Objectives
(1) To establish a cost consequence evaluation following introduction of routine use of carbetocin for all Caesarean Sections (CS) at Southmead Hospital.
Methods Following routine introduction of carbetocin for all CS (elective and emergency) at Southmead Hospital in April 2012 we have demonstrated a reduction in theatre recovery time and also need for additional 3rd stage management compared with historical data from pre-carbetocin (Abstract No: PL.16).

We have economically modelled the financial cost of introducing carbetocin, using estimated costs as indicated (table 1).
Conclusion Using real life data following routine introduction of carbetocin, economic modelling demonstrates only a small increase in drug cost per patient (carbetocin £7.78 v syntocinon £6.37). In addition reduced theatre recovery time has potential midwifery staffing cost efficiencies of up to £189,000 pa.

PL.20 PERINEAL ASSESSMENT AND REPAIR E-LEARNING SYSTEM (EPEARLS): AN E-LEARNING TRAINING PACKAGE TO IMPROVE CLINICAL MANAGEMENT OF PERINEAL TRAUMA FOLLOWING CHILDBIRTH

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[1]A Mahmud, [2]C Kettle, [4]D Bick, [2]C Rowley, [3]T Rathod, [3]J Belcher, [2]M Abdelmaguid, [1,5]K Ismail. *[1]Birmingham Women's Hospital NHS Foundation Trust, Birmingham, UK; [2]Staffordshire University, Stafford, UK; [3]Keele University, Staffordshire, UK; [4]Kings College London, London, UK; [5]University of Birmingham, Birmingham, UK*

Background Birth related perineal trauma can have a major impact on women's health. The correct assessment and repair of perineal injuries are procedures that require knowledge and skill. Currently, there is no agreement as to what constitutes an effective training programme. We produced and tested an interactive distance learning multi-professional training package called ePEARLS. This was developed as a tool for the delivery and assessment of perineal repair training in line with UK evidence based practise.
Methods The main aim of this project was to develop, refine and assess ePEARLS as a tool for the assimilation of knowledge and skill to clinicians involved in Intrapartum care. Using pre and post-training objective assessments for both knowledge and skill, we compared the effect of delivering training using ePEARLS compared to other training models in three independent multi-professional groups from three different maternity units.
Results Thirty-eight participants were involved in the study. Improvements in knowledge scores were marginally significant in all three groups. However, more marked improvements in skill scores were noted in response to the different training models.
Conclusion ePEARLS is the first multi-professional interactive perineal trauma management e-learning package that has been formally tested against other training models. The potential cost effectiveness of this package makes it far superior to other methods of delivering training and maintaining competency.

PL.21 DELIVERY OUTCOMES FOR NULLIPAROUS WOMEN AT THE EXTREMES OF MATERNAL AGE – A COHORT STUDY

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[1]DA Vaughan, [2,4]B Cleary, [2,3]DJ Murphy. *[1]The Rotunda Hospital, Dublin, Ireland; [2]The Coombe Women and Infants University Hospital, Dublin, Ireland; [3]Trinity College Dublin, Dublin, Ireland; [4]The Royal College of Surgeons in Ireland, Dublin, Ireland*

Objective To examine the associations between extremes of maternal age (≤ 17 years or ≥ 40 years) and delivery outcomes.
Design Retrospective cohort study.
Setting Urban maternity hospital in Ireland.
Population A total of 36,916 nulliparous women with singleton pregnancies who delivered between 2000 and 2011.
Methods The study population was subdivided into five maternal age groups based on age at first booking visit: ≤ 17 years, 18–19 years, 20–34 years, 35–39 years and women aged ≥ 40 years. Logistic regression analyses were performed to examine the associations between extremes of maternal age and delivery outcomes, adjusting for potential confounding factors.
Main Outcome Measures Preterm birth, low birth weight, admission to the neonatal unit, congenital anomaly, caesarean section.
Results Compared to maternal age 20–34 years, age ≤ 17 years was a risk factor for preterm birth (adjOR 1.83, 95% CI 1.33–2.52). Babies born to mothers ≥ 40 years were more likely to require

