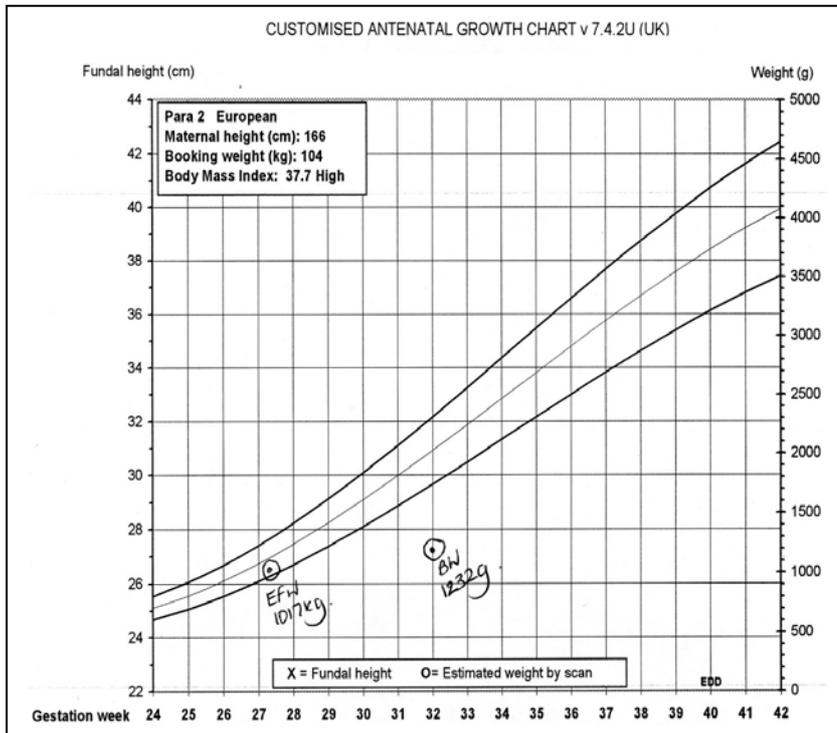


Example 1 - Multipara with p/h of hypertension; growth scans planned for 28 and 34 weeks (the 34 weeks scan was not done). At 38 weeks, low fundal height prompted referral for further growth scan. The population charts showed growth as within normal limits (Fig 3.1) However, if the estimated fetal weight had been plotted on a customised chart, fetal growth restriction would have been recognised (Fig 3.2).



- A number of cases had risk factors identified and serial growth scans arranged; however, the number and duration between scans varied greatly and did not seem to relate to any specific evidence. Indeed a small number of cases had a normal first growth scan but died before the next booked scan (fig 3.3).
See Example 2:

Fig 3.3: Problems with duration between growth scans



Example 2 - This multiparous woman had growth scans arranged for 28/40 and 32/40 for previous IUGR. The estimated fetal weight was within normal limits at 28/40 but the baby died at 32/40, prior to the second booked scan.

- In some cases the serial scanning policy was not adhered to, with high risk women having fewer scans than the Trusts's own protocol advised (e.g. only offering a 34/40 scan for a high risk woman, when the policy was 28/40 and 34/40).
- There were many discussions on the advised number and duration between growth scans for serial scans. Most panel members considered that serial scans for growth, if indicated, should be every 2-3 weeks; however many also considered that this was not possible with the present constraints on scanning resources.

Fetal Movement monitoring

- There appeared to be a lack of information given to the women on the importance of fetal movement monitoring in the third trimester, with 8 having had no information and 8 having been given the information too early in the pregnancy without subsequent re-reinforcement. The majority were given this information at booking alongside the extensive other information.

Section E - Complications during Pregnancy

- These included pre-eclampsia, diabetes, fibroids and anaemia.
- Overall, panels felt that the care of complications in pregnancy were managed appropriately; however, they were very critical of the management of women with fibroids, commenting that their failure of appropriate ultrasound surveillance of fetal growth resulting in IUGR being missed.
- The panel also commented on a case of anaemia with lack of investigation and management throughout.

Section F - Intrapartum Care

- Intrapartum care was considered to be managed well in the majority of cases. Management on diagnosis of fetal death was generally comprehensive; however occasionally care was considered to have appeared rushed and insensitive. One woman was admitted, diagnosed with a fetal death and discharged with inducing medication, all within 2hours.

