

only patients who achieved a reduction in mPAP to ≤ 25 mm Hg following pulmonary endarterectomy (PTE). The data available allowed two proximal CTEPH groups to be studied. For the largest group we had data from measurements taken under anaesthetic at the time of PTE (PTE CTEPH). For a second smaller CTEPH group we had data from the time of diagnosis (Diagnosis CTEPH). Patients with idiopathic pulmonary hypertension (IPAH) and connective tissue disease-associated pulmonary hypertension (CTD) were used as a comparative group.

Results All groups demonstrated a linear correlation: IPAH ($n = 42$) $r^2 = 0.90$; Diagnosis CTEPH ($n = 42$) $r^2 = 0.81$; PTE CTEPH ($n = 173$), $r^2 = 0.80$; CTD ($n = 31$), $r^2 = 0.82$. The relationships differed: IPAH $mPAP = 0.56 \times sPAP + 3.3$; Diagnosis CTEPH $mPAP = 0.48 \times sPAP + 5.2$; PTE CTEPH $mPAP = 0.47 \times sPAP + 8.9$; CTD $mPAP = 0.54 \times sPAP + 5.0$. There was a significant difference in the slopes between IPAH and PTE CTEPH ($p < 0.038$, fig 1).

Conclusions For IPAH and CTD our data are very similar to that published.^{1 2} For both proximal CTEPH groups (Diagnosis CTEPH and PTE CTEPH) we found the relationship between mPAP and sPAP was altered but remained linear. Unfortunately, this does not support the idea of a single fixed relationship between sPAP and mPAP in all forms of pulmonary hypertension.

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1. Chemla *et al.* *Chest* 2004;**126**:1313–7.
2. Syed *et al.* *Chest* 2008;**133**:633–9.
3. Chemla *et al.* *Chest* 2009;**135**:760–8.

Delivering services in the 21st century

P35 TABLET PC TO EVALUATE RESPIRATORY PATIENT PREFERENCE AND SATISFACTION USING THE 18-ELEMENT CONSULTATION SPECIFIC QUESTIONNAIRE

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Patient perspective is an important component of quality assessment of service offered by hospitals and individual clinicians. This is topical in the UK for revalidation of doctors. Recently, patient satisfaction has been measured in consultations in primary care.¹ However, as yet unanswered are the aspects of consultations which patients value most.

We used a tablet PC (Customer Research Technologies) for 106 respiratory patients to answer the Consultation Specific Questionnaire (CSQ) on 5-point categorical scales for how important they value aspects of the consultation (very important to not at all important) and how well that aspect was achieved (strongly agree to strongly disagree) by four consultants and two SpRs over 10 weeks in a teaching hospital.

Anonymised questionnaires were completed in a median of 264 s (range 142–775). When questions were rank-ordered by outcome

score, the lowest outcomes were achieved in shortage of time and inability to discuss private matters. Patients ranked being told everything about their treatment, checking matters with them and belief in the correctness of doctors' advice as being most important to them. There was no correlation of outcome with importance of any aspect of the consultation. The questions were clustered into general satisfaction (3Q), professional care (6Q), depth of relationship (5Q) and length of consultation (3Q) domains. Table 1 shows, for each domain, the percentage of patients strongly agreeing or agreeing that the doctors fulfilled the questions and the percentage of patients who felt that the domain was important or strongly important to them.

We conclude that patients value clinicians checking questions with them and being told everything about their treatment most, and suggest that doctors place more emphasis on this and also on the depth of their relationship with patients. New technology allows these preferences to be ascertained rapidly and accurately in a time-constrained health service.

1. Kinnersley P, *et al.* A comparison of methods for measuring patient satisfaction with consultations in primary care. *Fam Pract* 1996;**13**:41–52.

P36 USE OF THE BRITISH LUNG FOUNDATION HELPLINE

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Background The British Lung Foundation (BLF) is the only UK charity undertaking chest research and supporting patients with all lung conditions. In 2005 the BLF launched an accredited national patient helpline which offers free information on respiratory disease, confidential advice and support to patients and carers.

Aims To determine the user profile of the BLF helpline and the issues raised by callers.

