table 1). Each predictor was assigned a score of 1 (present) or 0 (absent), except for eMRCD score which could be 0, 1 or 2, giving a maximum DECAF score of 6. The DECAF score showed good performance for the prediction of in-hospital mortality (area under ROC curve=0.858, 95% CI 0.82 to 0.89), and was a stronger predictor (p<0.0001) than either the APACHE (AUROC=0.727) or CAPS (AUROC=0.710) prognostic scores. In patients with coexistent consolidation (n=299), DECAF was a stronger predictor of mortality than CURB-65 (AUROC=0.77 vs 0.66, p=0.0064).

Conclusion The DECAF score is a strong predictor of in-hospital mortality and may improve the prognostication of patients hospitalised with AECOPD. External validation is required before recommending widespread application.
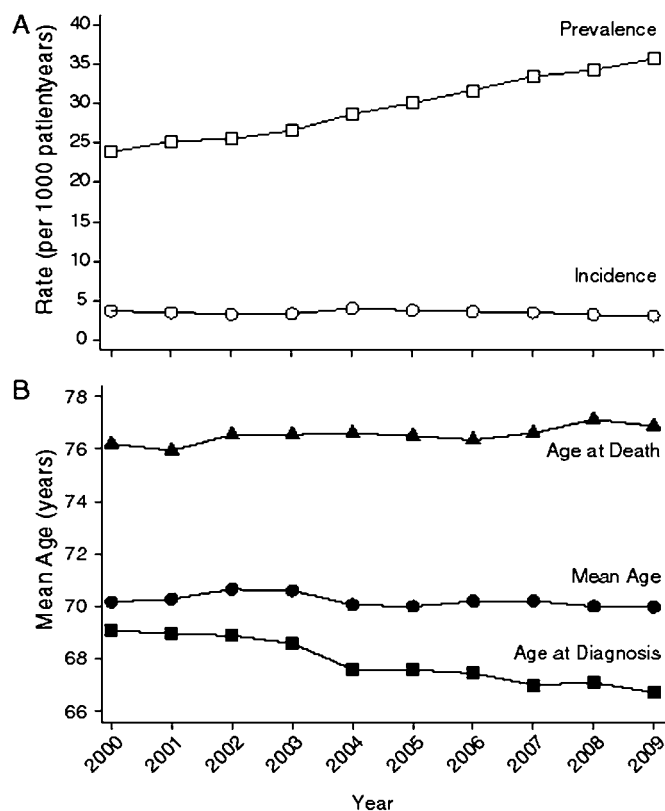
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| P213 | LONGITUDINAL CHANGES IN THE RATE AND MEAN AGE OF INCIDENCE AND PREVALENCE OF COPD IN THE UK, 2000—2009 |

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Introduction Since the NICE guidelines in 2004 and introduction of the Quality and Outcomes Framework (QOF) in 2004, the prevalence of COPD seen in general practice has increased (Smith 2008).[1] We have investigated whether this trend has continued until 2009, and explored whether this can be explained by change in mean age at diagnosis and death.

Methods We identified all patients aged between 35 and 89 years (n=2 173 494, mean age =56, 49% male) in The Health Improvement Network (THIN) primary care database. From this cohort of patients we identified patients with a diagnosis of COPD using the criteria for QOF. We calculated annual incidence and prevalence rates, and mean age of patients with COPD, first COPD diagnosis and death between 2000 and 2009.

Results In total, 53 379 (2.5%) of the patients were diagnosed with COPD. The prevalence of COPD increased by 50% over the 10-year period, from 24 cases per 1000 patient years in 2000 to 36 in 2009 (Abstract P213 figure 1A). However, the diagnosis of new COPD cases remained fairly constant (p=0.295), at 3.5 cases per 1000 patient years (Abstract P213 figure 1A). The mean age at first COPD diagnosis (incidence) decreased significantly (p<0.001) by 2 years and 5 months from 69 years and 1 months in 2000 to 66 years and 8 months in 2009 (Abstract P213 figure 1B). The mean age at death of COPD patients increased significantly (p=0.008) by 9 months from 76 years and 2 months in 2000 to 76 years and 11 months in 2009 (Abstract P213 figure 1B). Whereas the mean age of prevalent patients remained fairly constant (p=0.098) over the period, varying between 70 years and 70 years and 8 months (Abstract P213 figure 1B).

