

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 $\geq 2/12$) 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 $\geq 6/12$, $n=27$) 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 vs 130, $p=0.28$, $TLCO$ % 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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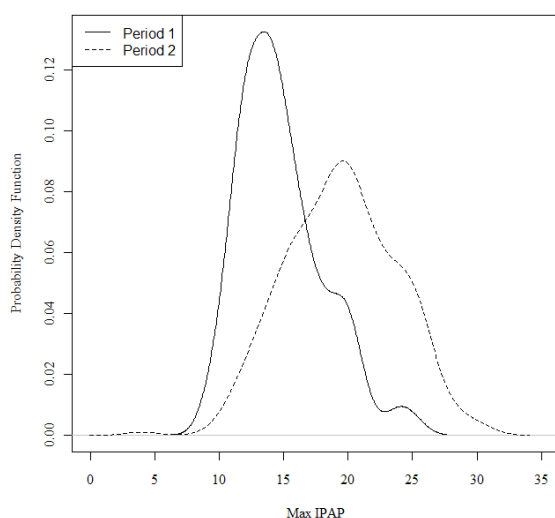
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Introduction NIV for acute hypercapnic respiratory failure (AHRF) in COPD, obesity related morbidity, chest wall and neuromuscular conditions has become widespread in the UK over the past decade. In terms of acute NIV set up, the BTS/Royal College of Physicians/Intensive Care Society 2008 guidance recommends starting with an inspiratory positive airway pressure (IPAP) of 10 cm H₂O and expiratory positive airway pressure (EPAP) of 4–5 cmH₂O, with small increments in IPAP aiming for a pressure target of 20 cm H₂O 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 (established 2004).

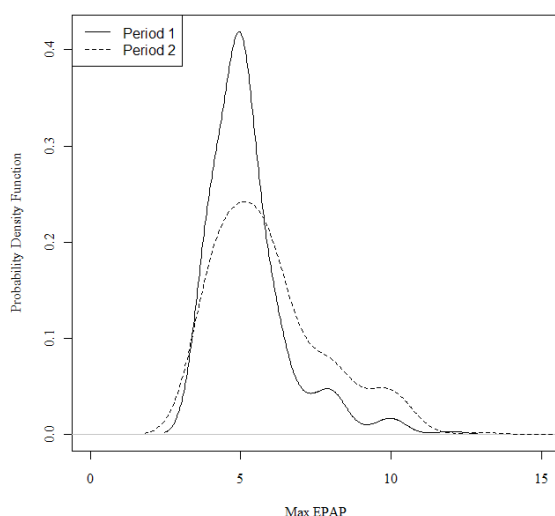
Methods Comparison of the in-house NIV registry data 01/08/2004–31/01/2006 (Period 1) with 01/01/2011–30/06/2012 (Period 2) at an 11-bedded ward-based NIV unit within a 1000-bedded hospital Trust in central England, looking at maximum IPAP and maximum EPAP achieved. There were 281 episodes of AHRF treated in Period 1 and 240 in Period 2 with similar distribution of gender.

Results Maximum IPAP achieved for period 2 was significantly higher than period 1 (median IPAP max achieved=20 cmH₂O vs. 14 cmH₂O; Wilcoxon rank sum test $p=2.2 \times 10^{-16}$) and the maximum EPAP achieved for period 2 was higher than period 1 (median EPAP max achieved=5 cmH₂O vs. 14 cmH₂O; Wilcoxon rank sum test $p=8.068 \times 10^{-6}$).

Discussion We have previously shown that we achieved adequate therapeutic response with median IPAP max of 16.7 and median EPAP max of 5.2 cmH₂O (Ali A *et al.* Pressure support in acute hypercapnic respiratory failure in an acute clinical setting. *European Respiratory Journal* 2011; **38**:55. 683s.). However, as the ward-based, physiotherapy-intensive, multidisciplinary NIV service matures over an 8-year period, we are achieving significantly higher maximum IPAP and maximum EPAP. This is probably (a) in keeping with the increasing severity of AHRF that is being treated in the unit with similar in-hospital mortality (around 22%) and (b) demonstrates a learning curve. Further analysis of population characteristics and comparison with units of similar size may give further insights into organisational learning in relation to NIV.



