

which should be delivered for all patients is mandated, irrespective of ward, or specialty, delivering care. A COPD discharge care bundle was developed by the NIHR CLAHRC for North-west London [Hopkinson *et al* 2012] and has been adopted by a number of acute hospitals in London, incentivised in some by commissioners using the Commissioning for Quality and Innovation (CQUIN) payment framework.

**Methods** To provide initial information on use of the bundle and readmissions we performed a Negative Binomial regression interrupted time series analysis comparing 7, 28 and 90 day readmission rates in hospitals before and after bundle adoption. The bundle was implemented at various time points between 2009 and 2011 in 9 Trusts in London, comprising 15 hospitals. Data from April 2002 to March 2012 were obtained from Hospital Episode Statistics using COPD exacerbation codes - J440 & J441 in the first position. Results were controlled for seasonality using month of admission and were also controlled for age and sex of patients at Trust level.

**Results** Following implementation of the COPD discharge bundle there was a significant change in the trend for the 28-day readmission rates for patients discharged after AECOPD. Falls were also indicated for 7- and 90-day readmissions, although these were not statistically significant at  $p < 0.05$ .

**Conclusion** These data suggest that the care bundle approach may be one systematic way to improve outcomes in patients admitted with an AECOPD. More work is needed, however, to separate any effects of the care bundle from other initiatives, e.g. Local Enhanced Services, that support delivery of evidence-based care in COPD i.e. quit-smoking interventions and pulmonary rehabilitation.

Hospital readmissions among hospital Trusts using the care bundle, before and after implementation

	7 day readmissions	28 day readmissions	90 day readmissions
Mean annual number (2002–2012)	209	563	1015
Annual trend pre bundle (%) *	+0.3% (0.005)	+0.3% (<0.001)	+0.3% (0.003)
Annual trend post bundle (%) **	-0.5% (0.099)	-0.8% (0.003)	-0.5% (0.099)

\* p value for overall trend

\*\* p value for difference between trend pre bundle implementation and post implementation

#### Abstract S69 Figure 1.

### S70 IMPLEMENTING A COPD DISCHARGE BUNDLE ON A LARGE SCALE

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**Introduction** There is emerging interest in the delivery of discharge care bundles to manage patients admitted with an exacerbation of a chronic disease. This approach has been tested on a limited number of patients and the importance of care bundles has been acknowledged by the BTS. However, it is unclear how COPD discharge bundles could be implemented on a larger number of patients without additional resources.

**Objective** We wanted to audit the effect of implementing a COPD discharge bundle to all patients discharged with a primary diagnosis of COPD upon smoking cessation and pulmonary

rehabilitation (PR) referral rates and to establish the effect upon length of stay (LoS).

**Methods** We redeployed a Respiratory Early Discharge Service (REDS) in order to deliver the University Hospitals of Leicester COPD discharge bundle. This is comprised of evidence-based interventions including: referral to smoking cessation and PR services, implementation of a self management plan, assessment of inhaler technique, follow up phone calls at 2 working days and 15 days post discharge. The discharge bundle was delivered by the REDS team from April 2012 to March 2013. The total number of patients discharged with a primary diagnosis of COPD (diagnosis code J41–44) from Glenfield Hospital was collected along with referral rates to smoking cessation and PR services. Mean LoS for those patients receiving the care bundle was also recorded.

**Results** From April 2012 to March 2013 a total of 1742 patients were discharged with a primary diagnosis of COPD. 1160 of these patients received the COPD discharge bundle. Smoking cessation referrals rose from 23.7% in quarter 1 to 48.3% in quarter 4. Pulmonary rehabilitation referrals rose from 39.7% in quarter 1 to 55.9% in quarter 4. Mean LoS for patients who received the discharge care bundle was 6.17 days compared to 7.22 days for 2011–2012. The mean LoS for patients who did not receive the care bundle was 7.08 days.

**Conclusions** A COPD discharge care bundle can be implemented on a large scale with increased referral rates to smoking cessation and PR services. No increase in LoS was noted despite redeploying an early discharge service.

### S71 COMPUTER-GUIDED CONSULTATION IN COPD PRACTICE

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**RATIONALE** We previously showed a comprehensive computer guided-consultation (containing prompts developed from NICE guidelines) in COPD primary care was feasible without specialist training, while preserving the autonomy of clinical decision making. The pilot study based on COPD primary care register, 88% had a proposed management change and 29% of patients had a diagnostic revision. We have re-examined the impact in real life to determine if this is repeated.

**Methods** We report on review of 2000 patients drawn from COPD registers across 78 practices. 459 (23%) did not have COPD based on spirometry. 1541 with COPD, had a mean (SD) age of 69.4 (9.8) yrs, 903 (58.6%) male, 1407 (91.6%) had been smokers and 597 (38.4%) were current smokers. The mean (SD) FEV1 was 1.48 (0.56) with a mean FEV1 percent predicted of 61.4 and a mean FEV1/FVC ratio of 52.4. The mean (SD) MRC score was 2.58 (0.9) and BMI was 27.0 (5.9).

**Results** Treatment modifications were implemented across various interventions. Pharmacological recommendations included the addition of: Short-acting bronchodilator in 75/1541 (4.9%), and a long-acting bronchodilator (LAMA) in 78/1541 (5.1%). Long-acting beta agonist/inhaled corticosteroid combination (LABA/ICS) was added in 75 patients including 37 with only moderate disease. In 32 (1.8%) patients the recommendation was to discontinue various inhaled medication and in 28 (1.6%) patients these were LABA/ICS combinations. In addition, 28.8% of patients currently smoking, accepted referral for smoking cessation support. 38 patients had hypoxia, 10 already on oxygen,