Methods A prospective observational cohort study of patients admitted with an acute exacerbation of COPD (AECOPD) was performed. Patients were >40 years of age, with spirometry confirmed COPD, admitted to one of 12 UK centres between 2009–2012.

Hazard ratios for mortality and cardiovascular events at 1 year follow up, based upon the presence of either sinus tachycardia or new onset AF at the initial hospital admission were calculated through Cox proportional hazard regression analysis following correction for influential covariates. Logistic regression was performed to calculate odds ratios (OR) identifying predictor variables of both sinus tachycardia and AF.

Results 1343 patients were included in our study. New onset AF was recorded in 155 patients (12%) of patients. Mean (IQR) age was 72(63–79). Mean (95%CI) FEV1% predicted and MRC dyspnoea score were 46 (34–67) and 4 (3–5) respectively. Hazard Ratios (95%CI) for new onset AF and tachycardia are displayed in table 1.

Factors predicting new onset AF included; history of IHD (OR 4.8; 95%CI 2.95–7.80), increasing age (OR 1.03; 95% CI 1.01–1.07) and worsening MRC dyspnoea score (OR 1.74; 95%CI 1.31–2.29). Prior beta blocker use was not significant (OR 0.68; 95%CI 0.35–1.28).

For sinus tachycardia >120bpm, there were significant relationships for MRC dyspnoea score (OR 1.73; 95%CI 1.43–2.09), respiratory acidosis (OR 1.80; 95%CI 1.20–2.70) and aminophylline treatment (OR 1.53; 95%CI1.06–2.20). Prior beta blocker use was protective (OR 0.68; 95% CI 0.47–0.97).

Conclusions The presence of tachycardia and new onset AF in patients admitted with AECOPD are associated with a deleterious effect on short and long term mortality. For sinus tachycardia risk was greatest around the time of exacerbation, however new onset AF also heralds more significant 1 year mortality and risk of cardiac events.

Abstract P216 Table 1 Hazard Ratios for Mortality and Cardiovascular Events

Predictor	In hospital mortality	1 year mortality	Cardiovascular events (acute coronary syndrome, cardiac failure, serious arrhythmia)
HR>100 (sinus)	1.43 (0.83-2.46)	1.31 (1.02-1.67)	1.06 (0.81-1.39)
HR>110 (sinus)	1.87 (1.12-3.11)	1.33 (1.04-1.71)	1.14 (0.88-1.49)
HR>120 (sinus)	2.25 (1.33-3.83)	1.37 (1.04-1.81)	1.23 (0.89-1.70)
New onset atrial fibrillation	2.14 (1.26-3.62)	1.60 (1.20-2.12)	1.44 (1.07-1.96)

P217 CURRENT PRACTISE IN CONSIDERING EARLY LIFE FACTORS IN RESPIRATORY DISEASE: A BRITISH THORACIC SOCIETY SURVEY

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Background Despite an 8% UK preterm birth rate and the improved survival of very preterm infants into adulthood, we hypothesised that the longer term impact of early life factors on respiratory health and disease is not routinely considered by respiratory specialists. We surveyed BTS members to determine their practise.

Methods Using a survey link, an email was sent twice, 4 weeks apart, to clinically active BTS members, enquiring whether they asked their patients about birth-weight, being born preterm, pregnancy and postnatal complications, and time in a neonatal unit; whether patients' knew this information, and also whether members believed their patients had airflow limitation due to prematurity or low birth-weight.

Results There was good geographical spread of the 123 replies (61% consultants, 21% doctors in training, 15% nursing profession, 2% GPs and 1% SAS doctors). 93% worked in the secondary care sector (55% in teaching hospitals), and only 13 dealt predominantly with children (12 in hospital, 1 community).

Results are summarised in the Table. Only a small minority (mainly hospital paediatricians) ask "most respiratory patients" about early life factors. In those who do ask, there is a wide variation in patient knowledge, this being greatest for children, in whom parental recall or use of the "red book" assisted. Although 47% thought some of their patients were born preterm or had a low birth-weight, 46% were unaware and 7% thought there were none.

