Disease Questionnaire (CRDQ) (Dodd et al 2011). As increasing numbers of non-COPD patients are referred for PR we investigated whether the CAT is responsive to PR in these populations.

Methods 365 consecutive patients (255 COPD, 110 non-COPD) completing an eight week outpatient pulmonary rehabilitation programme were recruited. For the non-COPD group, disease classifications included interstitial lung disease (n=27), asthma (n=37), bronchiectasis (n=29), extrathoracic restriction (n=12) and thoracic surgery for lung cancer (n=5). CAT, CRDQ and incremental shuttle walk (ISW) were collected prospectively. Paired t-tests were used to assess the CAT in COPD and non-COPD patients, and a Pearson's correlation coefficient used to assess the relationship between change in CAT and change in CRQ with PR for non-COPD and COPD patients.

Results Following PR there was a significant improvement in the CAT, CRDQ and ISW in both non-COPD and COPD ($p<0.001$). There was a similar improvement in the mean (95% confidence interval) CAT score in both non-COPD and COPD patients (non-COPD: –2.1 (–1.0, –3.2) versus COPD: –3.0 (–2.2, –3.8); $p=0.19$). Change in CAT was significantly correlated with all domains of the CRQ in non-COPD patients (all $p<0.01$ see Table 1).

Conclusions As in COPD patients, the CAT is immediately responsive to PR in non-COPD patients. Even in unselected patients undergoing PR, the CAT is a practical but robust health status instrument.

Abstract P104 Table 1 Relationship between change in CAT and change in CRQ with PR for non-COPD and COPD patients

Non-COPD	r	p-value
Δ CRQ Dyspnoea	–0.29	0.003
Δ CRQ Fatigue	–0.33	0.004
Δ CRQ Emotion	–0.38	<0.001
Δ CRQ Mastery	–0.25	0.009
COPD	**r**	**p-value**
Δ CRQ Dyspnoea	–0.32	<0.001
Δ CRQ Fatigue	–0.38	<0.001
Δ CRQ Emotion	–0.43	<0.001
Δ CRQ Mastery	–0.39	<0.001

Δ = Change with PR; CRQ = self-report Chronic Respiratory Questionnaire; r=Pearson Correlation Coefficient.

P105 IDENTIFYING MISSED OPPORTUNITIES FOR REFERRAL TO PULMONARY REHABILITATION

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Introduction and Objectives UK COPD standards require that patients are referred to pulmonary rehabilitation (PR) following hospitalisation for acute exacerbations of COPD (AECOPD).

The Hillingdon pulmonary rehabilitation service established a "fast-track" route for patients admitted to Hillingdon Hospital with AECOPD in November 2011.

Knowledge of current referral patterns and identification of missed opportunities can provide a strategy for improving access to PR services.

Methods Data including residential postcode and registered GP were extracted for patients that were admitted to an acute hospital with AECOPD during a 6 month period (November 2011 to April 2012). Data were cross-referenced to referrals to the PR service.

Admissions were mapped by residential postcode to provide a geographical distribution of patients that were referred to PR and those that were not.

Admissions and subsequent referral status were analysed by GP practises; identifying practises with relatively high AECOPD admissions and low PR referrals

Results There were 240 admissions during the 6 month period of analysis and 36 (15%) of the patients were referred to the pulmonary rehabilitation service via the "fast-track" route.

Admissions mapped by residential postcode demonstrated a clustering of admissions in parts of the south of the borough, compared to the north. Although absolute numbers of PR referrals were similar in the north and south of the borough, there were far fewer in the south as a proportion of admissions.

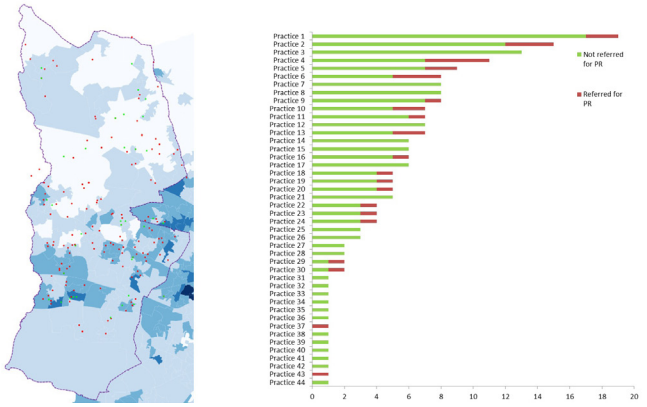
Analysis of admissions and PR referrals by GP practise identified a number of "high-value" practises that could be targeted to improve PR referrals.

