IMPRESS

More for Less

Discussion paper to inform the implementation of the Strategy for Services for Chronic Obstructive Pulmonary Disease (COPD) in England, the Service Framework for Respiratory Health and Wellbeing in Northern Ireland, Service Development and Commissioning Directive (Chronic Respiratory Conditions) in Wales and the Clinical Standards programme (COPD) in Scotland within the context of limited resources

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IMPRESS was set up in 2007 as a joint initiative between the British Thoracic Society (BTS) and the Primary Care Respiratory Society-UK (PCRS-UK) to provide clinical leadership to the NHS to stimulate improvement and integration in respiratory services. The IMPRESS team now has representation from primary and secondary care, nursing and medicine, public health, social care, providing and commissioning and lay views. We have worked through many of the issues that local teams need to address to improve care across the system and provide practical and highly-regarded guidance through our website www.impressresp.com

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1. Introduction

Given current policy imperatives, IMPRESS asked the members of its two founding clinical societies, the British Thoracic Society (BTS), and Primary Care Respiratory Society UK (PCRS-UK) for practical examples of opportunities to improve quality and reduce cost. This paper summarises some of the findings about optimising smoking cessation, rationalising oxygen use and other prescribed medicines, supporting patient adherence, and improving use of hospital beds and specialist advice. We have included examples that we believe exemplify good practice.

2. Background

The framework used draws on the framework by Dr John Ovretveit[1] that reviews the evidence for which improvements to quality reduce costs to health service providers. He categorises opportunities to improve quality in terms of the **overuse, underuse and misuse of effective interventions**, which lead either to poor quality or adverse events. He also adds a further dimension of **under-coordination** that he claims is the most common cause of poor quality. He found a lack of evidence that quality improvements can save money but strong evidence that clinicians using proven effective treatments and patient safety practices will improve patient outcomes. However, regarding costs, he suggests lack of evidence doesn't always matter: the strength of evidence needed should be proportionate to the costs, ease of implementation and risk of harm.

He also argues that many of the examples of improvement in the literature do not give sufficient information about the costs of implementation (including training for example). He points to lack of information and publication bias in favour of successful improvement programmes. He suggests that a successful improvement requires

improvement = Evidence of effective change + supportive environment + effective implementation

Meanwhile, the Department of Health England, as part of its drive to improve quality and productivity in order to save the predicted £20 billion over three years, is exploring two dimensions of efficiency:

- **Doing things right** (as efficiently as possible, as safely as possible, as effectively as possible), also known as *technical* efficiency, and

- **Doing the right things**: the ones that add most value to the population; also known as *allocative* efficiency - and the issue for which commissioners are primarily responsible. The implication being that they should de-commission the ones that do not add sufficient value.

The DH England has also set up a number of working parties looking at, for example, generic long term conditions care, possibly favouring a population-based

[1] Dr John Ovretveit Does improving quality save money? A review of the evidence of which improvements to quality reduce costs to health service providers. Sept 2009 For Health Foundation

approach engaging health and social care, and care for older people with complex problems. We strongly support these initiatives. We believe there are substantial improvements in medicines management and care of older people, including those living in care homes, that would yield both quality and cost improvements. We regard these outside the scope of this paper.

Furthermore, we have argued in our publication, Delivering Respiratory Care closer to home by improving the way respiratory outpatient care is provided that very little routine asthma care has been or is now provided by secondary care. Within general practice it is largely provided by practice nurses. That is, there is really no further shift to a lower cost model of care possible. However, we also argue, and this has been reiterated in the consultation on the Strategy for Services for Chronic Obstructive Pulmonary Disease (COPD) in England, that quality improvements are still possible. For example, data suggest 45% of the population with asthma exhibit sub-optimal control. There is also scope to do more with effective care, self-management and parent and carer support to bring the level of asthma hospital admissions into line with those of other OECD countries[2]. Therefore the challenge is to make process improvement and patient engagement core business for the NHS.

3. How to use this document

As with much of the debate about quality and productivity, it is produced in the context of uncertain information. It is based on a mixture of experience, data, and observation. Therefore, it is best used by local groups of clinicians and managers to discuss the local potential for improvement. For example, IMPRESS argues that one of the obvious opportunities for improvement is in rationalising the use of oxygen. A number of places have made considerable reductions in the potential for patient harm by improving prescribing. Many have also made considerable cost savings. However, these will be dependent on your local oxygen tariff and will probably require some short-term investment in staffing to achieve long term saving. The success of rationalising oxygen will test the quality of local clinical co-ordination and cooperation and local teams' competence to work with patients who do not wish to change.

