Abstract G150(P) Table 1 Mortality rates pre and post ETAT training

	Pre-ETAT +		Post-ETAT +	
	Deaths (%)	Total no patients	Deaths (%)	Total no patients
Tertiary	20 (14.6%)	137	2 (3.4%)*	58
District	17 (8.5%)	200	0 (0%)*	26

(Pearson Chi-squared, $p = 0.03$, though this has reduced power due to values of less than 5 in the boxes marked with *)

Conclusions Though these results are limited by the relatively small number of children in the post-intervention group and the lack of a control hospital (without ETAT+ intervention) they do provide evidence that the mortality rate in children with malnutrition has reduced since the implementation of the ETAT+ course.

G151(P) IMPACT OF A TRAINING PROGRAMME ON NON-MEDICAL HEALTH WORKERS CONFIDENCE IN MANAGING COMMON NEONATAL PROBLEMS IN SIERRA LEONE

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Background and Aims Sierra Leone has one of the highest infant mortality rates in the world, with 113 out of every 1000 live births dying in their first year of life. Many of these deaths occur in the first month of life from birth asphyxia, complications of low birth weight and prematurity and neonatal sepsis. Sierra Leone has a critical shortage of health workers, especially those with skills in neonatal care. We aimed to develop and evaluate the impact of a two-day training programme designed to give non-medical health workers the knowledge and skills required to provide essential neonatal care to sick and low birth weight neonates.

Methods Twenty-six health workers completed the training programme which was run in the central government hospitals in two neighbouring districts in Sierra Leone. The programme included interactive lectures, practical demonstrations and small-group facilitated sessions, which gave participants the opportunity to practise their newly acquired skills in simulated clinical scenarios. Simplified neonatal treatment guidelines, based on World Health Organisation best practise, were developed and given to each participant to be used during the workshop and as an ongoing reference. Participants were asked to complete a confidence questionnaire before and after the programme: pre and post course confidence scores were analysed.

Results Participants included 18 nursing staff, 5 community health officers and 3 nursing aides. In one district a neonatal unit had just

opened in the central government hospital, and in the other district a neonatal unit was planned with the opening of a new Africa Development Bank funded maternity unit. Health workers showed a significant ($p < 0.001$) increase in their confidence in managing common neonatal problems as illustrated in Table 1.

Conclusion A two-day training programme, coupled with the provision of clinical guidelines, significantly increased the confidence of non-medical health workers in managing the most commonly encountered neonatal problems in Sierra Leone. This demonstrates the potential of the task-shifting approach to expand access to essential neonatal services in similar resource-constrained settings. Further work is required to assess whether changes to practise are sustained, and to evaluate their effects on neonatal outcomes.

G152(P) MULTIDISCIPLINARY NEWBORN RESUSCITATION TRAINING IN ETHIOPIA AND THE RCPCH VSO FELLOWSHIP SCHEME

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Aims In Ethiopia the neonatal mortality rate is 37/1000 live births and perinatal asphyxia is an important contributor. Like many African countries Ethiopia has made significant progress towards millennium development goal 4 but on present trends is still likely to fall short. Neonatal deaths account for 32% of the under 5 mortality, improving neonatal resuscitation and newborn care is thus key to achieving this goal. Newborn resuscitation is often not a priority in Ethiopia, even in hospitals there is often no provision for skilled resuscitators to attend high risk deliveries. Various programmes have been developed to address this shortfall but in the authors' experience they often emphasise theoretical training and fail to reach front line staff.

Methods A 'Train the Trainers' model was used to train motivated local staff in methods of teaching, facilitation, practical demonstration and simulation based training, using manikins and real life scenarios. These local trainers were then used to facilitate subsequent training courses with a view to making the project sustainable. All courses were multidisciplinary and emphasised team working and practical skills. Small grant funding from VSO Ethiopia was used to fund the project. In Bahar Dar NLS training was integrated with practical training in managing obstetric emergencies.

Materials 'Neonatalies' (Baby manikins) were kindly donated by UNICEF. Teaching materials were adapted from Ethiopian WHO guidelines, NLS guidelines from ALSG and Helping Babies Breathe from the USA.

Results Across two large towns in Ethiopia a total of 124 staff were trained in Newborn Resuscitation, 33 staff were trained as instructors. Instructors included obstetric doctors, paediatric

Abstract G151(P) Table 1

Topic	Pre-course			Post-course		
	Confident	Partly Confident	Not confident	Confident	Partly Confident	Not confident
Neonatal Resuscitation	28%	67%	6%	100%	0%	0%
Caring for LBW and premature babies	17%	50%	33%	73%	27%	0%
Calculating fluid and feed requirements	6%	56%	39%	85%	15%	0%
Drug calculations	6%	50%	44%	70%	30%	0%
Managing neonatal sepsis	13%	44%	44%	69%	31%	0%
Managing neonatal convulsions	11%	67%	22%	73%	27%	0%

doctors, nurse anaesthetists, midwives and nurses. Success was measured by pre and post course tests and feedback forms.

Conclusions Our experience shows that it is possible to roll out practical neonatal resuscitation with minimal equipment and funding. In order to change attitudes to neonatal resuscitation and care it is vital to empower local staff and trainers rather than rely on a top down approach.