Bereavement care

- The majority of women were cared for on a labour ward, with the occasional women being cared for on a specialised bereavement unit/ward. However, it was noted that this good practice was hampered by moving women to labour ward during/after the birth for unnecessary reasons, (e.g. staffing levels, breech presentation, suturing).
- In the majority of cases the babies were examined comprehensively; however, there were examples where the baby was not examined following the birth or this was very poorly documented, resulting in little or no detail about the baby's appearance.

Section G - Postnatal Care

- The standard of postnatal care varied but was overall considered as being of a poor standard. In particular, panel members commented on women being discharged from the hospital too early, especially in cases where complications were evident (e.g. pre-eclampsia, pyrexia, anaemia).
- It was also felt that women were discharged from the community midwife too early - e.g. before 10days.

Bereavement care

- Bereavement care varied between being of a high standard and poor, with mothers sometimes being discharged with no counselling / debriefing at all. In the majority of cases, the postnatal follow-up with the consultant appeared thorough with a comprehensive plan of care for any further pregnancies documented. However, occasionally no plan of care was document and indeed some women did not see their consultant for their postnatal follow-up.

Postmortems

- A post-mortem was carried out in 10 cases overall (36%), a rate consistent with the overall regional postmortem rate for stillbirth (36.6% in 2005). The main reason for no post-mortem was maternal choice. However, the panel noted cases where the communication around this procedure was sub-optimal, with some discussions involving midwives only and others where the discussion was at an inappropriate time (e.g. prior to, or during labour).

Section I – Panels' Summary

Communication

Problems with communication was documented in 25/28 (89%) of the cases. These complication failures were evident throughout with:

- Lack of multi-disciplinary communication; in particular inadequate booking referrals and documenting a plan of care for all professionals
- Lack of communication between the community and acute Trusts
- Lack of communication with the mother and her partner throughout
- Poor advice giving throughout pregnancy and postnatally
- Information on fetal movement monitoring not given
- Lack of interpreters in a number of cases

Record-keeping

Problems with record-keeping was identified in 20/28 cases (71%). This occurred throughout with:

- Poor booking history taking
- Lead professional not being identified
- No individualised care plan documented
- Hand-held records often incomplete
- No routine blood results being documented
- No customised growth chart present
- Customised growth chart present but fundal heights and estimated fetal weights not plotted
- No signatures and printing of the names
- Poor and insensitive recordkeeping throughout labour
- No postnatal notes available for the review

Deficiencies in the organisation/staffing/resources

Problems with the organisation/staffing/resources were identified in 21/28 cases (75%) with:

- No senior obstetric involvement in the care although warranted
- No continuity of carer or named midwife for the care and many incidences of women being seen by numerous members of staff
- No community midwife resulting in the woman being cared for by the acute Trust
- Delay in referral (medical and ultrasound)
- Missed appointments not being followed up
- Documented ultrasound shortages where a growth scan was delayed due to being fully booked
- No/ad-hoc bereavement services
- A distressed fetus having to wait to be delivered as no theatre was vacant
- A high risk mother labouring and delivering on her own
- Postnatal follow-up disorganised

Protocols/policies

Problems with Trust policies/protocols were identified in 23/28 cases (82%). A Trust policy on intrauterine growth restriction (IUGR) was present in the majority of cases. However, in some instances the protocol was incomplete or considered inadequate for the care needed. The panel frequently commented on the lack of information regarding scanning for high-risk pregnancy (e.g. previous IUGR, previous obstetric history, raised BMI, fibroids, twins etc), resulting in insufficient monitoring of fetal growth and wellbeing. This included:

- No risk assessment initially or throughout the pregnancy
- The IUGR policy was over-complicated or incomplete
- Not using customised growth charts when documented as Trusts policy
- Not following the Trusts IUGR policy
- No late-booking protocol
- Poor care plan for teenage pregnancy
- Not following oligohydramnios policy

4. Summary Points

The findings of this Confidential Enquiry can be summarised into five main themes.