Abstract PL.19 Table 1

		Carbetocin	Syntocinon 5u	Unit costs	CS (pa)	Carbetocin	Syntocinon 5u
Index costs		£7 [1]	£0.75 [1]		1800	£12,600	£1,350
Additional syntocinon		7.52%	39.40%	£0.75 [2]		£102.87	£538.99
40u Syntocinon infusion		4.00%	38.00%				
	Drug costs			£3.45 [2]		£247.68	£2,414.85
	IV costs (Casualty infusion set/ 500ml saline)			£6.86 [2]		£493.92	£4,815.77
Syntometrine		6.78%	15.20%				
	Drug costs			£1.35 [2]		£164.27	£308.36
Haemabate		1.22%	6%				
	Drug costs			£18.2 (per 250mcg/1ml) [2]		£368.32	£1,965.96
Total annual drug costs						£14,062	£11,473
Drug cost per CS						£7.78	£6.37
Additional theatre recovery time	Band 6 M/W staff cost		500 min	£53 per hour [3]			£189,000

1: South West Obstetric Network drug cost; 2: Unit drug cost, 3: NHS supply chain unit cost, 4:PSSRU 2010 Unit Health Care cost

admission to the neonatal unit (adjOR 1.35, 95% CI 1.06–1.72) and to have a congenital anomaly (adjOR 1.71, 95% CI 1.07–2.76). The overall caesarean section rate in nulliparous women was 23.9% with marked differences at the extremes of maternal age; 10.7% at age ≤ 17 years, adjOR 0.46 (95% CI 0.34–0.62) and 54.4% at age ≥ 40 years, adjOR 3.24 (95% CI 2.67–3.94).

Conclusions Extremes of maternal age need to be recognised as risk factors for adverse delivery outcomes. Low caesarean section rates in younger women suggest that a reduction in overall caesarean section rates may be possible.

PL.22 LACTATE CLEARANCE AND OUTCOME IN NEONATES COOLED FOR HYPOXIC ISCHAEMIC ENCEPHALOPATHY

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[1]RE Musson, [1]SJ Clark, [2]R Kachroo, [1]S Didier, [1]M Smith. *[1]Sheffield Teaching Hospitals NHS Foundation Trust, Sheffield, UK; [2]Queen Alexandra Hospital, Portsmouth, UK*

Aims To investigate the clearance of blood lactate level in neonates undergoing whole body cooling for hypoxic ischaemic encephalopathy (HIE) related to their outcome.

Methods Retrospective case note review of infants receiving whole body cooling at a tertiary neonatal centre with outcome data enabling grouping into normal or abnormal neurological examination, or death, at follow up. Blood lactate measurements taken at 6, 12, 18, 24, 48, 72 and 96 hours were compared across the outcome groups. Data is given as median (± interquartile range)

Results 61 infants were identified with birth weight 3.31 (2.77–3.55) kilogrammes, gestation 39 (38–40) completed weeks, ten minute Apgar score of 5 (2–6) and arterial cord pH 6.95 (6.82–7.08). 13 infants died, 14 had abnormal and 34 normal neurological follow up at last examination.

Kruskal-Wallis test demonstrated significant differences in blood lactate between the three outcome groups at 6, 12, 18, 24, 48 and 72 hours:

Abstract PL.22 Table 1

Median lactate mmol/L		Time 6hr	12hr	18hr	24hr	36hr	48hr	72hr	96hr
Outcome	Normal	7.4*	4.3*	4.4*	3.1*	2.3	1.9*	1.4*	1.7
	Abnormal	6.7	5.2**	5.6	4.8	3.4	3.0	2.6***	2.0
	Death	13.5	10.4	7.7	4.3	3.9	4.2	4.6	2.0

Using Mann Whitney U test: * p < 0.03 compared to those who died, **p < 0.02 compared to those who died, *** p < 0.02 compared to those who had a normal outcome.

Conclusions In this preliminary study blood lactate measurement shows statistically significant differences for neonatal outcome in terms of death, abnormal or normal examination. This may aid prognostication in infants suffering HIE, and help determine further management.