Discussion Given evidence suggesting early life factors do impact on respiratory health, the survey suggests little current consideration is given to these in adult medicine. Limited retrospective recall may preclude accurate assessment. To develop a greater understanding of the potential impact of early life influences on chronic respiratory disease requires a new approach, for example accessing early medical records, recall by a living parent of the patient or via a preterm registry. In tandem, training needs to address the gaps in history taking.

Abstract P217 Table 1

	"Do you ever ask patients you review about…."		
	Birth-weight?	Born Preterm?	Perinatal or pregnancy complications or time in Neonatal unit?
Most patients with respiratory disease	14%	20%	20%
Occasionally	27%	37%	38%
Selected patients – asthma, COPD, restrictive lung disease or combination	4%	8%	4%
Do not ask	55%	35%	38%

P218 PREVALENCE OF BRONCHIECTASIS IN COPD PATIENTS IN A GENERAL RESPIRATORY CLINIC

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Introduction There is increasing recognition that radiological bronchiectasis is present in many patients with COPD. However, estimated prevalence varies from 4% (Agusti, Respir Res; 2010) to 50% (Patel, AJRCCM; 2004), with the prevalence in the UK general secondary care population unknown. We assessed this in patients from the respiratory clinic at our general hospital.

Methods COPD patients underwent chest CT as part of their clinical assessment. Patients were included if COPD was diagnosed based on spirometry and clinical assessment and excluded if there was clinical bronchiectasis. Scoring was by a simplified system based on Smith (Thorax, 1996) and returned a score of 0 (no bronchiectasis), 1 (0–50% of bronchi involved), or 2 (50–100% of bronchi involved) for each lobe, with a total score of 12 including the lingula; emphysema, interstitial lung disease (ILD), or other pathology was noted.

The scans were scored independently by two radiologists blinded to disease severity and the average score used for analysis.

Results 100 COPD patients were included. Patient characteristics are summarised in Table 1.

Bronchiectasis was present in 74% of patients (score ≥2/12) and there was significant inter-observer correlation in the scoring (r=0.60, p<0.0001). Scores were highest in the lower lobes and lowest in the middle lobes (1.56 vs 0.96, p<0.000). Patients with widespread bronchiectasis (score ≥6/12, n=27) had a trend towards reduced bronchodilator reversibility (4% vs 9%, p=0.08) than those with limited bronchiectasis. Other spirometric criteria were similar (FEV_1%predicted 61 vs 53 [p=0.11], residual volume% predicted 145 vs130, p=0.28, TLCO%predicted 55 vs 52, p=0.54) and rates of *P. seudomonas aeruginosa* colonisation (7.4% vs 5.5%, p=0.73). Emphysema was present in 88% and ILD in 11%.

Conclusions In this study, we found a higher prevalence of bronchiectasis than previously reported which may reflect the heterogeneity of COPD patients in a general respiratory clinic. Radiological features of bronchial wall thickening and mild bronchiectasis were commonly seen and when widespread this may result in reduced bronchodilator reversibility; however, the presence of radiological bronchiectasis was not related to disease severity. Further work is needed to delineate the clinical consequences of this and the implications for appropriate bronchodilator therapy.

Abstract P218 Table 1

Table 1: Patient characteristics

Summary characteristics	
Age, years (mean [SD])	70 (11)
Gender, male (%)	59
GOLD stage 1:	13%
GOLD stage 2:	39%
GOLD stage 3:	22%
GOLD stage 4:	26%
Spirometry (values are mean[SD])	
FEV1 (L)	1.41 (0.65)
FEV1 (% predicted)	55 (20)
FVC (L)	2.45 (0.74)
FEV_1/FVC ratio	0.54 (0.12)
Post-bronchodilator FEV_1 reversibility (% change)	+7.5 (10.9)
TLCO (% predicted, n=62)	52.8 (18.5)
Residual volume (% predicted)	142 (44)
Bronchiectasis scores (values are mean [SD])	
Upper lobes (/4)	1.3 (0.8)
Middle lobe/lingula (/4)	1.0 (0.9)*
Lower lobes (/4)	1.6 (1.2)*
Total score (/12)	3.8 (2.5)