1. There were frequent problems with the booking and risk assessment process. Many women did not receive adequate evaluation at booking, with recognition of their individual needs. This resulted in significant risk factors not being identified or acted upon to ensure that the appropriate level of surveillance was provided. Examples included women with poor obstetric history, high body mass index, or uterine fibroids.
2. Where risk factors were identified, they were often still not acted upon in according to the needs of the condition. Specialist services were not engaged, or long gaps remained between serial antenatal assessments. Panels commented that protocols and/or practice appeared to be adapted to the reality of limited resources – e.g. ultrasound services. In a number of cases this was found to be crucial to the outcome.
3. Panels repeatedly found that fetal growth assessment was inadequate; this could be because of no, or incorrect use of customised growth charts; inadequate or incorrect plotting of fundal height; late or no referrals for suspected fetal growth restriction; or lack of serial assessment by ultrasound when indicated.
4. Many adverse outcomes resulted from mistakes which panel members could only explain as being due to an overstretched service associated with work overload and/or understaffing. Examples of this were: hurried or incomplete notes; missed referrals; basic investigations like blood pressure, urinalysis and fundal height measurements not done; missed appointments not being followed up; missing results not being followed up; lack of continuity throughout the care; lack of engagement of interpreters for most of the non-English speaking women; and mothers being left on their own during labour.
5. Postnatal care and bereavement support for women varied considerably and was often substandard. In a number of instances women were discharged too early from hospital or midwifery care. This occasionally resulted in complications such as pyrexia, anaemia and pre-eclampsia not receiving appropriate follow up.

5. Actions

The Perinatal Institute considers that this report marks the beginning rather than the conclusion of its remit to address the issues highlighted by these confidential enquiries.

- We will be raising the issues highlighted in the report with chief executives and medical / clinical directors of PCTs, Trusts and the SHA, with view to **exploring how the service can address these challenges**.
- Following on from the presentation of these results at the recent capacity-attendance Perinatal Forum, we are commencing a **series of feedback meetings** with stakeholders at individual provider units within the B&BC, to highlight general as well as locally pertinent messages arising from the Enquiry.
- From September 2007, we will be commencing rolling **GROW training & accreditation workshops** for all midwives and obstetricians, starting within the B&BC and then widening the programme to all units in the Region. (Appendix VII).
- We will re-convene the protocols -subgroup of the Regional Ultrasound Group to examine the evidence and develop **best practice guidelines for ultrasound scanning in high risk pregnancy**. This work is expected to lead to recommendations for a unified West Midlands protocol for fetal growth surveillance in high risk pregnancy. Examples for consideration include pregnancies with past history of growth restriction, preterm delivery or stillbirth; late bookers; fibroid uterus; high body mass index; and decreased fetal movement.
- Concurrently, we will commence a study to map current provision of ultrasound in pregnancy and determine the **resources needed for an ultrasound service** which is able to deliver the agreed best practice protocol.

Birmingham and The Black Country Reducing Perinatal Mortality - Project Team

PCT/UNIT	CONTACT NAME	ROLE	COMMENCEMENT (Original PID – Sept 2004)
Birmingham East & North PCT	Val Jones	Children's Business Manager LIG Lead	Original Member
Birmingham East & North PCT	Tony Stewart	Consultant in Public Health LIG Lead	Original Member
Dudley PCT	Anne-Marie Morris	Strategic Lead - Children and Learning Disability Services LIG Lead	Original Member
Heart of Birmingham PCT/NRF	Annette Williamson	Programme Lead Infant Mortality, NRF LIG Lead	Original Member
Sandwell PCT	Liz Green	Health Development Facilitator LIG Lead	Nov 05
Solihull PCT	Kim Elliott	Deputy Director Locality Commissioning LIG Lead	Original Member
South Birmingham PCT	Jane Owen	Director of Nursing & Midwifery LIG Lead	Original Member
South Birmingham PCT	Fran Wood	Community Childrens Service Manager	Original Member
Walsall PCT	Jane Evans	Associate Director Children & Families Service LIG Lead	Original Member
Walsall PCT	Terry Mingay	Director of Community Services and Nursing	Original Member
Wolverhampton PCT	Adrian Phillips	Director of Public Health LIG Lead	Original Member
Birmingham Womens Hospital – Midwifery Provider	Jenny Henry	Head of Midwifery	Oct 06
City & Sandwell Hospital - Midwifery Providers	Theresa Douse	Women's Services Manager/Head of Midwifery	Oct 06
Good Hope Hospital - Midwifery Providers	Maggie Coleman	Head of Midwifery and Gynaecology Services	Oct 06
Heartlands & Solihull Hospitals - Midwifery Providers	Fay Baillie	Head of Midwifery	Oct 06
New Cross Hospital -Midwifery Providers	Christiane Harrison	Head of Midwifery	Oct 06
Russells Hall Hospital - Midwifery Providers	Steph Mansell	Head of Midwifery	Original Member
Walsall Manor Hospital - Midwifery Providers	Sue Stewart	Head of Midwifery	Oct 06
Aston University	Helen Pattison	Associate Director of Research	Original Member
Perinatal Institute	Jason Gardosi	Director	Original Member
Perinatal Institute	Suzanne Jones	Project Lead	Until June 06
Perinatal Institute	Pat McGeown	Head of Midwifery	Original Member
Perinatal Institute	Mandy Williams	Research Midwife	June 06
University of Birmingham	Elaine Kidney	Research Disseminator in Maternity Services	Feb 06
University of Birmingham	Christine MacArthur	Professor of Maternal & Child Epidemiology	Feb 06
West Midlands NHS - Childrens Services	Sue Hatton	Workforce Development Specialist for Women and Children	Original Member
West Midlands NHS/Perinatal Institute	Toni Martin	Workforce Lead Project Lead	Jan 06 June 06
West Midlands NHS - Childrens Services	Jane Emson	Workforce Development Specialist for Women and Children	Dec 06

