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

	Summary of OBDs		
RSV season	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 (<10th 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

factor for carbon monoxide (DLCO), functional residual capacity (FRCpleth) and maximum expiratory flow at 24, 50, 75% of vital capacity ($MEF_{25,50,75}$) were assessed. The results were expressed as z-scores. The response to a cold air challenge (CACh) was considered positive if FEV1 fell by >10% of baseline.

Results At the time of assessment, compared to the non SGA children, the SGA children had lower weight ($p < 0.001$) and height ($p = 0.002$). The SGA children had lower mean z-scores for FEV1 ($p < 0.001$), FEV1/FVC ($P = 0.009$), DLCO ($p = 0.013$), MEF_{25} ($p = 0.005$), MEF_{50} ($p = 0.002$) and MEF_{75} ($p < 0.001$) and a higher mean FRCpleth z-score ($p = 0.010$). There was no significant difference regarding the proportion of SGA and non SGA children responding to a CACh ($p = 0.091$).

Conclusion These results suggest that amongst very prematurely born children, being SGA at birth is associated with greater restrictive and obstructive (particularly of small airways) lung function abnormalities at school age.

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G156 SICKLE CELL DISEASE IN MALAWIAN CHILDREN IS ASSOCIATED WITH RESTRICTIVE SPIROMETRY: A CROSS SECTIONAL SURVEY

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Introduction Children with sickle cell disease (SCD) more commonly exhibit clinical features of asthma than the general population. The pathogenesis of this observation remains unclear. However these individuals are at increased risk of acute chest syndrome[1], and recurrent episodes of this complication strongly predict the development of sickle chronic lung disease[2]. It is postulated that lung function in these children is typically "obstructive" in early life and becomes "restrictive" in adulthood.

Aim To assess lung function and symptoms of asthma in Malawian children with SCD.

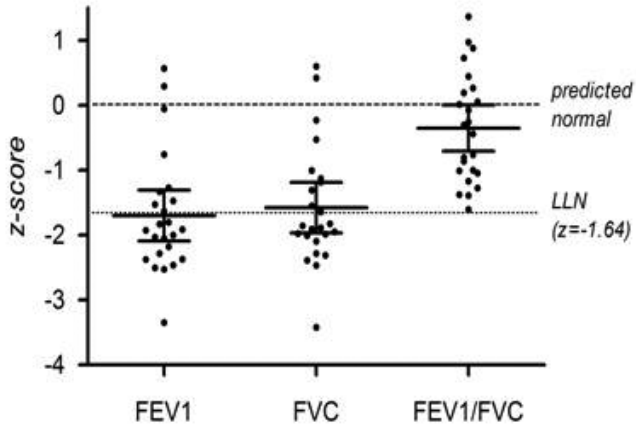
Methods Children with electrophoretically confirmed SCD attending our clinic were consecutively recruited to undergo spirometry and questionnaire screening of asthma symptoms. Forced expiratory volume in 1 second (FEV_1), forced vital capacity (FVC) and FEV_1/FVC ratio were compared with local and international reference ranges[3,4]. Asthma symptoms were recorded using the International Study of Asthma and Allergies in Childhood (ISAAC) questionnaire.

Results Twenty-four children aged 7 to 16 were recruited (median age 11.5 years, IQR 8 to 13.5). Mean spirometric indices represented as z-scores derived from international reference ranges[3] were low (Fig. 1): FEV_1 –1.64 (95% CI –2.04 to –1.23), FVC –1.49 (95% CI –1.90 to –1.09), FEV_1/FVC –0.39 (95% CI –0.76 to –0.03). No individual exhibited evidence of an obstructive defect.

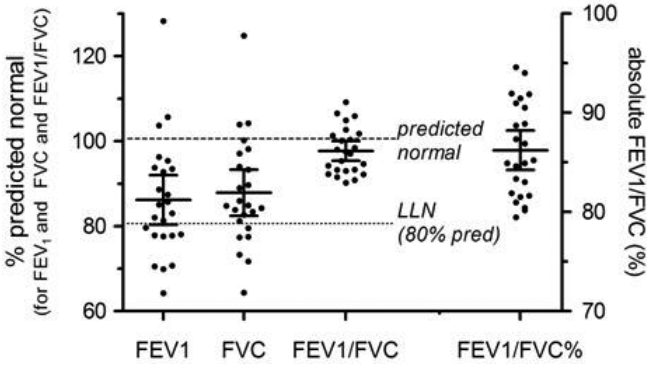
Comparison with local reference ranges[4], represented as percentage of predicted value, revealed similar impairments (Fig. 2): FEV_1 86.9 (95% CI 81.1 to 92.7), FVC 89.0 (95% CI 83.5 to 94.4), FEV_1/FVC ratio 97.7 (95% CI 95.4 to 99.9). FEV_1/FVC ratios are also given as absolute values (Fig. 2).

The prevalence of wheeze among the participants was lower than that recorded in a proximate African population[5] (Tab. 1).

Conclusion We have demonstrated lung function abnormalities suggestive of restrictive lung disease, and wheeze prevalence comparable to that of a cohort without SCD. The progression of the pulmonary complications associated with SCD may differ significantly between populations suggesting an important role of environmental influences.



Abstract G156 Figure 1



Abstract G156 Figure 2

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G157 OXYGEN PRESCRIBING FOR INPATIENTS IN THE UK

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Background Guidance from the British Thoracic Society, National Patient Safety Agency and British National Formulary advises that oxygen should be treated like other drugs in terms of appropriate