Comparison of the distribution of the maximum IPAP achieved



Comparison of the distribution of the maximum EPAP achieved

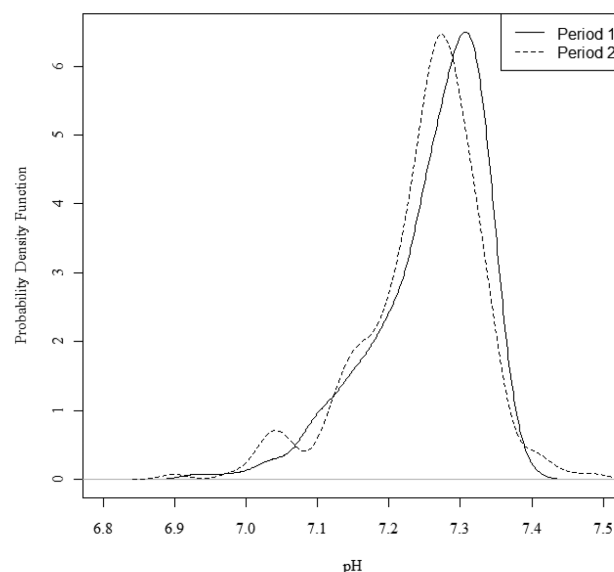
Abstract P220 Figure 1

P221 TEMPORAL TRENDS IN SEVERITY AND IN-HOSPITAL MORTALITY IN ACUTE HYPERCAPNIC RESPIRATORY FAILURE (AHRF) AT A RESPIRATORY WARD-BASED NON-INVASIVE VENTILATION (NIV) UNIT

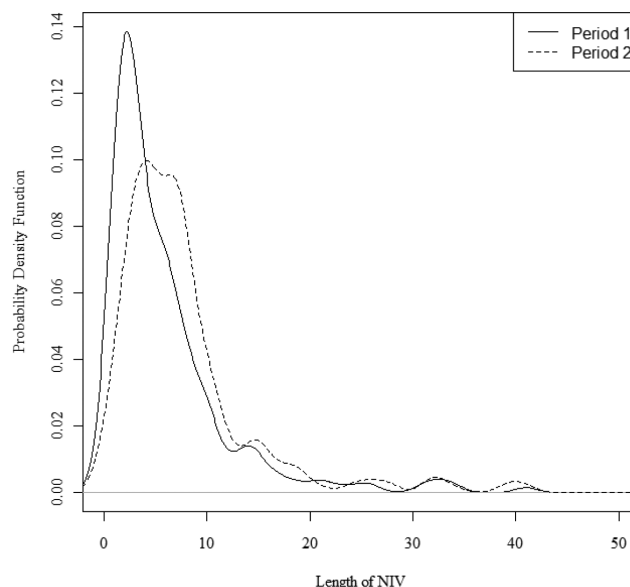
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Introduction Use of NIV for AHRF in COPD, obesity related morbidity, chest wall and neuro muscular conditions have increased significantly over the past decade – there has been a documented 462% increase in acute NIV use in COPD (Chandra D *et al.* AJRCCM 2011) over 11 years in the United States with similar changes noted in smaller surveys in the UK. In the UK, this has led to the movement of NIV service provision out of critical care at ward-based NIV units. We felt it necessary to analyse temporal trends in the severity and outcomes of ward-based NIV practises.



Wilcoxon rank sum test: $p=0.03134$; pH significantly lower in Period 2



Wilcoxon rank sum test: $p=0.0000018$; Length of NIV is significantly higher in period 2

Abstract P221 Figure 1