**Birmingham and The Black Country
Reducing Perinatal Mortality - Project Board**

ORGANISATION	NAME	ROLE	COMMENCEMENT
Walsall PCT	Paul Jennings	PCT Chief Executive Chair of Project Board	From Sept 05
West Midlands NHS	Peter Blythin	Director of Nursing	From Dec 06
Patient and Public Involvement (PPI)	Shirley Cooper	User Representative	Original Member
Perinatal Institute	Jason Gardosi	Director	Original Member
Birmingham MSLC	Catherine Gulati	User Representative / MSLC member	Original Member
Orig. Walsall PCT, seconded to WMPI	Suzanne Jones	Project Lead	To June 06
NHS West Midlands	Toni Martin	Project Lead	From June 06
Walsall PCT	Terry Mingay	Director of Community Services & Nursing	From Sept 05
Non-Exec Director, BBC SHA	Bridget Nisbet	Lay member; formerly Chair of Maternity Services Group	Original Member
BBC SHA / West Midlands NHS	Kate Sallah	Director of Nursing & Midwifery	To July 06

Confidential Enquiry - Panel Members

NAME	TITLE	UNIT
Adams, Lesley	Senior Midwife for Consultant Labour Ward	Shrewsbury & Telford Hospitals NHS Trust
Aucutt, Sue	Bereavement Midwife	University Hospital Coventry & Warwickshire
Bass, Lorna	Clinical Risk Manager for Maternity Services	University Hospital Coventry & Warwickshire
Cietak, Kris	Consultant Obstetrician and Gynaecologist	University Hospital Coventry & Warwickshire
Gornall, Adam	Consultant Fetomaternal Medicine and Gynaecology	Shrewsbury & Telford Hospitals NHS Trust
Hayes, Wendy	Community Midwifery Manager	Mid Staffordshire General Hospital
Heslington, Susan	Midwife, Day Assessment Unit	Worcestershire Royal Hospital
Jenkinson, Jackie	Clinical Midwife Manager CDS/FMAU	University Hospital of North Staffordshire
Kokoska, Karen	Midwife/Clinical Risk Co-ordinator	Worcestershire Royal Hospital
Latham, Jan	Senior Midwife for Consultant Labour Ward	Shrewsbury & Telford Hospitals NHS Trust
Masson, Geraldine	Consultant Obstetrician	University Hospital of North Staffordshire
Matts, Suzy	Consultant Obstetrician and Gynaecologist	George Eliot Hospital
Meggy, Jan	Consultant Obstetrician and Gynaecologist	Worcestershire Acute Hospitals NHS Trust
Mohajer, Michele	Consultant Obstetrician and Gynaecologist	Shrewsbury & Telford Hospitals NHS Trust
Mowbray, David	Consultant Obstetrician and Gynaecologist	Hereford County Hospital
Navaneetham, Neena	Consultant Obstetrician and Gynaecologist	George Eliot Hospital
Nippani, Jyothi	Consultant Obstetrician and Gynaecologist	Warwick Hospital
Oakley, Wendy	Consultant Obstetrician and Gynaecologist	Queens Hospital, Burton
Phelps, Jayne	Senior Midwife	University Hospital Coventry & Warwickshire
Powell, Karen	Consultant Obstetrician and Gynaecologist	Mid Staffordshire General Hospital
Poyzer, Chris	Community and Antenatal Service Matron/Supervisor of Midwives	Worcestershire Royal Hospital
Smith, Cathy	Directorate Manager for Women's Division	Shrewsbury & Telford Hospitals NHS Trust
Sorinola, Olanrewaju	Consultant Obstetrician and Gynaecologist	Warwick Hospital
Tapp, Andrew	Consultant Obstetrician and Gynaecologist	Shrewsbury & Telford Hospitals NHS Trust
Tristram, Valerie	Antenatal Clinic Manager	Kidderminster Hospital