Conclusion We found that over the last decade, the average age of patients with COPD has remained relatively constant at around 70 years. COPD is increasingly being diagnosed at a younger age and patients are living longer, which may in part explain the 50% rise in COPD prevalence.

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| P214 | ACUTE EXACERBATIONS OF COPD: A REVIEW OF RESUSCITATION STATUS AND ASSOCIATIONS WITH PROGNOSTIC FACTORS IN HOSPITAL ADMISSIONS |

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Introduction Acute exacerbations of COPD are among the most common reasons for hospital admission in the UK. Exacerbations can lead to respiratory failure requiring ventilatory support, and so decisions regarding "escalation" or "ceilings" of treatment are often made early in admission. Such decisions on intubation are inevitably linked to decisions regarding resuscitation status. Prognostic factors should be used when making these decisions and FEV_1 should not be used exclusively. We reviewed admissions with exacerbations of COPD, categorised by resuscitation status, to see if there were differences in prognostic features between groups.

Methods 53 acute admissions with exacerbations of COPD were reviewed between 1 December 2010 and 31 January. Groups were divided by resuscitation status: documented decision not to attempt resuscitation (DNR), no documented decision (NoD) and documented decision for resuscitation (ForR). Data were collected on individual prognostic factors; we then calculated prognostic indices against known criteria. P values were calculated using Mann—Whitney U test.

Results The significant findings were that patients in the DNR group had lower FEV_1, more likely to have home oxygen and had a poorer functional status. Age, comorbidity, BMI and previous ITU admission were not found to be significantly different between the groups. When the prognostic indices were calculated the patients in the DNR group were found to have higher scores, correlating with poorer prognosis.

Conclusions From the results we can infer which factors are being used for resuscitation decisions in patients with COPD. Functional status and home oxygen are most relied upon with FEV_1 somewhat less so. Age, comorbidity and BMI are not being taken into account,

Abstract P213 Figure 1

despite evidence to suggest they should be considered. We have also discovered that ADO and GSF are strong prognostic indicators for this cohort, although their application may not be appropriate (only two patients of the DNR group had a predicted 3-year mortality >50% on ADO index). This may reflect other factors (such as patient choice) that we have not evaluated. We feel that as many prognostic factors as available should be considered when making decisions on resuscitation as ultimately, this may also be the decision not to intubate.

Abstract P214 Table 1

	n	p Value (DNR/other)
Individual prognostic factors		
FEV_1	44	0.016
Age	53	0.598
Comorbidity	53	0.347
BMI	39	0.897
Previous ITU	53	0.456
Home oxygen	53	0.002
Functional status	49	0.005
Prognostic indices		
ADO	37	0.006
GSF	38	0.002
NICE	37	0.001

Conclusion LTOT prescription on discharge is actually associated with a crude increase in hospital admissions of COPD patients. FEV_1 remains the strongest predictor of re-admissions. Further prospective studies including detailed pre-discharge physiological assessment prior to issuing home oxygen are necessary.

Abstract P215 Figure 1 Logarithm of the number of admissions for COPD patients prescribed oxygen on discharge ("Yes"; n=93) vs COPD admissions not prescribed oxygen on discharge ("No"; n=93) adjusted for best FEV_1 in the preceding 5 years.

P215 | **THE EFFECT OF OXYGEN PRESCRIPTION AT HOSPITAL DISCHARGE ON RE-ADMISSION RATES IN CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)**

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Introduction A previous survey highlighted a very high degree of physiologically unnecessary home oxygen use in COPD patients (Bhattacharya M, Potter A, Mukherjee R. Assessing for Long Term Oxygen Therapy (LTOT) in an English town. *Am J Resp Crit Care Med* 2008;**177**:A665), a common reason for which was noted to be many physicians' belief that issuing oxygen on discharge of breathless COPD patients prevents re-admissions.