*Significant difference, p<0.000 (one-way ANOVA with Tukey post-hoc test)

P219 GENDER DIFFERENCES IN GP SUGGESTED DIAGNOSIS FOR COPD IN PRIMARY CARE

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Background Mosca *et al* has shown that clinicians fail to recognise cardiovascular risk in women (1). We have explored whether the same applies to COPD.

Methods Gender, demographics and symptoms were examined for patients referred by a GP to a community spirometry service with "suspected COPD or "definite COPD" over a 4 year period. These were compared with the final diagnosis after spirometry and specialist review.

Results 445 GP referrals for "suspected" or "definite COPD" (221 Males, 224 females) were reviewed. When the GP suggested a diagnosis of "definite COPD" (n=180), this was confirmed in 87.5% of men (77/88) and 73.9% (68/92) of women (p=0.022). There was a trend for women to present more frequently with allergies (p=0.055) and men with progressive breathlessness as their main symptom (p=0.051). Similarly for those with suspected COPD (n=265) 60.9% (81/133) of men and 43.2% (57/132) of women had this diagnosis confirmed (p=0.004). Women were more likely to report allergies (p=0.002), although a large percentage (81%) reported symptoms starting in later decades. Females who did not receive a diagnosis of COPD (n=75) had a lower prevalence of smoking (ex/current smokers (79%, 59/75, p=0.042) compared to women who received a diagnosis of COPD (91%, 52/57). Women who did not have COPD confirmed were likely to have a non-respiratory cause for their symptoms (45%, 34/75), normal spirometry (33%, 25/75), restrictive spirometry (13%, 10/75) and asthma (8%, 6/75).

Men who did not have COPD (52/133) were likely to have normal spirometry (69%, 36/52), restrictive spirometry (15%, 8/52), a non-respiratory cause (8%, 4/52) or asthma (6%, 3/52). In this group 86% of men smoked (45/52) compared to 95% (77/81) of those with confirmed COPD.

Conclusions In GP referrals with "suspected" and "definite" COPD, there were significant differences in final diagnosis between men and women after spirometry. Women were more likely to have a GP diagnosis of COPD which was amended after spirometry. High levels of smoking were evident in both groups perhaps influencing GPs towards this, as opposed to other possible diagnoses, particularly in women.

1. Mosca L et al. Circulation 2005; 111:499–510.

Care of advanced lung disease: NIV and beyond

P220 EVOLVING SET-UP PRACTISES AT A RESPIRATORY WARD-BASED NON-INVASIVE VENTILATION (NIV) UNIT

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Introduction NIV for acute hypercapnic respiratory failure (AHRF) in COPD, obesity related morbidity, chest wall and neuromuscular conditions has become widespread in the UK over the past decade. In terms of acute NIV set up, the BTS/Royal College of Physicians/Intensive Care Society 2008 guidance recommends starting with an inspiratory positive airway pressure (IPAP) of 10 cm H_2O and expiratory positive airway pressure(EPAP) of 4–5 cmH_2O, with small increments in IPAP aiming for apressure target of 20 cm H_2O or until therapeutic response is achieved. We felt it necessary to analyse trends in maximum pressures achieved in the evolution of a respiratory ward-based NIV Unit (established2004).

Methods Comparison of the in-house NIV registry data01/08/2004 –31/01/2006(Period 1) with 01/01/2011–30/06/2012 (Period 2) at an 11-bedded ward-based NIV unit within a1000-bedded hospital Trust in central England, looking at maximum IPAP and maximum EPAP achieved. There were 281 episodes of AHRF treated in Period 1 and 240 in Period 2 with similar distribution of gender.