Method Anonymised data made in 2007/8 were analysed to determine the number, age, gender and regional breakdown of all calls. The reason for each call and the disease profiles were also investigated.

Results In 2007/8 there were 7327 and 9026 calls respectively (59% and 57% female). 25% of callers were in the age range 60–69 years, 20.5% were aged 70–79 years and 14.2% were aged 50–59 years. Calls per 100 000 population: Wales 38.7; NE and Yorkshire 30; London and SE 24; SW 22.4; NW 16.8; Midlands 15; Scotland and Northern Ireland 13; 1% overseas and 17.1% origin was unknown.

Of the 5780 (35.4%) requests for disease information, 44% concerned chronic obstructive pulmonary disease (COPD), 9.7% pulmonary fibrosis, 8% asthma, 6.3% bronchiectasis, 2.5% lung cancer, 2.3% sarcoidosis, 1.4% asbestosis, 1% mesothelioma and 1% TB. 56% of patients with COPD wanted more information about their disease, 12.6% treatment and investigations, 11.9% travel, 8.2% benefits, 3.1% oxygen and 0.5% drugs. Other callers asked about BLF services (13.3%) and drugs (11.3%). Less than 5% of callers asked about travel, oxygen, support and counselling, NHS issues, non-respiratory questions, housing and environment.

Discussion Use of the helpline has increased between 2007 and 2008 and it is used more frequently by women and those aged 60–69 years. The geographical variation may reflect regional socioeconomic factors and/or awareness of the BLF helpline. However, the usage does not mirror the prevalence of COPD and other chest conditions. As expected, most enquiries are for information on the disease and its management, particularly COPD. However, the helpline also provides help with benefits, travel, etc. These data emphasise the importance of the BLF helpline and the need to extend its coverage to areas where chest disease is most prevalent.

Abstract P35 Table 1

Domain	Scored agree + strongly agree (%)	Perceived important + very important (%)
General satisfaction	22.8	44.3
Professional care	42.0	44.1
Depth of relationship	21.9	33.3
Length of consultation	6.4	41.5

P37 DISEASE SEVERITY AND APACHE II SCORES OF RESPIRATORY INPATIENTS ON A WARD-BASED RESPIRATORY CARE UNIT

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Our trust serves a population of almost 400 000 and has over 800 beds. In 2006 we opened a 12-bed ward-based unit with the aim of managing acutely unwell respiratory patients in a dedicated location. The unit is able to administer non-invasive ventilation and high flow oxygen therapy. There is a 1:6 nurse to patient ratio. From the outset we were clear that this would not replace standard level 2 (HDU) care if it was needed (our trust has a large HDU/ITU facility).

We have studied the disease severity of patients on the unit by assessing APACHE II (Acute Physiology and Chronic Health Evaluation II) scores. This is a well-validated and widely-used assessment tool. Data were recorded prospectively between 1 May and 29 May 2009.

41 consecutive patients were assessed; mean age was 65 years (range 17–96). 68% were female. The primary diagnoses were pneumonia/respiratory infection in 15, exacerbation of COPD in 11, pleural effusion in 6, other 6, data unavailable in 3. Mean length of stay was 13 days (range 1–46, median 9). The mean APACHE II score was 14.5 (range 5–28, median 14). Based on reference data, an APACHE II score of 14 for a population would predict a death rate of 15%. The mortality of our population was 10% (ie, 4 deaths). A previous study conducted in 2007/8 showed a median APACHE II score of 13 on our unit and, at that time, the median APACHE II score of 221 consecutive ITU admissions in our trust was 14.

These data indicate that patients receiving ward-based care in a fairly typical respiratory care unit have a very high level of acuity. Our historical data suggest that APACHE II scores on the ward are not dissimilar to those on an intensive care unit. We believe that these data have major implications when determining staffing levels and resources on such units.

P38 POST-ITU PATIENTS ON A GENERAL RESPIRATORY WARD IN A DISTRICT GENERAL HOSPITAL: OUTCOME AND RESOURCE IMPLICATIONS

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Introduction Intensive care patients are often discharged to general respiratory wards in district general hospitals. We have reviewed our 3-year experience of offering this service on our ward, in particular patient needs and outcomes and the resource implications.

Method Observational study reviewing the notes of patients transferred to our ward in 2006, 2007 and 2008.