Methods A retrospective review of 1942 COPD admissions (including re-admissions) of Birmingham East and North Primary Care Trust patients from April 2007 to November 2010 based on International Classification of Diseases (ICD) coding (J44) of which 295 received home oxygen on discharge; Welch's 2-sample t-test was applied to assess the significance of the difference in the admission rates of the two groups of COPD patients who receive and did not receive LTOT on discharge. A further analysis was performed in a cohort of 186 patients (93 discharged with and 93 without oxygen) with known values of Forced Expiratory Volume in 1 second (FEV_1) to examine if oxygen prescription had an effect on the re-admission rate, taking the best FEV_1 in the 5 years preceding the first admission. In the known FEV_1 group, the logarithm of the number of admissions was taken to account for non-linearity and to count the readmissions only (as log 1=0).

Results In the whole group (COPD diagnosis based on ICD coding: n=1942), the mean annual admission rate in the home oxygen group was 3.18 and 1.67 in the other (p<0.00000000001). In the group with known FEV_1 (n=186), the number of re-admissions depended significantly on the FEV_1 (p=0.000362); home oxygen prescription on discharge did not have any significant effect on re-admissions (p=0.897).
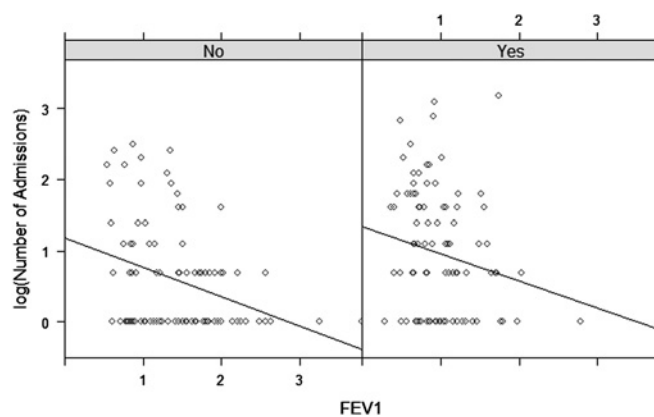
P216 | **RECRUITING COPD INPATIENTS TO CLINICAL RESEARCH: RECENT EXPERIENCE FROM INTERVENTIONAL AND OBSERVATIONAL STUDIES**

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Background Despite currently available treatment, 13.9% of patients admitted to hospital for exacerbations of chronic obstructive pulmonary disease (COPD) die within 3 months, and fewer than half survive 5 years. Most of the cost of COPD to the UK health service, which approaches £1bn/year, is associated with the treatment of exacerbations. There is clearly a need to improve outcomes of patients admitted to hospital for exacerbations, and yet relatively few research studies attempt to recruit patients specifically during this phase of their illness.

Methods During 2010—2011, two studies were conducted within our institution recruiting patients hospitalised for COPD exacerbations. One was an observational study with relatively broad entry criteria; the other was a randomised, controlled, interventional trial with more stringent entry criteria (ISRCTN66148745). We analysed the screening logs to identify eligibility rates and potential barriers to recruitment, and to provide a guide for researchers on the feasibility of proposed studies in similar populations elsewhere.

Results In the 12-month period commencing March 2010, 172 patients were screened for entry to the observational study. In the period January to June 2011, a further 72 patients, not included in the first study, were screened for entry into the clinical trial. Significant exclusion criteria for each study protocol for were identified; for comparison, these are represented across organ systems (Abstract P216 table 1). 29% of those screened for the observational study were eligible for inclusion and 11% for the clinical trial. The clinical trial identified more renal and metabolic conditions, reflecting their particular relevance to experimental drug administration. The observational study identified more physical factors, such as frailty, which may limit patients' ability to engage with observational research tasks.