P139 table 1). Most Venturi barrels delivered a lower FiO2 than intended. Those closest to the desired FiO2 were designed to work at higher flow rates. The 24% Venturi barrels caused significant back pressure which reduced delivered FiO2 and caused the concentrator to alarm.

Abstract P139 Table 1 Venturi performance with home oxygen concentrator

Venturi %	Flow rate	Oxygen concentration	Concentrator outlet pressure (psig) and back pressure		Oxygen concentration post Venturi %
Intersurgical Venturi barrels					
24	2	94.0	19.4	7.0	22.8
28	4	94.1	19.4	0.6	26.0
31	6	95.8	19.4	0.3	28.7
35	8	84.7	19.4	0.2	33.2
Salter labs Venturi barrels					
24	4	94.1	19.4	12.0	23.7
28	4	94.1	19.4	0.9	26.0
31	6	95.8	19.4	0.6	28.0
35	8	84.7	19.4	0.4	30.5
Respironics					
24	3	94.5	19.4	1.50	22.0
28	6	95.8	19.4	0.5	27.2
35	10*	95.0	19.4	0.3	36.9

*In order to deliver 10 l flow rate 2 Intensity concentrators were used.

Conclusions Venturi barrels used with oxygen concentrators in the home are likely to deliver a lower oxygen concentration than expected and are unlikely to lead to hypercapnic respiratory failure. For a controlled FiO2 to be delivered, the chosen concentrator and Venturi need to be tested so flow rate can be set accordingly but concentrators alarm systems may prevent practical use.

Pulmonary rehabilitation: a challenging exercise?

P140 UPTAKE AND COMPLETION OF PULMONARY REHABILITATION: THE INFLUENCE OF REFERRAL SOURCE

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Background Pulmonary rehabilitation (PR) leads to significant improvements in exercise capacity, health status and dyspnoea in patients with chronic respiratory disease, supported by a strong evidence base. Despite the known benefits of PR, a proportion of referred patients never attend while others fail to complete the programme. The doctor-patient relationship is complex and may influence uptake and adherence to therapy. We hypothesised that uptake and completion of PR would be greater in patients referred from a senior doctor (hospital consultant or GP) compared with those referred by junior doctors or allied health professionals.

Methods 466 consecutive referrals to the Pulmonary Rehabilitation (PR) programme were divided according to referral source: Senior Doctor (Hospital consultant or GP), Junior Doctor (Any trainee doctor from hospital or primary care) and Allied Health Professional (AHP: typically community/practice nurses or hospital physiotherapists). Uptake (proportion of referrals that start PR), and completion (proportion of patients that attended more than 8 PR sessions and the post-course assessment) were calculated for each referral source and compared using χ^2 test.

Results Overall uptake and completion rates were 78% and 75% respectively (raw data Abstract P140 table 1). Uptake was significantly greater in referrals from Senior Doctor compared with Junior Doctor or AHP (82% vs 67% and 74% respectively; χ^2 p=0.02), although no significant difference was seen in completion (77% vs 70% and 68%; χ^2 p=0.25). Abstract P140 table 1 shows the raw data. There was no significant difference in baseline patient characteristics between the referral sources (age, FEV_1%, MRC dyspnoea score, Hospital Anxiety and Depression score, incremental shuttle walk distance, Chronic Respiratory Disease Questionnaire, Lung Information Needs Questionnaire or COPD Assessment Test).

Abstract P140 Table 1

Referrer	Referrals	Uptake	Completers
Senior doctor	318	260	200
Junior doctor	64	43	30
Allied health professional	84	62	42
Total	466	365	272

Conclusion There is increased uptake of PR in patients referred by a hospital consultant or GP than if referred by a junior doctor or AHP. Further work is required to explore the reasons for this observation.

P141 UNWARRANTED VARIATION IN CHRONIC OBSTRUCTIVE PULMONARY DISEASE CARE: PROVISION OF PULMONARY REHABILITATION FOR LONDONERS

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Introduction and Objectives Pulmonary Rehabilitation (PR) is recognised as an essential component of care for patients with chronic obstructive pulmonary disease (COPD). However there is no national database of available or delivered PR services. The aim of this study was to identify and characterise PR services and service variation for a 7.75 million population in one Health Authority with 31 Primary Care Trusts (PCTs).

Methods PR leads in each PCT were identified and a telephone interview conducted using 52 clinical and service related questions including estimated annual referrals, rolling/cohort model, sessions/week, PR duration, assessment (duration, exercise capacity (Incremental Shuttle Walk (ISW), 6 min Walk Test (6MWT)) and quality of life (QOL) measures), psychologist involvement, completion measures and availability of post PR-maintenance programmes. Provision of PR was compared to quality outcomes framework (QOF) prevalence of diagnosed COPD.

Results 26/31 (84%) PCTs provide PR (74 programmes) from 32 service providers; 5 PCTs provide no PR. Provision was not related to COPD prevalence; the range of service referrals received was <50 to >700/year. 15/26 (58%) PCTS offered maintenance programmes. 52 programmes were rolling, 22 cohort, programme duration 6–8 weeks. 31/32 services provide 2 sessions/week (1 service 1 session/week); 15/32 (47%) services had psychology input. Assessments took 0.5–2 h/patient. 32/32 (100%) services used walking tests and 11/32 (34%) followed repeat walk guidance; 11/23 ISWT, 0/9 6MWT. Questionnaires used ranged between 1 and 5, 13/32 (41%) services used more than two questionnaires (See Abstract P141 table 1 below). (insert table as separate attachment) There was no standard definition of completion; range 50%–100% sessions attended. The range of estimates of completion rates (using own definitions) was <30% to >80%.