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P19 WORRYING TREND OF LABELLING AMBIGUOUS DEATHS AS PNEUMONIA AND POTENTIAL IMPACT ON RESPIRATORY SERVICE IN A DISTRICT GENERAL HOSPITAL

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Background Pneumonia is a common cause of death recorded on death certificates. This data is used by Dr Foster to calculate hospital specific mortality rate (HSMR). However there is a general impression that pneumonia is recorded as the cause of death without confirmation. The British Thoracic Society (BTS) defines pneumonia as 'symptoms and signs consistent with an acute lower respiratory tract infection associated with new radiographic shadowing for which there is no other explanation' aspiration pneumonia 20 patients, bronchopneumonia 8 patients, community acquired pneumonia 19 patients, pneumonia 44 patients and hospital acquired pneumonia 20 patients. Out of these 111 patients, 75 (67.6%) patients had radiological changes consistent with a diagnosis of pneumonia on CXR. Out of these 75 patients with radiologically confirmed pneumonia 29 (38.7%) were given incorrect antibiotics as they were treated mainly for sepsis.
Conclusions Our findings show a very worrying trend of incorrectly recording pneumonia as cause of death in a third of patients, who were given pneumonia as cause of death. This would increase the HSMR for pneumonia as calculated by Dr Foster. In our opinion pneumonia as a cause of death is an easy option for many medical practitioners.
Recommendations We recommend an early input by respiratory physicians for all respiratory admisssions to make sure that respiratory illnesses are managed correctly.

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P20 DOES CASE ACQUISITION BIAS CONTRIBUTE TO HIGHER THAN EXPECTED MORTALITY RATES IN THE BTS NATIONAL AUDIT OF COMMUNITY ACQUIRED PNEUMONIA (CAP)?

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Background The BTS CAP audit is the largest national audit of adult CAP management. It relies on acute trusts entering data collected retrospectively from patients' notes. Cases are selected for entry if they were admitted between 1st Dec 2012 and 31st Jan 2013 with a diagnosis of CAP confirmed by appropriate radiological changes. Participating institutions are required to submit a minimum of 20 cases. The audit also provides data on mortality. The national data shows a high mortality rate (18.2%) for CAP. However, the mortality data from our own institution was unexpectedly higher at 28.2%.
Aim To determine if the high mortality rate from our institution is the result of selection bias.
Methods We compared the outcomes of 39 audit cases entered from our institution, a large teaching hospital serving a semi-rural population, with all other cases of CAP admitted over the same period not entered into the audit. Proportions were compared using chi-square tests and continuous variables using Kruskal-Wallis test.
Results During the two month audit period, 124 cases of CAP were identified of whom 39 (31.5%) were entered into the audit. There was no significant difference in age between those entered (77.1 yrs ± SD 11.0) and those not entered (70.1 yrs ± 18.5). However the inpatient mortality rate was significantly higher in those entered into the audit than those who were not (28.2% Vs 10.6%, p = 0.01).
Conclusions These results show that selection bias accounts for the apparently high mortality rates. Although the notes of all patients admitted with CAP were requested for the audit, on reviewing the methods used by the audit department, it is apparent that patients whose notes are most readily available are collected first for audit. Deceased patients' notes are more easily accessed by the audit team; since the national audit requires only a proportion of patients to be entered, this group are over-represented. If other institutions have similar practices, the national audit will over-estimate mortality from CAP. Case acquisition bias could be reduced by collecting cases prospectively, or by entering all cases of CAP over a shorter predefined time period.

P21 THE RELATIONSHIP BETWEEN EMPLOYMENT STATUS, WORK PRODUCTIVITY AND QUALITY OF LIFE AMONG PATIENTS WITH COPD: CROSS-SECTIONAL ANALYSIS OF THE BIRMINGHAM COPD COHORT

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Introduction Health related quality of life (HRQoL) tends to be lower among COPD patients, as a result of associated symptoms, comorbidities and the impact of disease on daily life. However, little is known about the association between employment status and HRQoL among COPD patients.
Aims We examined the relationships between HRQoL and employment status and occupational performance among patients with COPD.
Methods 2000 patients with COPD from primary care are being recruited into the Birmingham COPD cohort study. In addition to clinical data, employment status, work performance and HRQoL were assessed. Work performance was measured using the SPS-6 presenteeism questionnaire. HRQoL was measured using the St George's respiratory questionnaire (SGRQ-C). Interim baseline data was used to assess associations between HRQoL and employment status and HRQoL and occupational performance. Multivariate analyses were used to adjust for potential confounders. Model 1 adjusted for age, sex and smoking status. Model 2 additionally adjusted for disease severity (GOLD stage), number of co-morbidities and MRC dyspnoea score.
Results Of the 1094 patients recruited, 14.6% (n = 160) were in work. **Employment status**: Model 1 showed that poorer quality of life was associated with lower likelihood of being in employment (OR = 0.98, 95% CI 0.96–0.99), but the effect

was not seen in model 2 (OR = 1.00, 95% CI 0.99–1.02).
Work performance: increased work performance (presenteeism) was associated with a higher quality of life in both models (B coefficient 0.13, 95% CI 0.08–0.18 and 0.12, 95% CI 0.05–0.19 in models 1 and 2 respectively).
Conclusions The association between presenteeism and HRQoL has not previously been assessed in a UK COPD working population. Our findings show that after adjusting for all relevant confounders, employment status is not associated with quality of life. However, for those at work, a better quality of life is associated better work performance.