Results Our respiratory ward cared for 136 post-ITU patients (mean 45 per year) in this period. The primary cause for admission to the ITU was respiratory failure in approximately three-quarters of the patients. The mean length of stay was 11 days (range 1–365), with 35% staying longer than 10 days. This is longer than non-post-ITU patients on the ward. 76.3% of patients were discharged directly home. Of these, 84.4% were still alive 6 months post-discharge (table 1).

Conclusions Our experience has shown that, in comparison with our other respiratory patients, post-ITU patients are very resource intensive using respiratory nursing, (especially tracheostomy care),

Abstract P38 Table 1 Selected data 2006–8

	2006–8
No of patients	136
% ITU admissions with respiratory failure	74
Mean APACHE II on admission to ITU	16.2
% with tracheostomy on ITU or ward	19.9
Median time from end weaning to ITU discharge (days)	2.3
Mean length of stay on ward (days)	11
% staying on ward >10 days	35.4
% respiratory and/or rehabilitation physiotherapy	49
% dietician and/or speech therapy	37.7
% discharged directly home	76.3
% died on ward	21.4
% alive at 6 months	84.4

rehabilitation physiotherapy, dietician and speech therapy extensively. They have longer lengths of stay. However, although there is significant inpatient mortality, over 75% go directly home and most subsequently have prolonged survival. We suggest that focusing post-ITU discharge on a single unit provides optimal patient care and resource utilisation, but careful planning is required when developing such a service. We are currently comparing the outcome and healthcare economics of discharges of post-ITU patients to our ward with non-respiratory wards.

P39 CXR REPORTING BY RESPIRATORY CONSULTANTS: AN OLD SERVICE FIT FOR THE 21ST CENTURY

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Introduction and Objectives For decades the respiratory consultants at the Royal Bournemouth Hospital have provided a chest radiography (CXR) reporting service for local GPs. This allows prompt specialist advice, arranges repeat CXRs where required and facilitates automatic outpatient review. We assessed whether this service remains appropriate in a modern financially-constrained NHS.

Methods We assessed activity of the service over a 1-year period and focused for 3 months on the number of cases called back for fast-track review and the time it took for the patients to be seen. We conducted a survey of the GPs' opinion of the service compared with a radiology reporting system.

Results Over 5000 CXRs are reported by the GP CXR service every year. This is done by twice daily reporting divided between each of the four consultants. 9% of all patients having a CXR were recalled for outpatient review and, of these, 3% were fast-track referrals. The CXRs were reported on average within 0.5 days and faxed to the GPs, mostly on the same day. The radiology department reporting time was a mean of 4.2 days. The average time from the CXR report to the fast-track patient being seen in clinic was 12.9 days. There is no additional delay in waiting for the GP to receive the report and refer as recall is initiated by the reporting physician. All GPs responding to the survey felt that secondary care-initiated recall of patients to the clinic for a suspicious CXR was useful. 99% felt the information in the reports met their requirements. 99% of GP respondents were in favour of continuing the service.

Conclusion In this time of financial constraints and practice-based commissioning, we have shown this system to be a fast, efficient and popular local service. Despite drives to reduce referrals to secondary care, this service meets the requirements of the GPs who support its continuation. Many respiratory physicians regularly review CXRs in clinic and therefore have the necessary skills to provide this service too.

P40 IMPLICATION OF CONTRAST-INDUCED NEPHROPATHY FOR LUNG CANCER SERVICES

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Background To meet lung cancer service delivery targets in the UK, many centres offer one-stop clinics or have developed systems whereby CT is performed prior to secondary care assessment if outpatient chest radiographs are suspicious of malignancy. In this setting, a contrast-enhanced CT (CECT) of the chest and abdomen may be performed without knowledge of renal function. A subgroup of patients with renal impairment is left at risk of developing contrast-induced nephropathy (CIN) as a consequence of iodine-based contrast media used in staging CECT.

Methods A retrospective analysis of renal function in patients undergoing CECT was conducted to assess the extent of the problem. The most recent renal function test before the CECT and the first post-scan renal function was compared.