When discussing our ideas locally, it is worth asking these questions because they suggest different approaches will be necessary:

- Which of these actions require improved compliance with existing guidelines and/or standardising care to reduce variation?
- Which of these require system redesign? What is the rate-limiting step in achieving redesign – is it within your control to change it?
- Which are short term fixes, and which require a longer term (3-5 year) implementation timeframe?
- What do you know of the costs of making the change to the new way of working?

With these provisos in mind, here are the IMPRESS examples for local discussion *and action. They are ordered by type of action, not magnitude of impact.*

PREVENTION

4. Underuse of smoking cessation

On average, each smoker who manages to stay off tobacco for the rest of their life gains 3.6 life years. Smoking cessation is the single most cost-effective lifesaving intervention provided by the NHS. Half of all quit attempts are 'assisted quits' – they

[2] http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/@ps/@sta/@perf/documents/digitalasset/dh_109887.pdf accessed 19 May 2010

are made by people with support from NHS Stop Smoking Services or primary care, or using over-the-counter medication. However, this means that the other half are 'unassisted (cold turkey) quits', which have the lowest chance of success[3]. The average unit cost of the stop smoking service is estimated at £192 per individual.[4]

ASH calculates that smoking causes £1 billion in hospital admissions annually[5] of which COPD contributed £190 million, lung cancer £120 million and other respiratory diseases £90 million, One third of patients admitted to hospital with COPD in 2008 still smoke so there are major opportunities to offer coordinated smoking cessation.

5. **Action on smoking cessation**

Nationally – there is significant scope to improve the joined up thinking between the Tobacco Control and COPD policies. This filters through to local level too, where there is a need for more joined up thinking. Ensure you have a smoking cessation clinical champion in each acute trust – a new initiative supported by the British Thoracic Society with DH funding. There should be well-supported quit smoking initiatives committee and a good pathway that crosses disease areas (including 'stop before your op' and maternity) and works closely with primary care services and public health activities.

Ensure that collection of smoking status is part of every specialist respiratory consultation and that it is recorded in the notes. This should be the topic of regular audit. Primary care data on smoking status could be extracted to inform the local prediction of prevalence of smoking-related conditions like COPD. Consider using CQUINS for smoking cessation referral targets for those admitted to the acute sector (Glenfield Hospital, Leicester is testing this approach. Source: Ms Jane Scullion).

MEDICINES MANAGEMENT

6. Rationalising oxygen prescribing (note, IMPRESS will be producing a separate fuller guide to this, to help commissioners)

As stated in the Consultation Impact Assessment of the National Strategy[4], it is estimated 30% of patients on home oxygen therapy derive no clinical benefit from it, and 20% of people with COPD would benefit from long term oxygen therapy but do not get it. We also know from studies[6] 30% of admitted COPD patients are given high flow oxygen regardless of need and are compromised when admitted. This is unsafe and an inefficient use of oxygen. *The key message is that oxygen is not for breathlessness but for oxygen deficiency (hypoxia), but that is often not how it is used.* Therefore there are opportunities to rationalise its supply. This will require education of patients and health professionals as it is still a widely held (mis)belief that oxygen is an effective treatment for breathlessness. Currently there is no requirement to assess before prescribing. In some places there is inappropriate and costly prescribing of oxygen due to error in the use of HOOF forms, lack of knowledge, habit, or patient demand. In-hospital prescribing of oxygen also requires review across in-patient units including palliative care services[7]. At a national level we argue that the first step would be to change the regulation on oxygen prescription. Non-specialists should not be allowed to prescribe oxygen. This would remove immediately the source of most inappropriate prescriptions and require

[3] http://www.impressresp.com/ServiceDelivery/SmokingCessation.aspx
[4] Consultation on a Strategy for Services for COPD in England: Consultation Impact Assessment February 2010. DH.
[5] www.ash.org.uk/beyondsmokingkills accessed 19 May 2010
[6] National COPD Audit 2008: Report of the National Chronic Obstructive Pulmonary Disease Audit 2008: Resources and Organisation of care in Acute NHS units across the UK http://www.rcplondon.ac.uk/clinical-standards/ceeu/Current-work/ncrop/Documents/Report-of-The-National-COPD-Audit-2008-resources-and-organisation-of-care-in-acute-NHS-units-across-the-UK.pdf accessed 21 May 2010
[7] Does palliative home oxygen improve dyspnoea? A consecutive cohort study Currow et al. Palliat Med. 2009 Jun;23(4):309-16. Epub 2009 Mar 20.