Reducing Perinatal Mortality Confidential Case Review - Protocol

Revised 5th September 2006

Summary

Confidential case reviews will provide an objective assessment of selected stillbirth cases that occur within Birmingham and the Black Country during the period of the Reducing Perinatal Mortality project. Utilisation of this acknowledged and established methodology will provide both providers and commissioners with valuable evidence to inform and improve maternity service provision.

Background

This PCT Accord project is specifically designed to tackle perinatal mortality across Birmingham and the Black Country by enhancing community maternity care. The agreed key components of an enhanced community maternity service include continuity of carer, early booking, detection of fetal growth restriction, smoking, breastfeeding and screening. Targets for these were set out in the original PID to be achieved over 5 years from start of the project. Three key process indicators have been identified to monitor the implementation of the project: early booking; continuity of carer and antenatal detection of fetal growth restriction. Additional monitoring and evaluation includes a maternal experience survey and confidential case reviews.

Aim of Confidential Case Review

The confidential case review is a major component of the evaluation of the Reducing Perinatal Mortality project. It is an acknowledged method of objectively assessing complex perinatal health information. Multidisciplinary confidential case reviews, also referred to as confidential enquiries, have successfully been used to objectively assess cases of adverse perinatal outcome nationally, regionally and locally (CESDI 1994-2001; PI refs). The primary aim of a confidential case review is to identify preventable and avoidable factors. Events, actions or omissions attributable to care, management, systems or external factors could all contribute to adverse outcome but could potentially be prevented. Identification of avoidable and/or suboptimal care factors will enable the project to make practice recommendations to improve future maternity service provision. In depth examination of selected stillbirths that occur during the period of the project will be undertaken by an objective panel of expert clinicians who will give professional opinions about the adequacy of the care that was undertaken.

Identification of Cases for Review

Core data, as detailed in the Reducing Perinatal Mortality Dataset, will be collected on all births across Birmingham & the Black Country for the period being evaluated. This data is essential to monitor the three key process indicators of early booking, continuity of carer and antenatal detection of fetal growth restriction. However, the core data does not include opinions of care or value judgements although it will serve as notification of all stillbirths and neonatal deaths. Data will be checked and validated with other data sources available to the Perinatal Institute, such as the Perinatal Death Notifications, as well as with the maternity unit providing the data. Cross-referencing will ensure accurate identification of cases to be considered for confidential multidisciplinary case review.

The Project Initiation Document identifies the cases for confidential review as all antepartum deaths which occurred even though a growth problem was detected antenatally and all intrapartum deaths. However it has since been acknowledged that the number of cases that meet the selection criteria are less than anticipated with many also being associated with a congenital malformation. It has subsequently been agreed by the project team and –board that the cases for the confidential case review should be widened to include all normally formed stillborn infants that have reached at least 30 weeks gestation and where growth restriction was present. The identification of cases for review will be undertaken at the Perinatal Institute by calculating the customised birth weight centile for each stillborn infant. Growth restriction is defined as birth weight below the 10th customised percentile. As previously, 50 such cases per year will be assessed.

Panels will assess 4/5 cases at each panel meeting.

Units will be advised of cases for confidential case review and will be required to gather all appropriate documentation and submit the records to the Perinatal Institute. All documentation will be anonymised prior to being assessed by either the unit of source or the Perinatal Institute. Units will also need to identify the grades of staff involved in the care to ensure maintenance of confidentiality. Additionally the Perinatal Institute will validate, check, photocopy and distribute the records to panel members for the confidential review to be undertaken.

