PILOT RANDOMISED CONTROLLED TRIAL OF A 7-WEEK DISEASE-SPECIFIC SELF-MANAGEMENT PROGRAMME FOR PATIENTS WITH COPD: BELLA (BETTER LIVING WITH LONG TERM AIRWAYS DISEASE STUDY)

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Current strategies in pulmonary rehabilitation

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areas of good practice have been identified. The data presented here map the current and proposed areas of good practice against the Gold Standards Framework (GSF)[1] which has been adopted as a building block towards cohesive palliative care service provision.

Methods The 2008 national audit of hospital COPD care included a survey of resources and organisation of care within which was a free text box to describe current examples of good practice and proposed service developments. These elements were mapped against the seven key standards from the GSF. All 184 acute trusts admitting COPD exacerbations from the four countries of the UK were included in the survey during the spring of 2008.

Results 180 NHS acute trusts (98% of those eligible) comprising 239 hospital units completed the survey. Mapping the examples of practice identified against the seven key GSF standards revealed current and proposed service development is focused on three standards alone while others are neglected. The following standards—control of symptoms (eg, guideline development and advance care planning), care in the dying phase (eg, use of the Liverpool care pathway) and continued learning (eg, COPD teams learning palliative care skills) were identified as areas of development, both current and proposed. Other standards such as communication, co-ordination, support for carers and continuity of care including out-of-hours and advance planning for reduction in crisis admissions have, to date, been overlooked.

Conclusions Palliative care service provision for COPD patients remains in its infancy with current service development predominantly focusing on three of the seven key standards recommended in the GSF. If a successful holistic palliative care service is to be provided, those involved in COPD end-of-life care need to widen the scope of their current thinking.

1. **Thomas K,** Department of Health. Gold Standards Framework: a programme for community palliative care. 2005. www.goldstandardsframework.nhs.uk.

P49 COPD CASE-FINDING PILOT EVALUATION: "FINDING OUR MISSING THOUSANDS"

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Aim Early detection of chronic obstructive pulmonary disease (COPD) is critical in order to reduce the burden of disease on the individual and to reduce costs on the wider health economy. However, patients often present late in the disease process. The use of screening spirometry for symptomatic patients in community health settings has been proposed as a mechanism for increasing access to advice and information and the earlier identification of COPD in a wider population. This pilot aimed to evaluate the use of a screening tool and screening spirometer in community settings to support case finding of symptomatic COPD patients.

Methods Five GP practices, five pharmacies and the NHS Quit Shop acted as recruitment sites. Patients who presented at the sites were recruited to the pilot and asked to complete a screening questionnaire. Patients who met selection criteria completed screening spirometry. All patients were given information and those with abnormal results referred to their GP. Patient satisfaction questionnaires were sent to all service users and a focus group held for pilot sites.

Results 377 people underwent assessment, 106 (28.2%) were referred for diagnostic spirometry and 59 (55.7%) attended their GP practices. There was a significant difference between the number of patients that were screened at each setting ($p = 0.007$), with the Quit Shop screening a higher proportion of patients (40.6%) than GPs (27.6%) and pharmacies (31.8%). No significant difference between the proportions of diagnoses across the three settings was found ($p = 0.88$). 32 people (53.3%) were diagnosed with COPD, 5 (8.3%) with asthma, 7 (11.7%) with "other" problems and in 16 (26.7%) no problem was identified. Staff and patient satisfaction surveys were positive. Staff suggested that the service should continue alongside stop smoking services in all settings and should be linked with cardiovascular disease risk assessments.

Conclusions Overall the pilot appears to have been successful in raising awareness of COPD in local communities. There remain concerns regarding the number of false positives and the number of patients who did not go on to attend diagnostic spirometry with their GP practice. Further work is required to decide whether the service will be commissioned as an "add on" to services already commissioned.

P50 SMOKING PREVALENCE AND ATTITUDES IN MEDICAL INPATIENTS IN LIVERPOOL

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Introduction Liverpool has a high incidence of smoking-related illness and higher rates of smokers than the rest of the UK. The "SmokeFree Liverpool" campaign run by the City Council aims to reduce smoking among the population. However, ill patients may have a different perspective. To study this, we compared attitudes towards smoking in medical inpatients with the results of the 2008 "SmokeFree Liverpool" survey for the general population of Liverpool.

