

## LETTERS TO THE EDITOR

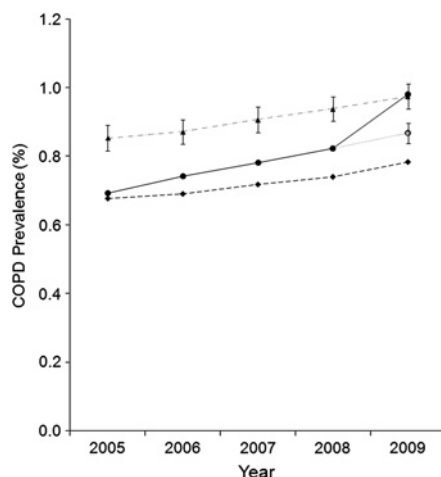
## Can financial incentives for improvements in healthcare quality enhance identification of COPD in primary care?

Undiagnosed chronic obstructive pulmonary disease (COPD) is a major public health issue, as it leads to patients missing out on appropriate preventive and therapeutic interventions.<sup>1–3</sup> The ratio of diagnosed/predicted COPD prevalence differs widely between Primary Care Trusts (PCTs), suggesting that there are unacceptable variations in care.<sup>4</sup> A National Clinical Strategy for COPD is to be launched in the UK in 2010 and there is an urgent need for evidence to support strategies to increase the identification of patients, particularly those with early disease.

In 2008 a locally enhanced service (LES) for COPD was introduced by NHS Kensington and Chelsea (K&C), giving general practitioners a small financial incentive for each individual screened and a larger payment for each patient diagnosed with COPD, where the quality items included in the LES were then documented. These included spirometry, pulse oximetry, body mass index, smoking cessation management, inhaler technique, Medical Research Council (MRC) dyspnoea score, medication review, a self-management plan, provision of a COPD rescue pack if appropriate and influenza and pneumococcal vaccination (see online for further details).

Practices received two types of payment; one for a screening test and one for the enhanced management of patients. Thus, if a patient was screened and found to have COPD, a practice would be paid both the screening fee and the enhanced management fee. Hence the incentive for screening was to locate new cases, so that they could go through the enhanced management template and attract the enhanced payment. The remuneration for the screening itself was quite small (only £10), but for the enhanced management was more significant (£80). This incentivised practices to focus screening on those patients most likely to have COPD—that is, older individuals and smokers.

Data on COPD prevalence for 31 PCTs in London from 2005 to 2009 were obtained from the national quality outcomes framework database. Individual practice data from K&C were compared with NHS Westminster, a partner PCT in an Integrated Service Improvement Programme, where the LES had not been introduced. Between 2005 and 2008 there was a linear increase in COPD prevalence in K&C ( $r^2=0.997$ ). If the preceding trend had continued, the predicted prevalence for 2009 would have been 0.87% (95% CI 0.84% to 0.90%), whereas following the introduction of the LES it was 0.98% (figure 1). Neither Westminster nor other London PCTs showed any variation from the



**Figure 1** Change in chronic obstructive lung disease (COPD) prevalence over time in Westminster Primary Care Trust (PCT) (lower line, triangles); all London PCTs excluding Kensington and Chelsea (K&C) (upper line, triangles, SEM error bars) and K&C (middle line, circles). The dotted extension of the K&C line shows the projected prevalence and 95% CIs for K&C if the trend in preceding years had continued unchanged. The introduction of the LES (locally enhanced service) in K&C in 2008 was associated with a significant increase in COPD diagnosis in K&C, whereas the underlying trend in other PCTs is unchanged.

preceding 4 years' trend (data for each PCT and comparison of individual Westminster and K&C practices are available online).

In the 39 practices that participated in the LES in K&C, 963 patients were screened with spirometry, 31.5% of whom were diagnosed with COPD. The cost of the screening per diagnosis was £94, which included £1000 given to each participating practice up-front to cover set-up costs for the LES.