Multidisciplinary Review Panels

Multidisciplinary review panels will be co-ordinated and administered by the Perinatal Institute and chaired by the director or his representative. Panel members will be invited from outside of Birmingham & the Black Country to optimise confidentiality and objectivity. Panel members will examine the case documentation and assess whether there were any suboptimal care factors that may have been avoidable. Panel members will be paid a nominal fee to cover expenses.

Confidentiality

All NHS employees are subject to the NHS Confidentiality and Data Protection policies. Additionally all participants in panels are expected to comply with the Perinatal Institutes information and security policies. All case notes and associated documentation are to be returned at the end of the panel meeting for disposal by the Perinatal Institutes administration team.

Panel Membership

This may vary according to the cases being assessed but core members should include at least two obstetricians and two midwives who are currently employed within the NHS. Additional panel assessors from other relevant specialities will be invited to participate in the process eg physicians in cases where the pregnancy has been complicated by medical conditions such as diabetes.

Panel Process

A set of anonymised notes for each case will be forwarded to each panel member by post two weeks before the panel meeting in order to prepare for the multidisciplinary discussions.

A short presentation of each case will be given at the start of each case discussion to summarise the case by the Perinatal Institutes project co-ordinator – a standardised format will be developed to ensure consistency.

Once the presentation has been given all panel members will contribute to the discussion regarding the care the woman received. The panel chair will ensure that enquiries are carried out in an equitable, standardised and timely manner.

A semi structured proforma will be developed, utilising any recognised standards, to standardise assessment of cases and to aid analysis. The traditional CESDI grading classification system (Table 1) will be used to score the standard of care of all cases. The panel chair will be responsible for completing the panel enquiry proforma and the CESDI grading score with the panel's consensus assessment of the care.

Grade 0	No Suboptimal care
Grade 1	Suboptimal care, but different management would have made no difference to the outcome
Grade 2	Suboptimal care - different care MIGHT have made a difference (possibly avoidable death)
Grade 3	Suboptimal care WOULD REASONABLY BE EXPECTED to have made a difference (probably avoidable death)

Table 1: CESDI Grading System

Analysis & Reporting

Data from the enquiry proforma will be entered onto a database to be developed by the Perinatal Institute for further analysis and reporting. Qualitative data acquired from the comments about care will also be subject to further analysis.

The Perinatal Institute will disseminate the findings of the confidential case reviews in three ways:

- A final report will be submitted to the project team/project board once all cases have been assessed and analysed.
- Interim reports may be submitted as required by the board.
- The findings of individual cases will be reported back to their provider units via a rolling programme of seminars in order to give timely feed back and improve quality of care.



Information for Panel Members

Aims of the Review

Multidisciplinary confidential case reviews, also referred to as confidential enquiries, have successfully been used to objectively assess cases of adverse perinatal outcome nationally, regionally and locally. The primary aim of a confidential case review is to identify preventable and avoidable factors. Events, actions or omissions attributable to care, management, systems or external factors could all contribute to adverse outcome but could potentially be prevented. Identification of avoidable and/or suboptimal care factors will enable the project to make practice recommendations to improve future maternity service provision.

This confidential enquiry is part of the Birmingham and the Black Country 'Reducing Perinatal Mortality' Project (for further details see www.pi.nhs.uk/rpnm)

Panel Members

Each panel will include two consultant obstetricians and two senior midwives, plus other specialists as indicated by individual cases (e.g. diabetologists), from units in the West Midlands but *outside* the BBC area. The meetings will be chaired by Professor Jason Gardosi and assisted by the project coordinator, Mandy Williams.

Which babies will be included?

All stillbirths occurring in Birmingham and the Black Country where fetal growth restriction was diagnosed either antenatally or is suggested by postmortem findings or by a customised birthweight percentile <10.

Confidentiality

All NHS employees are subject to the NHS Confidentiality and Data Protection policies. Additionally all participants in panels are expected to comply with the Perinatal Institutes information and security policies.

The identities of the panel, the professionals, the Trust involved, the mothers and the families of the babies will be anonymised in all documentation. All case notes, individual proformas and associated documentation are to be returned at the end of the panel meeting for disposal by the Perinatal Institute's administration team.