PL.23 USE OF QUANTITATIVE FETAL FIBRONECTIN MAY IMPROVE RISK ASSESSMENT IN SYMPTOMATIC WOMEN AT RISK OF PRETERM BIRTH

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[1]H Browne, [2]I Jassel, [2]A Dhanji, [1]E Bonney, [1]N Simpson. *[1]Leeds General Infirmay, Leeds, UK; [2]Leeds Medical School, Leeds, UK*

Background The presence of raised fetal fibronectin (fFN) levels in cervicovaginal secretions between 24–34 weeks gestation is associated with an increased risk of spontaneous preterm birth in symptomatic women. Recent developments in testing now enable a quantitative level to be derived. Currently, a level of ≥50 μmol/l is considered a positive test result. Presently, there is no data to guide clinicians as to which levels signify greater or lesser risk of imminent delivery.

Method This retrospective study was undertaken within Leeds Teaching Hospitals Trust. All fFN tests undertaken in the Maternity Assessment Unit between August 2010 and July 2012 were ascertained, and pregnancy outcomes were collated. 303 results had adequate data to allow analysis and 97 of these included quantitative fFN levels.

Results The overall sensitivity of the test in predicting delivery within 14 days of the test was 64.3%, with a positive predictive value of 17.3%. The specificity of the test was 85.1%, with a negative predictive value (NPV) of 98.0%. The test was more reliable when used in gestations ≤29 weeks when compared to those ≥ 30 weeks as higher values were obtained for specificity and sensitivity; 85.8% and 100% respectively. When examining the quantitative data, the percentage of ladies who delivered within 14 days from the test was 3% if fFN levels were between 0–19, 20% (20–49), 0% (50–199), 20% (200–499) and 100% (>500).

Conclusion Knowledge of quantitative fFN levels may enable more accurate risk assessment of symptomatic women at risk of preterm birth, and inform follow-up pathways.

PL.24 DO BIRTH PLACE DECISIONS CHANGE OVER A WOMAN'S CHILDBEARING CAREER?

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[1]K Coxon, [1]J Sandall, [2]N Fulop. *[1]King's College London, London, UK; [2]University College London, London, UK*

In England, most women give birth in hospital obstetric units (OUs). First births usually occur in an OU, and women are thought more likely to opt for a different place of birth in subsequent pregnancies, especially if their first births are straightforward. However, this assumption is not based on evidence, because few studies explore the impact of birth on future birth place intentions.

This NIHR-funded research used a longitudinal, narrative design; 41 women with mixed parity and clinical risk profiles were recruited, using a maximum variation sampling strategy, and 113 interviews were conducted during pregnancy, birth and the early postnatal period. Longitudinal data analysis explored the influence of events during birth upon future birth place intentions.

Planned place of birth, willingness to consider different settings and the timing of birth place decisions all differed by parity. Most women who intended to give birth in hospital did so; following birth, they would usually do the same in future, even if their births were straightforward. Women who planned birth in non-hospital settings were less likely to achieve this, especially during first pregnancies, but usually wanted to achieve non-hospital birth in the future.

These findings raise questions about the effect of birth place decisions made during one pregnancy upon women's subsequent childbearing careers, and have implications for the sustainability of options other than obstetrician-led units. When balancing risks and benefits of OU birth in one pregnancy, it is important to consider the impact this experience might have on women's future birth place decisions.

PL.25 PRENATAL DIAGNOSIS OF CONGENITAL HEART DISEASE: EFFECT ON LABOUR PROGRESS AND MODE OF DELIVERY

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[1]A McTiernan, [1]S Farrell, [2]CA Walsh, [2]C Mulcahy, [3]C McMahon, [2,4]FM McAuliffe. *[1]Medical Student, University College Dublin School of Medicine and Medical Sciences, Dublin, Ireland; [2]Fetal Medicine Unit, National Maternity Hospital, Dublin, Ireland; [3]Department of Paediatric Cardiology, Our Lady's Hospital for Sick Children, Dublin, Ireland; [4]University College Dublin School of Medicine and Medical Sciences, Dublin, Ireland*