Our data are consistent with previous findings that financial incentives can accelerate improvements in healthcare quality.<sup>5</sup> Incentivised targets for quality care in COPD through a LES can drive case-finding in general practice and could lead to a step change in the prevalence of COPD if adopted more widely.

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► Additional materials are published online only. To view these files please visit the journal online (<http://thorax.bmj.com>).

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**Competing interests** None.

**Contributors** The LES was developed by CF, IDB and FL. NSH, JLK and CF collected and analysed the data. NSH wrote the first draft with CF, and all authors contributed to the final draft and approved the final version. NSH is the guarantor of the paper.

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## Multidrug-resistant tuberculosis: resistance rates to first and reserve antituberculosis drugs in the UK in 2008/9 and the role of rapid molecular tests for drug resistance

At the Health Protection Agency National Mycobacterium Reference Laboratory (HPA NMRL) between January 2008 and December 2009, we evaluated in patients with multidrug-resistant tuberculosis (MDRTB; isolates resistant to rifampicin and isoniazid) the rate of resistance to other first-line drugs (ethambutol and pyrazinamide) and to reserve drugs and the role of rapid molecular tests for rifampicin (and MDRTB) resistance.

MDRTB is difficult to manage—drugs are toxic, less effective and costly. Further problems arise from extensively drug-resistant tuberculosis (XDRTB); MDRTB isolates resistant to a quinolone and any of the injectable drugs (amikacin, capreomycin, kanamycin). Effective management of

Online supplement - Financial incentives for quality care improve identification of COPD  
in primary care

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## **METHODS**

The Locally Enhanced Service was introduced in April 2008. It gave General Practices a small financial incentive for each individual screened. Selection of individuals to be screened was a matter of clinical judgement but the guidance stated that most were “expected to be smokers over the age of 45”. A larger payment was made for each patient diagnosed with COPD where the quality items included in the LES were documented. These were 1) spirometry and pulse oximetry, 2) review of smoking status, smoking cessation advice and referral to a smoking cessation service if appropriate, 3) body mass index 4) review of inhaler technique, 5) MRC dyspnoea score, 6) medication review, 7) provision of a COPD rescue pack if appropriate, 8) issue a self management plan, 9) influenza and pneumococcal vaccination. An initial payment was given to help practices with set-up and running costs. GP’s could either perform the measurements and assessments in their own practice or through referral to a community COPD team. In the latter situation the financial incentive was reduced. Details of the LES are available online.

Data on COPD prevalence and QOF parameters was obtained from the national QOF database (accessed at [www.gpcontract.co.uk](http://www.gpcontract.co.uk)). Individual practice data from K&C (where the LES was introduced) and Westminster were compared for April 2008 and April 2009. In addition, overall COPD prevalence for 31 PCT’s in London from 2005 to 2009 was extracted.

### **Analysis**

Change in prevalence was compared between PCT’s and between practices adopting or not adopting the LES by unpaired t tests. A linear regression equation was used to

characterise the trend for the years 2005 – 2008, allowing us to predict what the value and confidence intervals for the 2009 figure in K&C would have been assuming that this trend had continued unchanged. Analysis was performed using StatView 4.0. Values are mean(SD) unless otherwise specified and a p value of <0.05 was considered to be significant.

## **RESULTS**

One school practice and two university practices in Westminster were excluded from analysis as they were likely to be unrepresentative, containing few individuals of an age to develop COPD. Because of changes in practice structure, paired QOF data was not available for 3 other Westminster practices. Comparisons were therefore possible for 43 practices in K&C, 39 of which had participated in the LES and 43 practices in Westminster.

### *Comparison of K&C to other PCT's*

In 2008 the total prevalence of registered COPD was 0.74% in Westminster and 0.82% in K&C. COPD prevalence in K&C practices increased by 0.19(0.25)% compared to only 0.05(0.12)% in Westminster practices (p=0.001). Comparing all practices that adopted the LES (n=39) against those not using it in either PCT (n=47) the differences were greater, with mean absolute prevalence increasing by 0.21(0.26)% compared to 0.05(0.12) (p=0.0004).