Conclusions Improving access and the uptake of PR remains challenging within the post-hospitalised AECOPD patient group.

Analysing local data can generate an understanding of the bottlenecks in the system and develop strategies improving access and uptake.

Transport is an often cited reason for patients declining referral. Analysis of geographical data can inform decisions on the location of community PR services.

Identifying GP surgeries for targeted intervention to improve PR referral provides an opportunity to engage with GPs and support them in delivering high-quality, evidence based care.



Abstract P105 Figure 1 A) demonstrates geographical spread of admissions highlighting those that were referred (light gray) and those that were not referred (dark gray) to PR. B) Shows the distribution of patients admitted for AECOPD during the period of analysis by GP surgeries and the proportion referred to PR.

P106 VALIDITY OF THE CLINICAL COPD QUESTIONAIRE (CCQ) IN NON-COPD PATIENTS

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Background The Clinical COPD Questionnaire (CCQ) is a 10-item health status instrument that takes only two minutes to complete, and has been shown to be reliable and valid in patients with COPD (van der Molen T et al 2003, Damato S et al 2005). In COPD patients, the CCQ correlates with established health status instruments such as the Chronic Respiratory Disease Questionnaire (CRQ), COPD Assessment Test (CAT) and St George's Respiratory

Questionnaire (SGRQ) (Tsiligianni IG et al 2012). Although the CRQ and SGRQ were originally developed in patients with chronic airway obstruction, they are commonly used in clinical practise in chronic respiratory diseases other than COPD. We hypothesised that the CCQ would correlate with existing health status measures and exercise capacity in a survey of non-COPD patients

Methods 60 patients were recruited from respiratory outpatient clinics. Disease classifications included interstitial lung disease (n=23), asthma (n=10), bronchiectasis (n=17), extrathoracic restriction (n=8) and thoracic surgery for lung cancer (n=2). CCQ, CAT, CRQ, SGRQ and incremental shuttle walk (ISW) were recorded. Spearman's rank correlation was used to assess the relationship between CCQ and other outcome measures.

Results Baseline characteristics are presented as mean (standard deviation) or median (25^{th}, 75^{th} percentiles); Age 65 (58, 77), FEV_1% predicted 69.8 (24.4), BMI 28.0 (25.4, 32.3), MRC 3(1), CCQ 2.1 (1.5, 3.8) and ISW 210 (90, 320). There was a significant correlation between the total CCQ and CAT, SGRQ, CRDQ, MRC and ISW (all $p<0.01$ see Table. 1). In addition individual domains of the CCQ correlated significantly with MRC, CAT and individual domains of the CRQ ($p<0.01$).

Conclusions The CCQ correlates well with existing health status and functional outcome measures in non-COPD patients. CCQ may be a useful assessment tool to test the efficacy of interventions such as pulmonary rehabilitation in this population, but longitudinal studies are required to confirm.

P107 LONG-TERM ADHERENCE TO EXERCISE AFTER PULMONARY REHABILITATION: UNDERSTANDING THE MOTIVATIONS AND BARRIERS TO EXERCISE?

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Introduction Adherence to exercise after PR is known to be low and the role of motivation/barriers in this population remains unclear. This study aimed to further investigate the role of motivation and barriers to exercise and specifically profiling trends that may guide/assist maintenance strategies.

Method 112 (58=M) patients who completed >50% of a PR programme over a 3 year period, were sent a postal survey. Data collected included; demographics, co-morbidities, MRC, physical activity/exercise and motivation (21 items) and barriers (14 items) to exercise quantified along a 5 point-likert scale (Newson and Kemps, 2007).