Panel Meetings

Panel meetings will be held monthly for the duration of the project (although panel members will be alternated so each only attends one or two panel reviews a year). The case reviews will be held on differing days of the week to enable all clinicians to attend. The monthly panel meetings will be held at the Perinatal Institute to facilitate administrative support and will usually be an afternoon session, starting with lunch, with the aim to review 4 or 5 cases.

Panel Process

Four or five sets of anonymised notes and a standardised proforma (one for each case) will be forwarded to each panel member by post two weeks prior to the panel meeting. The Project co-ordinator will pre-enter and summarise details on the proforma before the mail out. **Panel members are asked to read each case, review the accuracy of the information pre-entered on the proforma and to enter comments and form opinions about the care prior to the case review.**

This will enable sufficient time to complete a review of the cases utilising the proforma prior to the panel assessment. Due to the high level of preparatory work (up to 8 hours) and travel costs, it has been agreed that a nominal flat fee of £100 per clinician per case review will be given. Please note, panel members are responsible for informing the Inland Revenue of this payment.

During the case review, each case discussion will be introduced by a short presentation by the project co-ordinator. The case will then be examined within the 8 sections as listed below.

- A Case details (Mother / Partner /Social)
- B History (Medical / Obstetric / Family)
- C Routine Antenatal Care (Screening, Information giving)
- D Fetal Growth (Surveillance, Referral, Diagnosis, Follow Up)
- E Pregnancy Related Complications
- F Intrapartum Care (Management / Fetal Monitoring / In Utero Transfer)
- G Postnatal Care (Follow Up / Pathology)
- H Summary (Overview / Grading)

The aim of the discussions will be to derive at a consensus view which will be recorded by the chair. The results of the panel assessments will be fed back to the Project Team and Project Board of the BBC RPNM Project.

* * *

Reducing Perinatal Mortality Confidential Case Review

Ref.

Do NOT keep any duplicates or copies of this form
Do NOT enter names or signatures

Section A - Case Details

A1 Case Summary Age.....Gravida.....Para.....BMI.....Outcome.....at.....Gestation

A2 Mother's Details

Marital Status

Ethnic Group

English speaking? Yes No

Occupation

Housing

A3 Partner's Details

Age

Ethnic Group

Occupation

Consanguineous relationship? Yes No

A4 Social Details

Smoking	Alcohol	Non-medical drugs
Smoking during pregnancy? <input type="checkbox"/> Yes <input type="checkbox"/> No Number per day?	Alcohol during pregnancy? <input type="checkbox"/> Yes <input type="checkbox"/> No How many units per week?	Non-medical during pregnancy? <input type="checkbox"/> Yes <input type="checkbox"/> No
Details		
Any reported domestic violence? <input type="checkbox"/> Yes <input type="checkbox"/> No		
Details		

Section B - Relevant History

B1 Medical/Surgical History

B2 Obstetric History

B3 Family History

Comments

B4 Management Plan

Appropriate? Yes No N/A

B5 Section B - General comments (including whether consistent national and/or local guidelines were used?)

Section C - Routine Antenatal Care

CI Summary of routine antenatal care

C2 Dating ultrasound scan Yes No
If no, why was it missed?

C3 Detailed ultrasound scan? Yes No
If no, why was it missed?

C4 Blood screening tests Yes No
If no, which ones were missed and why?

C5 A/N Screening for Down's? Yes No
If no, why were the tests missed?

C6 Prenatal Diagnosis

C7 Information given about pregnancy symptoms?
(headaches, itching, visual disturbances, etc)
 Yes No

If yes, when was this first discussed?
at.....weeks

C8 Information about fetal movements?
 Yes No

If yes, when was this first discussed?
at.....weeks

C9 Presented with any symptoms during pregnancy?
 Yes No

Management given:

Comments

Appropriate? Yes No N/A

CI0 Section C - General Comments (including whether consistent national and/or local guidelines were used?)

Section D - Surveillance of fetal growth

D1 Summary of screening for / management of IUGR

D2 Surveillance of fetal growth

Customised chart in handheld notes Yes No

Regular fundal height measurements
(every 2-3 weeks from 26-28 wks gestation) Yes No

Fundal height plotted correctly Yes No

D3 Detection of IUGR

Was IUGR suspected antenatally? Yes No

If yes, Recognised at the correct time

Evidence of IUGR earlier

If no, was evidence of IUGR missed? Yes No

D4 Referral

N/A

Referred for further investigation Yes No

Time from referral to being seen by the Trust
.....weeks days

D5 Diagnosis of IUGR - by

N/A

Amniotic fluid volume

Estimated fetal weightb(once)

Estimated fetal weightb(serial)

Umbilical artery Doppler

D6 Follow up

N/A

Serial scan / Doppler Yes No

Induction of labour or C.S. Yes No

Comments

Appropriate? Yes No N/A

Delay acceptable? Yes No N/A

Appropriate? Yes No N/A

Appropriate? Yes No N/A

D7 Section D - General Comments (including whether consistent national and/or local guidelines were used?)