Results In January 2007, 162 consecutive outpatient CECT examinations were performed. Pre-CECT renal function was available in 149 outpatients, of which 20 were abnormal (creatinine mean 167 mmol/l). 16 of 20 patients had follow-up renal function tests; renal function was measured at days 1, 5 and 12 in 3 patients but delays of at least 3 weeks were seen in 13 (21–165 days). In 3 patients, renal function had returned to normal (26–84 days). In the remaining 13 patients a fall of serum creatinine by up to 6.5% was seen but increases by up to 25% were seen in 5 patients. 16 patients had lone raised urea levels before their scan that either normalised (3) or remained elevated but one patient was found to be in renal failure when the profile was checked 79 days later. Patients with normal renal function pre-CECT did not develop renal failure after the examination.

Conclusion Our survey infers that patients with suspected lung malignancy undergoing outpatient CECT may be at risk of developing CIN. With increasing numbers of CECT, more robust local and national guidelines on the use of iodinated contrast are needed.

P41 EXPERIENCES OF DIRECT ACCESS CT SCANNING FOR GENERAL PRACTITIONERS AND IMPLICATIONS FOR INVESTIGATION OF POSSIBLE LUNG CANCER

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In 2008 our trust began to offer local GPs direct access to CT scans of the thorax. We have retrospectively reviewed 111 consecutive cases between April 2008 and July 2009. The mean age of the

patients was 67 years (range 23–95); 52% were male. In 104 cases (94%) the GP arranged a chest radiograph (CXR) prior to the CT scan.

The clinical details provided in the CT scan requests outlined suspected malignancy on CXR in 42%, non-resolving consolidation in 11%, persistent cough in 9%, chest pain in 7%, suspected fibrosis or bronchiectasis in 5%, nodule follow-up in 5%, pleural effusion in 4%, dyspnoea in 3%, haemoptysis in 2%, other 11%. The CT scan reports indicated probable cancer in 25%, emphysema in 18%, infective changes in 6%, pulmonary fibrosis in 4%, bronchiectasis in 4%. Minor or non-specific incidental findings were seen in 12%, 14% were normal, other in 17%. Following the CT scan, 44% of patients were referred to a chest physician and 11% to another specialty. A total of 23 patients had an abnormal initial CXR and probable cancer on the CT scan. The average time between receipt of the initial abnormal CXR report by the GP and subsequent referral to hospital was 33 days (range 3–103, median 26).

We are not necessarily averse to open access CT scanning for GPs. While the results of this study need to be interpreted with caution, these data suggest that the current system may be delaying the opinion of a secondary care physician in patients with suspected lung cancer. Had the above 23 patients been referred to hospital under the Calman cancer 14-day rule at the time of the initial abnormal CXR, they may have received a more rapid diagnosis.

P42 SETTING UP OF A TRUST-WIDE OXYGEN PRESCRIBING POLICY: A 5-YEAR EXPERIENCE

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Introduction Two audits (December 2002, May 2003) established that only 5% of patients currently receiving oxygen (O₂) supplementation had it prescribed formally in the drug prescription card (Kardex) or in the clinical notes. A multidisciplinary committee was set up to improve O₂ prescription (O₂ Rx), including the development of an O₂ Rx policy and an effective O₂ Rx form.

Methods A new detailed O₂ Rx form was initially trialled on the respiratory wards in 2004 and, after feedback, on some surgical wards and the acute medical unit (AMU), leading to a final version. A formal educational session on O₂ Rx was introduced into the F1 induction programme in August 2004. A trust O₂ Rx policy was ratified and put on the trust intranet in May 2005. The final version of the prescription form was introduced to all clinical areas in September 2005, preceded by several training days for all medical and nursing staff. Audits were performed at 1 month and 6 months