Results 51.8% (n=58) responded; mean age 71.72, MRC dyspnoea 2.86 and co-morbidities 1.09, COPD=87.9%. Motivation and barriers were analysed separately, as mean motivation/barriers weren't significantly correlated. Mean barrier was significant correlated with MRC dyspnoea ($p=0.003$), co-morbidities ($p<0.001$) and intent to exercise ($p<0.001$), but not with motivation. Sub-analyses identified those who exercised regularly (currently at least once a week most weeks) rated motivations and barriers significantly different to those who didn't. Exercisers had significantly higher mean motivation ($p=0.023$) and deemed the following factors to be significantly more motivating reasons to exercise; 'I want to be physically fit' ($p=0.002$); 'I exercise because a health professional advised me to' ($p=0.029$); 'I want to stay in shape' ($p=0.019$) and 'exercising gives me energy' ($p=0.0210$). Conversely the non-exercisers had significantly higher mean barrier score ($p=0.003$) and rated the following as significantly greater barriers; 'Shortness of breath' ($p=0.013$); 'lack of energy' ($p=0.011$); 'having a limited health/physical condition' ($p=0.028$); 'painful joints' ($p=0.002$); 'not knowing what you are capable of, or should be doing' ($p=0.030$); fear of, injury ($p=0.032$), falling ($p=0.036$) and safety ($p=0.021$). None of these factors changed over time since completing PR.

Conclusion This study quantified 21 motivating factors to exercise and 14 barriers that prevent exercise in the post-PR population. Some factors were rated significantly differently between exercisers and non-exercisers and did not significantly vary over time since completion of PR. Further research is required to establish if targeting specific factors could guide/assist maintenance strategies.

P108 HEALTHCARE PROFESSIONALS PERCEPTIONS OF SELF MANAGEMENT IN COPD – IMPORTANT, CHALLENGING AND MISUNDERSTOOD

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Introduction There is increasing focus on the importance of self management (SM) within COPD. Literature from other chronic diseases highlights the challenges of implementing SM and the lack of specialist training available. Currently we have no knowledge of what Health Care Professionals (HCP) understand by the term 'SM' and their perceptions of the challenges to successfully supporting SM strategies specifically with a COPD population. A greater awareness of HCP understanding and beliefs surrounding SM is likely to inform training, enhance professional development and improve delivery of SM to patients with COPD.

Aim To explore HCP understanding of SM and their perceptions of the challenges of supporting COPD patients with SM in order to identify education, training and resource needs.

Method A purposive sample of 14 respiratory HCP participated in semi-structured interviews. Interviews were transcribed verbatim and thematic analysis was performed. Two experienced researchers (SH, LA) analysed a sub-group of interviews to enhance rigour.

Results Three main themes emerged from the data: 1. *Understanding of SM* – meaning, importance. 2. *Supporting SM* – advising and working in partnership. 3. *Challenges to delivering SM* - service, cultural and perceived patient barriers.

Conclusion HCP demonstrate a lack of understanding regarding SM which subsequently impacts upon its successful delivery. In spite of this, all HCP agreed that SM is an important aspect of care for COPD patients. HCP feel apt in the delivery of advice and many worked in partnership with their patients but most failed to consistently address additional SM needs. HCP could improve their delivery of individualised SM by abandoning preconceptions about their patients and enhancing skills to assist patients with core SM strategies including: problem solving, decision making and taking action.

Abstract P106 Table 1 Relationship between CCQ and other outcome measures, r = Spearman's Correlation Coefficient

	ISW (m)	MRC	CAT	CRQ-D	CRQ- F	CRQ-E	CRQ-M	SGRQ Symptom	SGRQ Activities	SGRQ Impact	SGRQ Total
CCQ Symptoms	–0.41	0.54	0.63	–0.46	–0.42	–0.50	–0.58	0.47	0.61	0.55	0.63
CCQ Functional	–0.44	0.52	0.65	–0.42	–0.67	–0.78	–0.72	0.21	0.58	0.75	0.66
CCQ Mental	–0.59	0.64	0.67	–0.64	–0.63	–0.62	–0.76	0.27	0.81	0.71	0.77
CCQ Total	–0.54	0.65	0.74	–0.59	–0.66	–0.71	–0.79	0.37	0.78	0.76	0.79