P22 THE RELATIONSHIP BETWEEN SOCIAL DEPRIVATION AND HOSPITAL ADMISSIONS WITH ACUTE EXACERBATION OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE (AECOPD)

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Background AECOPD is a major source of hospital admissions. Research is underway to reduce such admissions, but the effect of social deprivation on AECOPD hospital admissions and length of stay is unknown.
Aims and Objectives To analyse the effect of social deprivation on hospital admissions and length of stay in AECOPD.
Methods Retrospective review of hospitalisation with a primary diagnosis of AECOPD Sep 11–Aug 12 in a UK hospital. Patients were assigned an index of multiple deprivation score based on postcode and subdivided into quintiles. For each quintile, total admissions and median length of stay per admission were calculated and corrected for population size (per 100,000 residents). Fisher's exact test (two-tailed) was used to compare quintiles. The least deprived quintile represented <5% of the population and was excluded.
Results There were significantly higher numbers of hospital admissions in patients from more deprived postcodes as compared to affluent areas ($p < 0.001$). There was no significant difference in median length of stay between quintiles (Table 1).
Conclusions Patients from socio-economically deprived backgrounds have higher rates of hospital admissions with AECOPD. Deprivation does not influence length of stay; this could be due to a dedicated COPD unit. Increasing healthcare investment in deprived areas should be considered.

Abstract P22 Table 1.

COPD admissions and length of stay

Quintile	Total population	COPD admissions	Admissions per 100K	p value	Median length of stay (interquartile range)
1 (most deprived)	98,560	442	448	1 vs. 2–4 p<0.0001	1 (0–5)
2	70,840	244	344	2 vs. 3–4 p<0.001	2 (0–6)
3	61,600	97	157	3 vs. 4 p = not significant	2 (0–5)
4	61,600	73	119	N/A	2 (1–5)

P23 THE INCIDENCE OF CONGENITAL THORACIC MALFORMATIONS: AN INCREASING TREND FROM 1994 TO 2011 IN A DEFINED POPULATION

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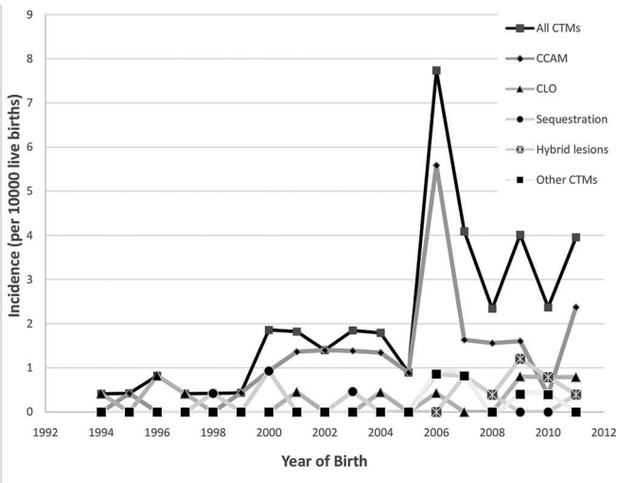
Introduction Congenital thoracic malformations (CTMs) are an uncommon heterogenous group of disorders including congenital cystic adenomatous malformation (CCAM), pulmonary sequestration (PS), congenital lobar overinflation (CLO), hybrid lesions and bronchogenic cysts. They are increasingly diagnosed antenatally with foetal ultrasonography and remain asymptomatic. In light of diagnostic advances, robust population based epidemiology is lacking. This study aimed to characterise the incidence of CTMs in a defined geographic area from 1994 to 2011.
Methods Children with CTM in Northern Ireland are referred to a single tertiary centre. Patients with CTM born between 1994 and 2011 were identified from the paediatric respiratory and surgical clinics and from imaging reports on the regional radiology database. Medical records and imaging reports were reviewed retrospectively. Children diagnosed with CTM who were born outside of Northern Ireland were excluded.

All births in Northern Ireland are registered with the Registrar General Office. Annual live birth rates were obtained from the Northern Ireland Statistics and Research Agency. Incidence was calculated per 10000 live births.
Results In total there were 92 cases of CTM between 1994 and 2011, 53 cases (57%) had CCAM. An upward trend in the incidence of CTMs is demonstrated (Figure 1). The average incidence of CTMs from 1994 to 1999, 2000 to 2005 and 2006 to 2011 was 0.49 (range 0.41 to 0.82), 1.6 (range 0.89 to 1.85) 4.08 (range 2.34 to 7.73) respectively. A similar increase in the incidence of CCAM was demonstrated 0.14 (range 0to 0.42), 1.22 (range 0.93 to 1.40) and 2.19 (range 0.39 to 5.59) for the periods 1994 to 1999, 2000 to 2005 and 2006 to 2011 respectively.
Conclusion This study provides incidence statistics for CTMs in a defined geographic location and demonstrates an



Abstract P23 Figure 1. Annual incidence of Congenital Thoracic Malformations between 1994 and 2011.