Methods A prospective cross-sectional survey of 100 consecutive inpatients (mean ± SD age 61 ± 15.5 years, 49 men) on general medical wards at the Royal Liverpool University Hospital (an 850-bed facility serving the city of Liverpool) who were able to respond to our questionnaire. Data related to smoking status, smoking behaviour in household and cars, intention to stop and support for current and possible future smoke-free legislation were gathered.

Results Smoking prevalence was higher in medical patients compared with the general population (39% vs 29%) and they were more likely to smoke inside housing (36% vs 27%) and vehicles (12% vs 5%). Inpatient smokers were predominantly male (51% male and 27% female patients were smokers) and in the 25–64-year age group. More smokers in hospital declared their intention to stop (79% vs 55%) and the majority (54% vs 13%) were hopeful of stopping within a month. Support for the 2007 smoke-free legislation was higher among the hospitalised smokers (69% vs 57%). 91% of respondents (95% of smokers) supported future legislation imposing a ban on smoking inside cars with children. Regarding quitting, 67% of inpatient current smokers had received medical advice and 85% had unsuccessful prior attempts (60% used some form of pharmacotherapy).

Conclusion This survey demonstrates that the prevalence of smoking in Liverpool is higher in hospitalised patients, particularly in men. However, although these individuals expressed a stronger intention to quit than the normal population, they had found this hard to carry out. This indicates that the targeting of antismoking resources to the hospital sector may produce a better yield in helping patients to quit this potentially lethal habit.

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Introduction Trials of self-management (SM) interventions for chronic obstructive pulmonary disease (COPD) have often had

Abstract P51 Table 1 Outcomes at baseline and 6 months and differences between intervention and control groups at 6 months (available case analysis)

	Control (n = 30)		Intervention (n = 61)		*Estimated difference (95% CI)	Direction of effect favours
	Baseline	6 months	Baseline	6 months		
SGRQ						
Symptoms	58.0	50.4	54.9	52.5	4.7 (−3.0 to 12.4)	Control
Activities	57.3	58.7	55.5	53.0	−4.8 (−11.3 to 1.8)	Intervention
Impacts	34.4	31.8	36.6	33.9	−0.3 (−5.1 to 5.7)	Intervention
Total score	45.3	43.1	45.4	42.8	−0.4 (−5.1 to 4.4)	Intervention
Strengthening exercise (min/week)	22.0	9.0	22.6	21.6	12.4 (−3.8 to 28.6)	Intervention
Aerobic exercise (min/week)	56.0	43.5	65.7	59.1	10.1 (−16.3 to 35.5)	Intervention
Self-efficacy to communicate with doctors	8.0	7.7	8.5	8.2	0.2 (−0.6 to 1.1)	Intervention
Self-efficacy to manage disease	7.4	7.8	7.6	7.4	−0.5 (−1.0 to 0.1)	Control
HADS						
Anxiety	6.7	6.7	6.1	5.7	−0.5 (−1.8 to 0.9)	Intervention
Depression	4.8	5.1	5.4	5.7	0.2 (−0.8 to 1.3)	Control
EQ-5D	0.76	0.57	0.73	0.68	0.12 (−0.02 to 0.26)	Intervention

*Using ANCOVA, regression coefficient of intervention versus control.

disappointing results. A recent Cochrane review suggested SM may reduce hospital admissions but concluded data are still insufficient to formulate recommendations.[1]

Objectives To conduct a pilot randomised controlled trial of a new disease-specific self-management programme for COPD.

Methods The intervention was based on the UK Expert Patients Programme (EPP) which is underpinned by the sociocognitive self-efficacy theory.[2] It was distinct in three ways: (1) COPD relevant content; (2) sessions delivered by a trained lay tutor with COPD who ''models'' good SM; (3) involvement of a respiratory clinician (COPD patients have significant information needs). It involved seven weekly 2.5 h group sessions. Patients were recruited from primary care disease registers and randomised (2:1) to intervention or usual care. The St George Respiratory Questionnaire (SGRQ), Hospital Anxiety and Depression Scale (HADS), EQ-5D, exercise levels and self-efficacy (confidence) to manage COPD were collected at baseline, 2 and 6 months, as were all costs and healthcare resource use.