Abstract P42 Table 1

	Oct 05	May 06	Mar 07	July 07	July 08	July 09
Total pts on O ₂	155	126	155	95	79	67
With Rx	46%	45%	73%	63%	68%	58%
Correct device	61%	75%	76%	67%	44%	64%
Correct FiO ₂	72%	70%	64%	62%	44%	49%
Frequency	90%	88%	80%	85%	78%	82%
Correctly completed and applied	–	–	49%	48%	26%	31%
On O ₂ with correctly completed and applied Rx	–	–	36%	30%	18%	18%
Correct FiO ₂ recorded in nursing obs	–	–	71%	75%	81%	87%

after launch. Criticisms of the form included “difficulty in finding one and where to file it” and “too complex”. In response, a section on O₂ Rx was included in the design of a planned update of the Kardex (due late 2007), which required a reduction in the amount of information recorded. A sticker for O₂ Rx, based on the new design, was developed for the existing Kardex and launched in February 2007, preceded by a 6-week trust-wide poster campaign. Further audits were done at 6 weeks, 6 months, 18 months and 30 months. All audits were performed by the same individuals on all patients receiving oxygen in all inpatient areas plus AMU on one morning.

Results The main results are summarised in table 1.

Conclusions Despite efforts to provide an O₂ Rx policy and means of prescribing, not all patients have a formal O₂ Rx. Furthermore, where the form is used, it is often not correctly applied or recorded. The reasons why some staff do not prescribe oxygen or adhere to the prescription need to be determined.

P43 DOES THE SHEER PREVALENCE OF LUNG DISEASES SUCH AS ASTHMA AND COPD LEAD TO THE OVERLOOKING OF RESTRICTIVE PULMONARY DEFECTS?

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Introduction Use of spirometry enhances diagnostic accuracy. This report concerns one aspect of evaluation of the first 3.5 years of a community respiratory assessment unit.

Methods Referral forms, nurses' records and results of investigations of patients referred between 2005 and 2008 were examined. Where relevant, hospital and GP records were reviewed.

Results 84% (857/1024) of referrals attended. 6% (51/857) had spirometric evidence of a restrictive pulmonary defect (22M, 29F, age 63±15 years) (referral diagnoses: 26/51 suspected/definite COPD, 14/51 suspected/definite asthma, 11/51 unexplained breathlessness). 24/51 were obese (body mass index (BMI) >30) and a further 15/51 were overweight (BMI 25–30). In 10/51 cases no chest radiograph (CXR) was available. 5/10 of these had a BMI >30 and this was the likely cause of restriction. 41/51 patients had an available CXR. BMI >30 was the likely cause of restriction in 13/41, and the combination of BMI >30 with another cause in 6/41 (significant cardiac enlargement (n=3), pulmonary atelectasis (n=2), gastric pull-up surgery (n=1)). Overall, BMI >30 was the probable sole or a major contributory cause of restriction in 24/51 (47%). Where BMI was <30 (n=22) the CXR provided a likely explanation for the restriction in 11/22 (post-tuberculous pulmonary fibrosis (n=2), unilateral diaphragm elevation (n=2), infective shadowing and pneumonia (n=3), and one each of significant cardiac enlargement, atelectasis, interstitial lung disease and asbestos-related pleural disease). After review of CXR and BMI, the 16 patients with no cause for restriction had their data reassessed. GP records were also consulted. In 4/16 BMI was 25–30, providing a plausible explanation for their mild restrictive defect. In 1/16, myotonic dystrophy explained the restrictive defect. In a further 4/16 the accuracy of the diagnosis of the restrictive disorder could be debated, leaving 7/16 patients with a definite restrictive defect for which no explanation could be identified.

Conclusions Restrictive pulmonary defects were identified in a significant minority of patients being referred to a community respiratory assessment unit. The referral diagnoses of these patients included definite or suspected asthma or COPD or, in a smaller number, unexplained breathlessness. The causes of the restrictive defect were diverse and not always explained, but obesity as a cause of breathlessness may be being overlooked in primary care.

P44 BARRIERS TO HEALTHCARE PROFESSIONALS ENCOURAGING SELF-MANAGEMENT IN ASTHMA AND COPD

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Background In general, non-implementation of guidelines reflects poor dissemination, healthcare professionals (HCPs) not believing recommendations, HCPs doubting their ability to deliver recommendations or HCPs making changes then resuming old habits.¹ Only one or two studies have looked specifically at HCPs' views regarding self-management (SM) in asthma or chronic obstructive pulmonary disease (COPD).

Methods A questionnaire of HCPs' views about SM plans in asthma and COPD was sent to respiratory SpRs and consultants in North London and a GP+nurse in 31 GP practices in one PCT. This abstract summarises the qualitative results.