GPs and non-expert hospital specialists to seek appropriate assessment including pulse oximetry prior to prescription.

We strongly recommend that the national teams involved in improving efficient procurement are consulted on the renegotiation of the oxygen supplies contract which should be based on use not days prescribed (and maybe not used).

Locally, there are a number of services that have been set up successfully to significantly improve the service and reduce the waste. These work across primary and secondary care, involve inter-disciplinary education, and assessment of new patients as well as review of existing. They all involve a specialist assessment service.

Note: there are three types of oxygen:

- **Long Term Oxygen therapy (LTOT**): provision of oxygen therapy at home on a continuous and long-term basis, ideally for at least 15 hours daily to correct chronic hypoxaemia to prevent complications and so improve survival. Usually delivered by an oxygen concentrator
- **Ambulatory Oxygen** provision of LTOT outside the home and refers to the provision of oxygen therapy during exercise and activities of daily living
- **Short Burst or *PRN* Oxygen Therapy**. The evidence is that it "Probably does not benefit the majority of patients with moderately severe COPD who exercise for more than a very short period of time.'"[8] And "Oxygen prescribed on the basis of breathlessness alone across a large population…. does ***not*** improve breathlessness for the majority of people.'[9] The guidelines on emergency oxygen state that pulse oximetry must be available in locations where (emergency) oxygen is being used.[10] Existing patients on short burst oxygen therapy for breathlessness should be offered support to stop using it.

The opportunities to improve its use are numerous:

	Cost saving	**Impact on Quality**
Overuse	Oxygen for breathlessness including palliative use - oxygen paid for by a daily tariff based on litres whether used or not	
Misuse	Oxygen for breathlessness including palliative use	
Underuse	Oximetry: assess need for long term oxygen therapy (LTOT) and identify breathlessness without hypoxaemia	LTOT is to improve survival so important to give to patients who would benefit. Also offer quit smoking support Pulmonary rehabilitation Other treatments for breathlessness
Under co-ordination	Oxygen assessment Oxygen reviews	Develop shared agendas with patients

Source: Dr Louise Restrick, Whittington Hospital

7. Models of service delivery

There are a number of options for providing assessment and review services. Some are specialist nurse led and run, others involve physiotherapists (eg

[8] Roberts CM Short burst O2 therapy for relief of breathlessness in COPD Thorax **2004**;59:638-40
[9] Currow DC, Agar M Palliative Medicine 2009:23:309-316
[10] BTS Guideline for Emergency Oxygen Use in Adult Patients 2008;63:Suppl VI

Nottinghamshire) and others, technicians.

NHS Lincolnshire Community oxygen assessment service
Review and reassessment: Specialist nurse-run service receives data monthly from oxygen supply company: includes prescription and concordance information.
Referral of new patients: Patients referred to service, assessed at home or at community clinic. If patient needs oxygen, referred to secondary care for assessment. If not, discharged, some with ongoing support. Costs of service: includes equipment and 3 WTE and HCP education.
Source: Wendy Walmsley, Respiratory Nurse Specialist, Lincolnshire PCT

CHEST service, Newcastle PCT
Two nurses were trained to review the indication for and funding of patients being treated with home oxygen and assess patients under consideration for home and ambulatory oxygen therapy. Savings were made through avoiding initiating or withdrawal of inappropriate therapy and identifying inaccuracies in the PCT database. Click here for the NHS Evidence entry.

South East Essex
As part of a system-wide move to more community-based care that integrates primary and secondary care and includes a hospital at home team, a choice of spirometry services, community-based clinics and pulmonary rehabilitation, there is also an oxygen assessment team modelled on the CHEST team. Now almost all oxygen assessments are done in the community. In the first year this resulted in a cost saving of £130,000 in oxygen[11]. Click here for more information.