Results 224 (44%) patients replied to invitation letters and 116 (22%) were enrolled and randomised (78 intervention; 38 control). 46% were male, mean ± SD age 69.5 ± 9.8 years, mean forced expiratory volume in 1 s (FEV_1)% predicted 54%, 78% had had unscheduled COPD care in the previous 12 months. Groups were roughly similar at baseline. 35% of intervention patients did not attend any course sessions, 40% attended 5 or more sessions. The results at 6 months suggest that the intervention may increase exercise levels by a modest amount and increase health-related quality of life as measured by the EQ-5D (no overall effect on Total SGRQ score was detected) (table 1). Economic analyses suggested that, with a willingness to pay threshold of £10 000 per quality adjusted life year gained (QALY), the intervention would have a 70% probability of being cost effective.

Conclusions The intervention may be unappealing or inaccessible to many patients. Despite this, the pilot study suggests the intervention may improve quality of life and is likely to meet NICE criteria for a cost-effective intervention.

1. **Effing,** 2007.
2. **Bandura,** 1977.

P52 RANDOMISED CONTROLLED TRIAL OF A SELF-MANAGEMENT PROGRAMME OF ACTIVITY, COPING AND EDUCATION (SPACE) FOR COPD

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Self-management programmes in chronic obstructive pulmonary disease (COPD) have been explored with some positive results. However, the recent Cochrane Review (2007) concluded that, while there is some evidence for self-management education, further research was required to provide clear guidelines about its use. This study is a randomised controlled trial conducted in primary care to determine the effectiveness of a stand alone self-management manual for COPD (SPACE for COPD, A **S**elf-management **P**rogramme of **A**ctivity, **C**oping & **E**ducation) compared with usual care.

Participants were recruited from primary care registers and randomised to usual care or self-management. The primary outcome measure was health status (Self-Reported Chronic Respiratory Questionnaire (CRQ-SR)) measured at baseline and 6 weeks. Exercise performance (Incremental Shuttle Walking Test (ISWT) and Endurance Shuttle Walk Test (ESWT)) was recorded as well as scores on the Hospital Anxiety and Depression Scale (HADS).

To date, 36 patients have completed measures at 6 weeks, 19 from usual care (mean (SD) age 71.21 (9.17) years; forced expiratory volume in 1 s (FEV_1) 1.45 (0.49) l; 12 men) and 17 from self-management (mean (SD) age 65.41 (10.16) years; FEV_1 1.53 (0.62) l; 8 men). Paired *t* tests were performed and the results are shown in table 1 for all outcome measures. There were statistically significant improvements in the self-management group for CRQ-SR domain of dyspnoea with a mean change of 0.74. There were no significant changes in the standard care group in all CRQ-SR domains of dyspnoea, fatigue, emotion and mastery. Mean changes were 0.41, 0.16, 0.23 and 0.10, respectively. Statistically significant between-group differences were found for ISWT ($p<0.01$), ESWT ($p<0.001$), CRQ emotion domain and anxiety ($p<0.05$). In addition, the CRQ domain of emotion attained the minimal clinically important threshold of >0.5.

Abstract P52 Table 1 Mean baseline scores and mean changes for Hospital Anxiety and Depression Scale, Self-Reported Chronic Respiratory Questionnaire, Incremental Shuttle Walking Test (ISWT) and Endurance Shuttle Walk Test (ESWT) for usual care and self-management groups

	Self-management		Usual GP care	
Measure	Baseline	Mean change (95% CI)	Baseline	Mean change (95% CI)
Anxiety	7.41	−1.76 (−0.10 to 3.23)*	4.74	0.84 (2.55 to 0.87)
Depression	4.88	−0.35 (0.91 to 3.43)	3.95	0.53 (1.37 to 0.31)
Dyspnoea	3.31	0.74 (1.23 to 0.25)**	3.25	0.41 (0.87 to 0.04)
Fatigue	4.13	0.34 (0.97 to 0.29)	4.60	0.16 (0.40 to 0.72)
Emotion	4.84	0.51 (1.05 to 0.03)	5.22	0.23 (0.08 to 0.53)
Mastery	5.48	0.30 (0.81 to 0.22)	5.62	0.10 (0.24 to 0.44)
ISWT (m)	325.29	37.65 (70.44 to 4.85)*	342.63	−28.42 (−2.60 to 54.24)*
ESWT (s)	227.00	358.59 (506.65 to 210.52)***	369.95	34.53 (98.32 to 29.27)

*>0.05; **>0.01; ***>0.001 within subjects.