Results Responses were received from 54/176 questionnaires (18/55 GP; 13/41 nurse; 13/63 SPR 10/17 consultants). The results (number of comments from each section shown in brackets) show that HCPs recognise that SM strongly empowers patients and puts them in control of their own condition. HCPs also reported that SM improves outcomes and need for unscheduled health care (asthma, 17; COPD, 43) and is likely to enhance compliance (asthma, 5; COPD, 4). HCPs perceive major barriers to patients receiving such advice are patient factors (asthma, 14; COPD, 20) such as literacy, cognition, intelligence and language barriers. Lack of time (asthma, 27; COPD, 20) and cooperation between primary and secondary care (asthma, 11; COPD, 12) were highlighted. In a small number of cases, patients' disinclination (asthma, 8; COPD, 2) is thought to be a factor and some HCPs (asthma, 6; COPD, 4) felt some patients were well controlled and did not need such advice. Final barriers represent lack of availability of material/templates upon which to write personalised action plans (asthma, 6; COPD, 12) or of honest reporting of a lack of HCP knowledge as to what such advice should consist of (asthma, 4; COPD, 4).

Conclusions Qualitative analysis of HCPs' views regarding SM in asthma and COPD suggests strong support for recommendations contained within guidelines and good understanding of the mechanisms by which improved outcomes are obtained. However, HCPs perceive characteristics which are likely to hinder this process, and yet many of these are unproven and, for many (such as impaired literacy), others have clearly shown solutions which permit implementation. In some cases HCPs candidly report lack of training in delivering these processes.

1. Cabana MD, et al. *JAMA* 1999;282:1458–65.

P45 UNDERCODING IN A DISTRICT GENERAL HOSPITAL: FINANCIAL IMPLICATIONS AND FUNDING OPPORTUNITIES

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Introduction and Objectives After an inpatient stay the notes are assessed by non-medically trained coders and codes assigned for primary and secondary diagnoses. These codes are used to generate Health Resource Group (HRG) values which, combined with length of stay data, determine the remuneration received by the hospital for the inpatient episode. Previous work at a tertiary centre in the North of England had estimated that inaccuracies in respiratory coding could cost district general hospitals £65 000 per annum. We attempted to validate this result in a DGH setting.

Methods A retrospective notes review was performed for 50 consecutive inpatients with respiratory diagnoses. Notes were independently assessed by two investigators (respiratory registrars) blinded to the coding results. These results were collated and

discrepancies resolved by consensus, with adjudication by a third investigator (respiratory consultant) if required. Where coding inaccuracies were found, the resulting HRG codes were compared to assess potential lost revenue.

Results Initial investigator coding agreed in 32/50 cases with all but two discrepancies resolved by consensus. Clinician-determined and allocated HRGs differed in 17/50 patients. Miscoding led to an estimated loss of revenue of £6200 over the 50 patients. The most common error was respiratory failure not being recognised in coding. The DGH studied admits 3770 inpatients with primarily respiratory complaints per annum. Were this sample representative, this would mean a potential loss to the trust of around £450 000 per annum. A conservative analysis limited to COPD and pneumonia still suggested an estimated loss of £133 000–£220 000 per annum.

Conclusions This study has demonstrated that undercoding may lead to significant lost revenue in a DGH setting, the extent of which may have been previously underestimated. This is primarily due to a failure to recognise respiratory failure when coding. Coders can only record respiratory failure if this is explicitly documented and are not permitted to interpret blood gas results. Relatively minor changes in documentation and process could therefore secure significant additional income.

P46 IMPACT OF A COMMUNITY RESPIRATORY ASSESSMENT SERVICE ON EVIDENCE-BASED PRESCRIBING IN PRIMARY CARE

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Introduction The Community Respiratory Assessment Unit (CRAU) in Hammersmith and Fulham provides open-access nurse-led spirometry and evidence-based disease management support to primary care.

Methods The primary care records of 100 patients referred from March 2008 to April 2009 (51M/49F, mean age 61 years, 77 current/ex-smokers) were examined to quantify whether suggestions made in the CRAU had been translated into practice.

