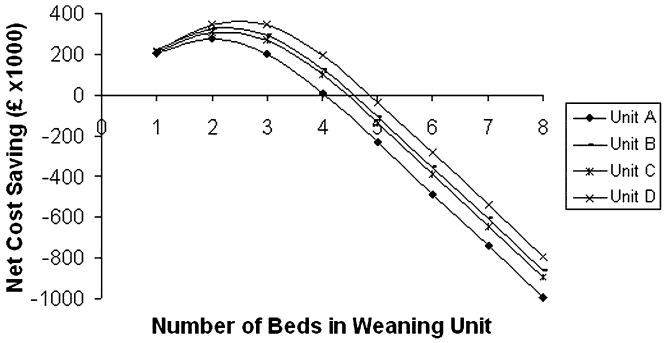

Abstract S9 Figure 1 Modelling net cost saving of establishing a weaning unit by varying capacity from 1 to 8 beds.

Conclusion PMV patients use 25% of ICU bed-days in our region. Establishing a 3-bed weaning unit could lead to a reduction of 800 ICU bed-days, a net annual cost saving of £340 000, and acceptable occupancy (70%) and refusal (30%) rates. Establishing such a unit would be feasible in our health board region.

S10 IS IT COST-EFFECTIVE TO REPLACE NURSES WITH LAY ASTHMA EDUCATORS IN PRIMARY CARE?

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Introduction Regular review of those with asthma and support for self-management is promoted in guidelines and encouraged by the Quality Outcomes Framework. Reasons for non-implementation include lack of time and training. A large randomised controlled trial in primary care suggested that need for unscheduled health care was similar if patients were reviewed and offered self management support by a trained lay educator compared to practice nurses.[1]
Methods A cost-effectiveness analysis was undertaken using the trial data. The cost of delivery for the intervention incorporated training and consultations. The measure of effectiveness was frequency of unscheduled healthcare which has also been costed.
Results One year intention to treat data (n=418) showed that 29% (61/205) of patients in the nurse group required unscheduled healthcare (177 events) compared with 30.5% (65/213) in the lay group (178 events), that is, there was no statistical difference in effect between the groups. Assigning a cost to this measure of effectiveness (unscheduled healthcare) provides £161 for nurses and £135 for lay trainers, that is, no significant difference (mean £26, (95% CI −95.61, 146.69, p=0.679)). With regards to the costs of delivery, there was no significant difference between the two arms (mean difference £−1.61 (95% CI −6.01, 2.77, p=0.4704)). While the training costs for the lay trainers were greater than nurses (£35 vs £18, respectively, per patient, p<0.001), the consultation costs for lay trainers were lower than for nurses (£8 per patient vs £24, p<0.001). The total costs, consisting of delivery and the measured outcome (unscheduled healthcare), were £203 per patient for the nurse arm vs £179 for lay trainers (mean difference £24, (95% CI −97.15, 144.99, p=0.698)).
Conclusion There was no significant difference in cost of delivery or in the effectiveness of the intervention between the two arms in this trial. It may be inappropriate to conclude that the intervention is not worthwhile as contracting lay trainers full-time rather than part-time would have made full use of the cost of their training, reducing the cost per patient and improving efficiency.

Funding Supported by the BUPA Foundation.

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S11 THE SOUTH EAST ESSEX (SEE) MODEL OF INTEGRATED COPD CARE AND QUIP (QUALITY INNOVATION AND PRODUCTIVITY) IMPROVEMENTS

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The coalition Government has announced there should be £20 billion saving over the next financial cycle in the health budget, and the QUIP (Quality, Innovation and Productivity) agenda is at the heart of this. The SEE model is an ongoing project of integrating COPD care across primary and secondary providers. A robust local network is at the centre of the project which includes increased Consultant community care (real and virtual), education of staff at the University of Essex, Hospital at Home, improved communication, increased community rehabilitation, community spirometry, improved pathways, self-management plans, oxygen alert cards, dedicated oxygen service and involvement of Breathe Easy. We have reviewed our data to see if productivity has improved in line with the QUIP agenda.
Results (See Abstract S11 Table 1) Oxygen provision has been reviewed in a three-step process starting with the highest tariffs and extending to all patients on oxygen resulting in £250 000 saving per year.

Abstract S11 Table 1

Summary of reduction in emergency COPD admissions, bed days and cost			
Financial year	07/08	08/09	09/10
Number COPD admissions	909	841	740
Number COPD bed days	6969	5925	5327
Cost as per 2009/10 PbR	£2141259	£2067171	£1781052
Reduced new (NP) to follow-up (FU) rations in respiratory outpatients. Indicates higher proportion of follow-up occurring in the community.			
Financial year	07/08	08/09	09/10
NP/FU ratio	2.95	2.9	2.7

Conclusion Integrated services for COPD can bring care closer to home produce reduced admissions, reduced NP/FU ratios and saving on oxygen. Integrated services have achieved savings of at least £650 000 per annum and this is line with the QUIP agenda.

S12 PRE-CLINIC TELEPHONE CONSULTATIONS: A COSTING STUDY

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Study of the taking of a patients' history by telephone prior to clinic attendance and co-ordinating investigations for new respiratory patients showed a reduction in hospital attendances with no

detrimental impact on patients (ERS 2010). Health service costs were not originally addressed but are now considered.

Methods One hundred consecutive patients were invited to have a pre-clinic telephone consultation; 49% (49/100) accepted; 51% (51/100) declined/failed to respond. Fifty-seven patients referred through the electronic Choose and Book (C&B) system during the same period formed a comparator group. The costs of delivery included the pre-clinic telephone consultations in the intervention group and first and follow-up clinic consultation in both groups. Two perspectives were taken, the purchaser (NHS Primary Care Trust) who incurs the cost of delivery, and the hospital who bear the financial burden for non-attendance.