This shows that it is feasible to deliver a self-management package in primary care as a stand alone manual, with significant improvements demonstrated in dyspnoea, exercise performance and anxiety.

P53 PULMONARY REHABILITATION USING THE SPACE (A SELF-MANAGEMENT PROGRAMME OF ACTIVITY, COPING AND EDUCATION) MANUAL AT HOME: A RANDOMISED CONTROLLED TRIAL

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Pulmonary rehabilitation is an established intervention for patients with chronic obstructive pulmonary disease (COPD), however capacity across the UK is low. The traditional model of rehabilitation is 6–8 weeks of supervised exercise and education. We have developed a self-management manual for COPD (SPACE: A Self-management Programme of Activity, Coping and Education). If a self-managed pulmonary rehabilitation programme is effective, alternative forms of pulmonary rehabilitation may become more widely available. The aim of this study is to determine the effectiveness of a self-management programme against conventional rehabilitation.

Participants with COPD were recruited following a standard pulmonary rehabilitation assessment and randomly allocated to either a 7-week conventional rehabilitation course or self-managed rehabilitation using the SPACE manual. The primary outcome measure was peak exercise performance (Incremental Shuttle Walking Test (ISWT)) measured at initial assessment and 7 weeks. Other outcome measures were Endurance Shuttle Walk Test (ESWT), Self-Reported Chronic Respiratory Questionnaire (CRQ-SR) Dyspnoea Domain and the Medical Research Council Dyspnoea Scale (MRC). 62 patients were recruited and allocated to conventional rehabilitation (n = 29; mean (SD) age 67.93 (7.47); forced expiratory volume in 1 s (FEV_1) 1.38 (0.52); body mass index (BMI) 26.27 (5.91); 18 men) or self-management (n = 33; mean (SD) age 66.75 (8.00); FEV_1 1.16 (0.36); BMI 26.77 (5.76); 2 men). Patients were re-assessed at 7 weeks and paired *t* tests were performed for all outcome measures.

There were statistically significant improvements for both conventional rehabilitation and self-managed rehabilitation in ISWT with mean changes of 54.48±89.06 and 40.30±70.02, respectively. There were also statistically significant improvements for ESWT, CRQ-SR Dyspnoea and MRC in both groups; mean changes in conventional rehabilitation being 500.62, 0.64 and 0.80, respectively, and in self-managed rehabilitation being 331.33, 0.77 and 0.71, respectively (table 1). There were no statistically significant between-group differences found in ISWT, ESWT, CRQ Dyspnoea and MRC ($p>0.05$).

Participants who completed both conventional rehabilitation and a self-management programme showed significant improvements in exercise performance and perceived dyspnoea. There were no significant differences between the outcomes for each group. This shows that a self-managed rehabilitation programme is an effective alternative to conventional rehabilitation.

P54 COPD PATIENTS' BELIEFS AND EXPECTATIONS OF PULMONARY REHABILITATION

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Introduction The effectiveness of pulmonary rehabilitation (PR) for chronic obstructive pulmonary disease (COPD) is tempered by the effect of time. Little is known about the role of patients' beliefs and expectations in outcome response and in maintenance. The aim of

Abstract P53 Table 1 Mean baseline and mean changes for Incremental Shuttle Walking Test (ISWT), Endurance Shuttle Walk Test (ESWT), Chronic Respiratory Questionnaire Self-Reported (CRQ-SR) Dyspnoea Domain and MRC for conventional rehabilitation and self-management groups

	Conventional rehabilitation		Self-management	
Measure	Baseline	Mean change (95% CI)	Baseline	Mean change (95% CI)
ISWT	277.24	54.43 (88.36 to 20.60)*	253.33	40.30 (65.13 to 15.47)*
ESWT	225.00	500.62 (656.90 to 344.32)**	257.02	331.33 (483.86 to 178.81)**
CRQ-SR Dyspnoea	2.61	0.64 (1.11 to 1.72)*	2.14	0.77 (1.19 to 0.34)*
MRC	3.40	−0.80 (−0.48 to 1.12)**	3.19	−0.71 (−0.35 to 0.07)**

*>0.01; **>0.001.