Results In 32 patients no treatment change was recommended as they were already on optimal management (18 mild COPD, 8 moderate COPD, 1 severe COPD and 5 with asthma). No therapeutic changes were recommended in a further 10 with a restrictive defect and in 21 with normal spirometry. Of the 37 patients in whom a change in treatment was suggested, 29 (78%) had COPD (16M/13F, mean age 71 years, 21 current smokers, 17 mild, 8 moderate, 4 severe disease), 7 had asthma (4M/3F, mean age 39.7 years, 3 current smokers) and 1 had normal spirometry. The referring GP adopted suggested changes fully in 18 patients (49%) and partially in 5 (13%). In 14 patients (38%) the recommended alterations were not made. The range of suggested alterations of

pharmacotherapy and rates of implementation in primary care are shown in table 1. In 6/18 (30%) cases where inhaled corticosteroids (ICS) or a combination of a long-acting β agonist with ICS were recommended, this was not adopted. In 8/14 (57%) cases where tiotropium was recommended, this was not adopted.

Conclusion Over 50% of patients with COPD reviewed in a community assessment unit were not receiving optimal evidence-based pharmacotherapy. This could be explained by the fact that primary care physicians were awaiting the results of spirometry and assessment. However, following assessment, recommended changes to medication did not occur in a significant proportion of patients.

P47 IMPORTANCE OF CODING POSITION WHEN DEFINING HOSPITALISED COPD POPULATIONS

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Measurement of health outcomes is essential to assess quality and organisation of care, but deriving meaningful numerators and denominators from routine data is difficult. Hospital Episode Statistics (HES) data, based on hospital coding, codes each episode of hospital care using up to 10 diagnoses, procedures or symptoms (theoretically in order of importance) in up to 10 positions (P1 to P10). Many reports have defined chronic obstructive pulmonary disease (COPD) using position 1 only.

We have examined the position at which COPD is coded in all English hospital emergency admissions (not episodes) to assess whether this includes all relevant episodes of care.

During 2006–7 there were 105 608 COPD admissions coded at P1 (mean age 71.6 years, in-hospital mortality 6.8%, length of stay 8 days and 40.8% discharged from the care of a respiratory consultant). However, there were another 18 279 admissions coded as infection/pneumonia at P1 followed by COPD at P2 or a symptom at P2 and COPD at P3. These patients were older (75.6 years), had a higher in-hospital mortality (26.3%), a longer length of stay (12.1 days) but a similar number (38.2%) were discharged from respiratory specialist care. A further 4297 patients were coded by symptom(s) followed by COPD at P2 or P3. These patients were younger (68.5 years), had a very low in-hospital mortality (0.9%), a short length of stay (2.9 days) and were less likely to be under specialist care (24.7%). When COPD was coded at position 4 or later it was almost never the primary cause of admission. Overall, using P1 alone failed to include 18% (22 576/128 184) of COPD admissions. Our algorithm excludes cases where COPD in P2 or later is preceded by cardiac and other conditions that would take precedence within that admission.

Defining COPD using only P1 misses important subgroups (another 21% of patients) with different outcomes (over 40% of the deaths) that respiratory physicians would still recognise as part of the COPD population. We suggest that the wider definition is more likely to be an appropriate denominator from which to analyse COPD outcomes when using the HES data.

P48 PALLIATIVE CARE SERVICE PROVISION FOR PATIENTS WITH COPD: MAPPING CURRENT AND PROPOSED SERVICE DEVELOPMENT AGAINST PALLIATIVE CARE GOLD STANDARDS

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Introduction and Objectives Recent national data have confirmed that palliative care service provision for patients with chronic obstructive pulmonary disease (COPD) remains variable although

Abstract P46 Table 1

Treatment change	Implemented	Not implemented
Start short-acting β_2 agonist	7	1
Stop LABA	0	1
Start ICS	1	2
Stop ICS	1	3
Start combined LABA/ICS	11	4
Stop combined LABA/ICS	1	1
Stop short-acting anticholinergic	1	0
Start long-acting anticholinergic	14	8

ICS, inhaled corticosteroid; LABA, long-acting β agonist.

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 \pm 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.

Current strategies in pulmonary rehabilitation

P51 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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Introduction Trials of self-management (SM) interventions for chronic obstructive pulmonary disease (COPD) have often had