British Paediatric Respiratory Society

G153 DETERMINANTS OF QUALITY OF LIFE IN CHILDREN WITH ASTHMA WHO LIVE IN SCOTLAND

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Background Childhood asthma is a common chronic condition which may be associated with reduced quality of life (QoL). Factors which determine QoL are important to child, parent and clinician and, in particular, factors which are modifiable are of interest and may be amenable to intervention. The aim of the present study was to identify which factors are associated with reduced QoL in children with asthma.

Methods Children aged 2–16 years and with physician diagnosed asthma were recruited from primary and secondary care as part of a study designed to relate gene-environment interactions to asthma outcomes. The Paediatric Asthma Quality of Life Questionnaire was completed and related to the following plausible determinants: gender, age, socioeconomic status, primary or secondary care, BTS treatment step (index of severity), asthma control, exposure to second hand smoke, spirometry and exhaled nitric oxide.

Results There were 894 children recruited, mean age 9.5 years, 53% male, 27% recruited in primary care. QoL was determined in 565 children, median score [IQR] 5.9 [4.7, 6.8]. In univariate analyses, QoL was positively associated with increasing affluence (Rho 0.14) and better asthma control (rho 0.63) and negatively with smoking exposure (median 5.2 vs 6.0 for non-exposed), recent exacerbations (median 5.3 vs 6.2 for no exacerbation) and BTS treatment step (rho -0.32). QoL was not related to spirometry or exhaled NO. In the multivariate analysis ($R^2 = 0.31$, $n = 255$), log transformed QoL was positively associated with socioeconomic status ($p = 0.004$) and asthma control ($p < 0.001$) and inversely associated with BTS treatment step ($p = 0.004$).

Conclusions Overall, the QoL was good for this population. This insight suggests at least three independent drivers for QoL, asthma control, asthma severity and socioeconomic status, of which asthma control is the factor most amenable to intervention. Other factors not captured in this study, such as compliance and attitude to health and disease, are likely to be important.

G154 ESTIMATION OF THE "TRUE" HOSPITAL BURDEN OF PAEDIATRIC RESPIRATORY SYNCYTIAL VIRUS ON THE NHS ENGLAND

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Background and Aim Respiratory syncytial virus (RSV) is a major cause of acute lower respiratory tract infection (LRTI) in infants and young children and the leading cause of severe bronchiolitis between October to March. The burden of RSV hospital

admissions on the NHS is unclear. Our aim was to estimate the number of RSV occupied bed days (OBDs) in the NHS in infants ≤ 18 months of age across 4 RSV seasons (2007/2008 to 2010/2011).

Methods A retrospective analysis of hospital admissions was performed using the Caspe Healthcare Knowledge System (CHKS) database which contains patient data from Hospital Episode Statistics (HES) as well as data collected directly from hospital trusts in England. All LRTI admissions with a definitive (confirmed) RSV code were identified. In addition there were LRTI hospital admissions which were unspecified but probably due to RSV based on season, age and diagnostic codes determined by an expert panel. To further increase the chances that the unspecified LRTI admissions were due to RSV and to minimise confounding by influenza, the analysis was limited to a narrower RSV season defined as 70% spread of confirmed RSV admissions around the peak week of RSV admissions. Details of all RSV admissions (confirmed and probable) were extracted from the database and analysed to determine number of RSV OBDs.

Results Number of confirmed RSV OBDs increased from 37,395 in 2007/08 to 54,384 in 2010/11 with the corresponding rise in the estimated "true" burden of RSV OBDs. We also observed an increase in the total (confirmed and probable) RSV admissions during the same period.

Abstract G154 Table 1

RSV season	Summary of OBDs		
	Confirmed RSV OBDs	Probable RSV OBDs	Estimated "true" burden of RSV OBDs
29/10/2007-31/12/2007	37,395	26,284	63,679
27/10/2008-05/01/2009	40,557	33,062	73,619
16/11/2009-18/01/2010	47,387	29,884	77,271
01/11/2010-24/01/2011	54,384	33,185	87,569

Conclusions This study increases our understanding of the burden of paediatric RSV hospitalisations on the NHS England. There is an opportunity to reduce this burden by the implementation of better RSV prevention strategies.

G155 SMALL FOR GESTATIONAL AGE AT BIRTH AND LUNG FUNCTION AT SCHOOL AGE IN VERY PREMATURELY BORN CHILDREN

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Background Very prematurely born infants who were small for gestation age (SGA) at birth, despite routine use of antenatal corticosteroids and postnatal surfactant, had increased respiratory morbidity in infancy – increased rates of BPD and hospital readmissions for respiratory disorders (1).

Aim To test the hypothesis that amongst children born very prematurely, those who were SGA would have greater lung function abnormalities at school age.

Methods Lung function was assessed at 12 to 13 years of age in 204 children born <29 weeks of gestational age; 50 were SGA (<10 th centile for weight). They had been entered into the United Kingdom Oscillation Study and randomised within one hour after birth to receive high frequency oscillation or conventional ventilation. There were no significant differences in short term outcomes (2), hence the results of the children in the two arms were pooled for this study. Forced expiratory volume in one second (FEV1), forced vital capacity (FVC), FEV1:FVC, residual volume (RV), diffusion