Results In the intervention group, 98% (48/49) had a pre-clinic telephone consultation, 100% had an initial clinic consultation and 36.7% (18/49) had one or more follow-up appointments. In the C&B arm, 82% (47/57) of patients attended the first consultation and 49% (28/57) had one or more follow-ups. Taking the perspective of the purchaser there were 48 telephone patients, and 47 C&B patients. There was no cost for non-attendance from this perspective. The costs per patient for the telephone group were £340, and for the C&B group £359. This was not a significant difference (mean difference of £-20 (95% CI −74.60, 34.70, p=0.470)). From the hospital perspective there were 49 patients in the telephone group and 53 in the C&B group. The cost of non-attendance and rearranged appointments for 6 months from first planned contact was £19 per patient (telephone group) and £71 (C&B), mean difference £−52 (95% CI −97.24, −6.11, p=0.027).

Conclusion Pre-clinic telephone consultations have been shown to be cost-saving for hospitals, substantially reducing the financial burden of non-attendance. From the PCT perspective there was no statistical difference in the cost of delivery between the two groups. This study used observational data from a self-selected patient group, further work is needed to confirm findings.

Funding This work was supported by the Dunhill Medical Trust.

Assessing the impact of interventions in sleep-disordered breathing

S13 THE PRIMARY RESULTS OF THE MOSAIC TRIAL: DOES CPAP FOR MINIMALLY SYMPTOMATIC OSA REDUCE DAYTIME SLEEPINESS OR CALCULATED VASCULAR RISK?

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Introduction CPAP treatment for symptomatic OSA improves sleepiness, and reduces vascular risk by reducing blood pressure (BP) and cholesterol. Minimally symptomatic OSA is far more prevalent than symptomatic disease, and treatment of this group is contentious. This trial describes the effect of CPAP on sleepiness and calculated vascular risk in minimally symptomatic OSA.

Methods 391 patients from 10 centres, with proven OSA (sleep study ODI>7.5 h), but insufficient sleepiness for CPAP (based on established evidence), were randomised (minimisation by ODI, recruiting centre, and cardiovascular risk score (Pocock)), to either 6 months CPAP (ResMed Autoset S8 Spirit), or standard care. CPAP training and fitting was according to local clinical practice. Co-primary outcomes were the mean changes in Epworth Sleepiness Score (ESS) and the vascular risk score (comprising age, sex, systolic BP, smoking, diabetes, total cholesterol, height, creatinine, LVH on ECG, previous MI or stroke) from baseline to 6 months (intention to treat analysis). Home BP was measured in triplicate three times daily over 7 days at baseline and after 6 months, and the weekly average was used for further analysis.

Results Of 391 randomised, 14 withdrew or were lost to follow-up and have been excluded from the primary analysis. 347 patients attended for their 6 month visit within the predefined time window. The study groups were well matched at baseline. Median CPAP use was 3.25 h/night. Full data on ESS and the cardiovascular risk score components were available from 341 and 310 patients respectively.

Sleepiness outcome CPAP reduced daytime sleepiness (mean (SE) ESS change with CPAP −1.68 (0.24); control +0.32 (0.22), mean difference −2.00, 95% CI −1.37 to −2.64, p<0.0001), a cost effective outcome (UK NICE criteria).

Cardiovascular risk outcome CPAP did not reduce cardiovascular risk score (mean (SE) cardiovascular risk score change with CPAP +0.08 (0.17); control −0.37 (0.17), mean difference +0.45, 95% CI −0.03 to +0.93, p=0.064); the small increase with CPAP is not clinically significant.

Conclusions 6 months of CPAP in minimally symptomatic OSA is associated with a cost effective reduction in daytime sleepiness, but does not reduce calculated cardiovascular risk.

Abstract S13 Table 1 Baseline values

	Standard care mean (SD)	CPAP mean (SD)
Age (years)	57.6 (7.5)	57.8 (7.2)
BMI (kg/m^2)	32.5 (5.6)	32.2 (5.6)
ESS	8.01 (4.15)	7.95 (4.42)
ODI (events/h)	12.7 (11.3)	13.8 (12.9)
Cardiovascular risk score	34.9 (7.9)	34.3 (7.5)

S14 CPAP IMPROVES ENDOTHELIAL FUNCTION IN MINIMALLY SYMPTOMATIC OSA PATIENTS: RESULTS FROM THE MOSAIC TRIAL

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Background CPAP treatment for symptomatic OSA improves surrogate markers of cardiovascular risk, such as endothelial function and arterial stiffness, and may reduce actual cardiovascular events. Minimally symptomatic OSA is far more prevalent than symptomatic OSA but the effects of CPAP on endothelial function and arterial stiffness in minimally symptomatic patients are not known.

Methods In two centres taking part in the MOSAIC trial (Oxford and Taunton), 253 patients with minimally symptomatic OSA (ODI>7.5 h) were randomised to either 6 months of CPAP or supportive care. 245 patients had measurements of arterial stiffness by pulse wave analysis at baseline (augmentation index, AIx) and in 64 patients endothelial function was assessed by brachial artery flow-mediated dilatation (FMD, expressed as % change from baseline arterial diameter) measurements by ultrasonography. Multivariable analyses adjusting for baseline FMD or AIx, ODI and Pocock vascular risk score (age, sex, systolic BP, smoking, diabetes, cholesterol, height, creatinine, LVH, previous MI or stroke) were performed to assess the effect of CPAP treatment on FMD and AIx.

Results Of the 245 patients 8 withdrew or were lost to follow-up and in 8 patients pulse wave analysis was not possible at 6 months. All 64 patients who had FMD measurements at baseline attended