born with neonatal encephalopathy on the basis of existing evidence from published studies.[1] The UK TOBY Cooling Register of treatment with moderate hypothermia was set up in order to collect data about all episodes of induced hypothermia for the treatment of neonatal encephalopathy in the United Kingdom.

The aims of the register are: to determine the likely demand in the United Kingdom for treatment of newborn infants with cooling; to identify adverse events associated with treatment with cooling; to ensure uniform clinical management to a high standard in a high-risk group of infants; to support further clinical trials of neuroprotection after asphyxia.

Since the inception of the register in December 2006, 132 infants have been notified (up to January 2008) from 28 centres. Cooling was initiated at $x(y - z)^2$ h after birth, and was maintained within the target range of 33–34°C rectal $x(y - z)\%^1$ of cooling period.[3] Details of patient characteristics, neurological state, complications and outcome at discharge from hospital will be discussed.

▶ 74.3 (interquartile range 61.6–84.9)%.

▶ 4 h 15 min (20 min–11:00 h).

▶ Data analyzed on 107 patients so far.

4.12 **A RANDOMISED PILOT FEASIBILITY STUDY OF THERAPEUTIC HYPOTHERMIA FOR NEONATAL ENCEPHALOPATHY IN A LOW-RESOURCE SETTING IN EQUATORIAL AFRICA**

[1]NJ Robertson, [2]M Nakakeeto, [1]CF Hagmann, [3]E Allen, [4]FM Cowan, [4]D Acolet, [3]D Elbourne, [5]A Costello, [1]I Jacobs. [1]*EGA UCL Institute for Women' Health, University College London, London, UK;* [2]*Neonatal Unit, Mulago Hospital, Kampala, Uganda;* [3]*Medical Statistics Unit, London School of Hygiene and Tropical Medicine, London, UK;* [4]*Department of Paediatrics and Imaging Sciences, Imperial College, London, UK;* [5]*International Perinatal Care Unit, Institute of Child Health, London, UK*

Background: Therapeutic hypothermia is a promising therapy for neonatal encephalopathy (NE) in the developed world;[1] results cannot be directly transferred to low-resource settings.

Aims: To determine the feasibility of whole-body cooling to 33–34°C for 72 h using simple methods and the temperature profile over the first 80 h in term NE infants undergoing standard care in Mulago Hospital, Kampala, Uganda.

Methods: The local ethics committee approved the study. After informed consent, babies were randomly assigned to standard care plus cooling with "cool" water bottles or standard care.

Results: Between 27 July 2007 and 31 October 2007, 110 term infants with NE admitted to the neonatal unit were screened. 36 infants were eligible for inclusion (see table).

Conclusions: Initial rectal temperatures were similar in therapeutic hypothermia and standard care groups. Screening, randomisation and cooling to 33–34°C over 72 h with water bottles was feasible in this low-resource setting. Suggestions of adverse outcomes make

Abstract 4.12

Mean (SD) unless stated	TH (n = 21)	SC (n = 15)
GA at birth (weeks)	38 (1.45)	38 (1.38)
Birthweight (g)	3300 (550)	3200 (268)
Apgar score at 5 minutes	4.7	5.2
Age (min) at randomisation	115	100
Rectal temp at randomisation	33.66 (1.04)	34.43 (1.12) $p = 0.06$
Mean rectal temperature over 72 h	33.62 (0.69)	36.29 (0.64) $p<0.001$
HIV-positive (mother) %	14%	13%
Seizures day 2%	29%	13%
Sarnat stage II/III %	43%/33%	57%/0%
Death %	33% (n = 7)	7% (n = 1)

GA, gestational age; SC, standard care; TH, therapeutic hypothermia.

rigorous randomised trials to determine safety and efficacy of therapeutic hypothermia in low-resource settings imperative.

1. **Jacobs S.** *Cochrane Syst Rev* 2007;4(CD003311).

Session 4C NNA: Positive Parenting

4.13 **A CRITICAL INCIDENT REPORTING SYSTEM AND AN ANALYSIS OF CRITICAL INCIDENTS IN A LEVEL 3 NEONATAL INTENSIVE CARE UNIT**

JA Foy, D Agarwal, S Sen. *Royal Gwent Hospital, Newport, UK*

Introduction: Critical incident reporting in a neonatal intensive care unit is a vital part of clinical governance to improve the safety and quality of healthcare. Unfortunately these incidents are not analyzed regularly in any meaningful way to get feedback and effect improvements.

Methods: At this level 3 neonatal intensive care unit, a critical incident reporting system has been developed in which all reported critical incidents are analyzed at monthly multidisciplinary meetings. They are then entered on a database. Incidents are categorised into classes A–E (A, death/risk of death through to E, incident no injury or inconvenience). This database of 2 years (1 January 2005 to 31 December 2006) was analyzed to determine the causes and patterns in critical incidents.

Results: There were 256 discrete incidents reported during this period. Class A incidents accounted for 0.78%, class B 71.5%, class C 8.6%, class D 5.5% and class E 13.7%. 73.4% of incidents were reported by nurses and the rest by doctors. "Clinical" incidents accounted for 86.3% of all incidents, "non-clinical" for 12.1% and "organisational" for 1.5%. "Drug errors" accounted for 47.5% of "clinical" incidents and all were class B category. These included incorrect administration (34.3%), prescription errors (25.7%), missed doses (20.9%) among others. Root cause analysis showed that "accident" (8.6%), "non-adherence to protocol" (8.2%), "communication breakdown" (6.6%) were the commonest reasons for the incidents.

Conclusions: In our experience, the critical incident reporting system has been very effective in understanding the reasons for incidents and subsequent handling of such events. In the future it is hoped that the system will be instrumental in reducing them.

Session 6

Session 6A BMFMS: Pregnancy Outcome

6.1 **THE RELATION BETWEEN SOCIAL DEPRIVATION AND STILLBIRTH CAUSES**

A Tang, M Whitworth, D Roberts. *Liverpool Women's NHS Foundation Trust, Liverpool, UK*

Social deprivation is an important determinant of poor health. We aimed to identify appropriate health targets by investigating associations between social deprivation and causes of stillbirth in Liverpool Women's NHS Foundation Trust.

Methods: All stillbirths occurring between 2004 and 2006 were included in the study and classified with ReCoDe. Maternal postcode was used to determine the index of multiple deprivation (IMD) for each patient. Women in IMD decile 1 (poorest 10% of England) were compared with women in IMD deciles 3–9. Results were analyzed using RevMan v4.2 (see table).

Results: 55% of our antenatal population are from IMD 1. We investigated 152 stillbirths. The numbers of observed and expected stillbirths in each IMD decile are similar. 46% of women from IMD 1 are smokers compared with only 7% in the least deprived group. There is a significant difference in the specific causes of stillbirths.

Conclusions: Current antenatal management is preventing an excess of stillbirths in the most deprived women. However, to make an impact in decreasing stillbirth rates in the next decade, we need