Individual PCT COPD prevalence data are given in table 1. Between 2005 and 2008 there was a linear year on year increase in COPD prevalence in K&C ( $r^2$  0.997). On the basis of this trend, the predicted prevalence for 2009 in K&C would have been 0.87%

(95%CI 0.84-0.90) whereas following the introduction of the LES it was 0.98% (Figure 1). There was a significant step up in COPD prevalence in K&C, whereas neither Westminster nor other London PCT's showed any variation from the preceding 4 years' trend.

In the 39 practices that participated in the LES in K&C, 963 patients were screened with spirometry, 31.5% of whom were diagnosed with COPD. The cost per diagnosis was £94 which included £1000 given to each participating practice up front to cover set up costs for the LES.

There was no significant difference in compliance with QOF COPD items (inhaler technique, spirometry performed, influenza vaccination) between practices in K&C and Westminster.

Table E1 COPD prevalence in Primary Care Trusts within the London Strategic Health Authority 2005-2009. Data from quality outcomes framework ([www.gpcontract.co.uk](http://www.gpcontract.co.uk) ).

PCT	COPD Prevalence					% change in prevalence 2008-9
	2005	2006	2007	2008	2009	
Kensington and Chelsea	0.69	0.74	0.78	0.82	0.98	19.09
Hounslow	0.69	0.71	0.74	0.79	0.87	10.84
Barnet	0.79	0.79	0.84	0.91	0.99	9.41
Ealing	0.61	0.66	0.72	0.8	0.87	9.19
Barking and Dagenham	1.17	1.13	1.16	1.17	1.27	8.96
Redbridge	0.61	0.67	0.71	0.71	0.77	8.42
Bromley	0.98	1.05	1.1	1.16	1.24	6.13
Westminster	0.68	0.69	0.72	0.74	0.78	5.83
Islington	1	1.02	1.14	1.18	1.25	5.81
Sutton and Merton	0.93	0.95	0.98	1.03	1.08	4.93
Waltham Forest	0.85	0.84	0.82	0.86	0.9	4.42
Enfield	0.67	0.75	0.85	0.88	0.92	4.11
Croydon	0.67	0.7	0.74	0.79	0.82	4.02
City and Hackney Teaching	0.73	0.78	0.81	0.83	0.86	3.93
Hammersmith and Fulham	0.9	0.94	1.03	0.99	1.02	3.73
Bexley Care Trust	1.08	1.18	1.32	1.33	1.37	3.68
Havering	1.41	1.34	1.42	1.45	1.5	3.49
Kingston	0.75	0.77	0.85	0.87	0.9	3.27
Brent Teaching	0.61	0.61	0.63	0.66	0.68	3.05
Newham	0.86	0.83	0.83	0.83	0.85	2.83
Richmond and Twickenham	0.78	0.82	0.88	0.88	0.9	2.67
Greenwich Teaching	1.06	1.1	1.14	1.19	1.22	2.32
Hillingdon	1.03	1.07	1.14	1.14	1.16	2.19
Southwark	1.02	1.03	1.08	1.11	1.13	1.94
Camden	0.88	0.87	0.82	0.95	0.97	1.52
Haringey Teaching	0.66	0.67	0.68	0.69	0.7	1.39
Lambeth	0.75	0.72	0.74	0.8	0.8	0.84
Lewisham	0.97	0.98	1.01	0.99	1	0.57
Harrow	0.71	0.71	0.73	0.77	0.78	0.15
Tower Hamlets	1.41	1.31	1.2	1.2	1.19	-0.49
Wandsworth	0.78	0.82	0.84	0.83	0.82	-1.56

## Specification for a Local Enhanced Service (LES) for Chronic Obstructive Pulmonary Disease (COPD) – 2008/09

Lead COPD GP - Dr.Iain Blake

Lead Respiratory Specialist Practitioner – Christine Falzon

### Background

- COPD continues to be high on the NHS agenda this year with the development of the National Service Framework for COPD.
- Kensington and Chelsea PCT are keen to continue to improve the standards of management of COPD in line with NICE guidelines.
- The local average QOF prevalence of diagnosed COPD is 0.8% which is still way below the national average of 1.4%. Actual prevalence is thought to be between 3-6% for local practices, depending on location.
- The need to diagnose COPD earlier is therefore high on the national and local agenda.