Section E - Other Pregnancy-related Complications

E1 Summary of pregnancy-related complications

E2 Pre-eclampsia

Yes No

Details

Investigations/Treatment

Follow up

E3 Diabetes

Yes No

Details

Investigations/Treatment

Follow up

E4 Antepartum Haemorrhage

Yes No

Details

Investigations/Treatment

Follow up

E5 Other Condition(s)

Yes No

Details

Investigations/Treatment

Follow up

Comments

Appropriate team/care? Yes No N/A

Appropriate? Yes No N/A

Appropriate? Yes No N/A

Appropriate team/care? Yes No N/A

Appropriate? Yes No N/A

Appropriate? Yes No N/A

Appropriate team/care? Yes No N/A

Appropriate? Yes No N/A

Appropriate? Yes No N/A

Appropriate team/care? Yes No N/A

Appropriate? Yes No N/A

Appropriate? Yes No N/A

E6 Section E - General comments (including whether consistent national and/or local guidelines were used?)

Section F - Intrapartum Care

F1 Summary of Intrapartum Care

F2 Management

If induced - reason:

1st Stage managed by:
(most senior member during the first stage)

1st Stage cared for by:
(most senior member during the first stage)

2nd Stage managed by:
(most senior member during the second stage)

2nd Stage cared for by:
(most senior member during the second stage)

Place of birth:

Mode of birth:

F3 Fetal Monitoring

N/A

Method:

Problems:

F4 In-Utero Transfer

N/A

Reason:

Delays:

Comments

Appropriate? Yes No N/A

Response
Appropriate? Yes No N/A

Appropriate? Yes No N/A

Acceptable? Yes No N/A

F5 Section F - General comments (including whether consistent national and/or local guidelines were used?)

Section G - Postnatal Care

G1 Summary of Postnatal Care

G2 Postnatal care

Analgesia

Was lactation suppression offered? Yes No

Postnatal follow-up Yes No

Debriefing/counselling Yes No

Comments

G3 Pathology

Post-mortem

Other investigations

G4 Section G - General comments (including whether consistent national and/or local guidelines were used?)

Section H - Summary

H1 Communication problems (between healthcare professionals, or with mother)	<input type="checkbox"/> Yes <input type="checkbox"/> No
H2 Problems with record keeping	<input type="checkbox"/> Yes <input type="checkbox"/> No
H3 Deficiencies in organisation / staffing / resources	<input type="checkbox"/> Yes <input type="checkbox"/> No
H4 Lack of policies / protocols	<input type="checkbox"/> Yes <input type="checkbox"/> No

H5 Examples of good practice

H6 Examples of bad practice

H7 Panel Grade	Level of suboptimal / substandard care	<input checked="" type="checkbox"/>
Grade 0	No Suboptimal care	
Grade 1	Suboptimal care, but different management would have made no difference to outcome	
Grade 2	Suboptimal care - different care MIGHT have made a difference (possibly avoidable death)	
Grade 3	Suboptimal care WOULD REASONABLY BE EXPECTED to have made a difference (probably avoidable death)	

H8 Overall panel comments on the case



GROW

Accreditation Training

- Tuesday 4th September 2007
- Wednesday 12th September 2007
- Tuesday 25th September 2007

* There will be 2 sessions on each date 10:00 - 12:00 or 14:00 - 16:00

- *Fetal growth surveillance*
 - *Standardising fundal height*
 - *Clinical application of customised growth charts*
 - *Documentation and record keeping*
 - *Practical assessment*
-

Registration form should be returned at least 2 weeks prior to your chosen date to:

Claire Hallahan, Perinatal Institute,
Crystal Court, Aston Cross, Birmingham, B6 5RQ
Or claire.hallahan@pi.nhs.uk

Enquiries: 0121 687 3450