### Aims of the Local enhanced Service

- This local enhanced service specification outlines the requirements for providing high standards of care to COPD patients in primary care. The emphasis is on the *quality* of the care provided in line with NICE guidance. The LES will therefore reward practices for managing COPD patients optimally
- The service builds on activities already provided by practices under the Quality and Outcomes Framework, and further enhances treatment and care to ensure that disease management is optimised, and disease progression and adverse outcomes are minimised.
- The PCT would like to ensure that all practices in Kensington and Chelsea are reviewing COPD patients as per NICE guidelines and that COPD patients are accessing all the services they require to be optimally managed in line with the guidance.
- This local enhanced service will run until 31<sup>st</sup> March 2009, and practices will be expected to carry out the following:

#### 1. Measurements

Practices will be required to measure:

1. FEV1 % predicted
2. FEV1/FVC
3. Oxygen saturations (on air)

From these measurements patients can be classified as Mild/Moderate/Severe or in need of Oxygen therapy assessment.

Mild COPD	FEV <sub>1</sub> % predicted of 50% to 80% predicted
Moderate COPD	FEV <sub>1</sub> % predicted of 30% to 50%
Severe COPD	FEV <sub>1</sub> % predicted of <30%
Oxygen Saturation on air	Referred for Oxygen assessment if ≤92%

N.B. All patients must have and FEV<sub>1</sub>/FVC ratio of ≤70%

Please note that if a surgery is unable to provide spirometry and oximetry, these measurements may be obtained by referral to the spirometry clinic however overall payment for referred patients will be lower (see below).

## 2. Patient review

Mild and Moderate COPD patients require annual review whilst severe COPD patients require biannual review. This also applies to housebound patients.

The LES review is designed around QOF data and some further parameters. The review will include:

1. Spirometry and pulse oximetry (see above)
2. Smoking status
3. Smoking cessation advice
4. The desire to quit
5. Referral to smoke cessation if appropriate
6. BMI
7. Inhaler technique
8. MRC score
9. Medication review
10. Provision of a COPD rescue pack if appropriate
11. Issue a management plan (see appendix)
12. Flu and pneumococcal jab

Current guidelines recommend that patients with a MRC score of 3 or above should be referred to pulmonary rehabilitation.

Current guidelines recommend that patients with Oxygen saturations ≤92% on air should be referred to secondary care for an oxygen assessment.

## 3. Screening for new cases of COPD – patients at risk

Patients chosen for screening are open to clinical judgement. It is suggested that most screened patients will be smokers over the age of 45 years.

### Referral for Spirometry

If a practice cannot provide inhouse spirometry they can still participate in the LES but their patients must have spirometry and pulse oximetry via the community spirometry clinic. Once patients are referred to the clinic, the relevant results will be sent back to the surgery.

Chair: Peter Molyneux  
Chief Executive: Diana Middleditch  
Clinical Executive Chair: Andrew Steeden



## **Training and Resources**

- All surgeries signing up to the LES will be offered a training session by Dr.Iain Blake or Christine Falzon in your surgery. This is optional.
- Advice on suitability and calibration of spirometers will be offered.
- Surgeries will be offered a clinical template, or list of read codes to electronically record the review consultation.
- An electronic COPD management plan will be made available to upload on your computer system

## **Equipment**

Spirometers used to obtain the FEV<sub>1</sub> values must be in line with American Thoracic Society /European Respiratory Society 2005 standards. Spirometry must also be in line with local infection control guidance, which includes the use of bacterioviral filters with all patients. Cleaning of spirometers will depend on the manufacturer's instructions.

## **Patients served by this LES**

All patients registered with the practice.

## **Eligibility to provide the service**

All GMS and PMS practices within the borough of Kensington and Chelsea

## **Monitoring of the LES**

There is one single data return sheet; please return the same sheet for Baseline, Interim and Final data returns. Baseline data must be returned by 15<sup>th</sup> July 2008, the Interim data by 30<sup>th</sup> November 2008 and the Final data by 6<sup>th</sup> March 2009.

## **Finance**

### **A) Payment for known/confirmed COPD patients**

#### ***Practices will be paid***

- a. £80 per patient where the surgery carries out the spirometry, oximetry and the full patient review
- b. £70 per patient reviewed by the practice for whom spirometry and oximetry were obtained through referral to the Primary Care Respiratory Service

### **B) Payment for Screening**

#### ***Practices will be paid***

- a. £10 per patient screened if the screening was carried out by the practice
- b. £3 per patient screened if the patient was referred to the Primary Care Respiratory Service for screening

Please note that for new cases of COPD, practices will receive the £80/£70 payment and not the screening fee in addition.

## **Payment Mechanism**

Payments will be made to the practice as follows:

- Practice will have to declare if they will undertake spirometry/oximetry themselves or not.
- 50% of the total payment based on the total number of COPD patients as submitted in the baseline data will be paid after receipt of baseline data.
- The remaining money owed will be paid at the end of the financial year. This will take account of all screened patients, any new COPD patients and second reviews for severe patients.
- Please note that practices will be subjected to a financial clawback if the achievement payment is less than the upfront payment.


## Data return for COPD LES 2008/9

Name of GP Surgery:

Contact person:

Contact details:

	Baseline data due 15 <sup>th</sup> July 2008	Interim data due 30 <sup>th</sup> November 2008	Final data due 6 <sup>th</sup> March 2009
Total number of COPD patients			
Number of housebound patients			
Number of patients on Long term oxygen therapy			
Model of spirometer			
Training session desired - yes/no			
Total number of Mild COPD patients			
Total number of Moderate COPD patients			
Total number of Severe COPD patients			
Number of patients with a review			
Number of patients with oxygen saturations $\leq 92\%$ on room air			
Number of patients referred for Long term oxygen therapy			
Number of patients screened with spirometry			

 Data not required in these fields for this data return

## Read codes for recording COPD LES review

<b>Data Set</b>		<b>Read Code</b>
<b>Spirometry and pulse Oximetry</b>	Spirometry Screening	68M
	Spirometry Performed	5882
	FEV1 % Predicted	339S
	FEV1 / FVC	339R
	Pulse Oximetry	8A44.11
<b>COPD Diagnosis</b>	Mild	H36
	Moderate	H37
	Severe	H38
<b>Housebound/Oxygen</b>	Housebound	13CA
	Long Term Oxygen Therapy	8776
<b>Smoking</b>	Never Smoked	1371
	Ex-Smoker	137S
	Current Smoker	137P
	Desire to Quit	137b
	Not ready to quit	137d
	Refer to stop smoking	8H7i
	Smoking cessation advice	8CAL
<b>BMI</b>	Height	229
	Weight	22A
<b>Inhaler ability</b>	Poor	663I
	Moderate	66Y4
	Good	663H
<b>MRC Grade</b>	Grade 1	173H
	Grade 2	173I
	Grade 3	173J
	Grade 4	173K
	Grade 5	173L
<b>Medication review done</b>	Includes offer of rescue pack	8B3V
<b>COPD Self mx plan</b>	Plan issued	66YI
<b>Immunisations</b>	FLU	65E
	Pneumococcal	6572
<b>Referrals</b>	Refer for O2 Assessment	8HHx
	Refer to Community Respiratory Service	8Hk3
	Refer for Spirometry	8HRC
	Refer for Pulmonary Rehabilitation	8H7u
<b>COPD Annual review</b>	Review Done	66YM

These are the suggested read codes for recording the LES review. A template has also been written for Vision and EMIS using these codes and will be made available to surgeries. Using these read codes will help practices when submitting the data return. The Read code 66YM (COPD annual review) should be used with all reviews to indicate a review has been done.