Hartlepool
Its CRAMS service provides domiciliary management of exacerbations of COPD; assessment of new patients' needs for long term oxygen therapy (LTOT) and review and re-assessment of existing patients receiving LTOT. During the initial review of the register, LTOT was removed with patients' agreement from 27%; five were supported in withdrawing from oxygen. For new referrals, ten needed LTOT but in 86% it was not indicated. Full year savings were £21,850 for discontinuing LTOT. New referrals notionally saved £48,895 – a combined total of £83,876. Significant additional savings can be attributed to community management of exacerbations preventing hospital admissions.
Source – and for more detail: Ms Dorothy Wood and Dr. Niall Keaney, Hartlepool Primary Care Trust

Stockport
OASiS (oxygen assessment service in Stockport) was set up to review the register. Most patients had either never had a guideline compliant assessment, or never had a review after their initial assessment. There was a mix of initiators of the original HOOF from primary, secondary and tertiary care; there was a wide range of diagnoses and many with no diagnosis stated. The team comprises 1.5 nurses, and 0.5 admin support. Equipment was purchased with set up costs of £30,000. All 500 adult patients on oxygen therapy were given the opportunity to have an assessment and safety checks. Oxygen prescription was altered in most patients with over 200 found to have no requirement for oxygen therapy. In addition, ambulatory oxygen was provided as a new service. Savings, net of the set-up and running costs, amounted to £150,273 between April 09 – Feb 10. The monthly oxygen invoice has been reduced by £8000 - £10,000 per month. The next step in the service development plan is for OASiS to be the single portal of referral for new Oxygen prescriptions. Based on last year's numbers, the team estimates 300 new oxygen

[11] Thorax 2008;63:566 doi:10.1136/thx.2008.098913

therapy patients per year, with the same number coming off oxygen therapy each year.
Source: Dr Stephen Gaduzo, GPwSI, Stockport

NHS Somerset
The Community COPD specification for tender required providers to reduce the annual spend on the long term oxygen contract from £1.6m to the budgeted figure of £1.3m (prior to the new contract let in April 2008). It incentivised providers with a 50% share of underspend against the £1.3m budget in year 1; 25% in years 2 and 3.
Source: IMPRESS case study

8. Action

Review your oxygen register and set up a sustainable service to improve the prescribing and use of all forms of oxygen. This will need to include a rolling education programme working with primary care and palliative care and providing written information for patients because the belief that oxygen treats breathlessness is deeply held by many patients and health professionals.

Approach the BTS oxygen champion in your local acute trust who should be a helpful point of contact. One model that works well is for hospital oxygen orders to go through the acute trust oxygen lead respiratory nurse specialist so they are only done following assessment.

9. Other prescribing opportunities

The amount of variation varies by PCO. Therefore these should be discussed locally with your medicines management adviser and your formulary committees.

a. There is well-recognised widespread duplication and wastage of inhalers. Patients often have multiple versions of inhalers at home, either in duplicate or more often with variations in dose of inhaled corticosteroid, or different devices. This is the result of repeat and new prescriptions (either planned or inadvertently changed), including prescriptions on admission to hospital (rather than the patient bringing in and using what they are already using). Patients and clinicians are generally not aware of the cost of many inhalers and many prescribers do not know how to choose the most clinically and cost-effective prescription from the wide, and at times confusing, range of products available. In the absence of integrated IT systems, IMPRESS would like to see active electronic systems for medicines reconciliation at both admission and discharge. This is the subject of a separate paper by IMPRESS and requires the engagement of prescribers and pharmacy and IT departments. There are also many GP data extraction tools that enable cost-effective arms-length audit to help improve prescribing.

b. There is overuse of high dose inhaled corticosteroids and/or combination products which provides potential to reduce costs and quality.

c. There is an association (in COPD) between the use of high dose inhaled steroids and incidence of pneumonia that can be monitored locally

d. There are quality concerns if asthma patients are prescribed long acting beta agonists with no inhaled corticosteroid.

e. There is a need to review asthma patients requesting excess short acting beta agonists with no other treatments.

f. Scottish Intercollegiate Guidelines Network (SIGN)[12] recommends audit of the percentage of patients with potential adverse effects of treatment, for example, the percentage of children prescribed or using >800 micrograms/day of inhaled beclametasone who are not under the care of a specialist respiratory physician and also the percentage of patients using >800 micrograms/day of inhaled beclametasone without documented consideration of add-on therapy

g. There is no evidence to support the use of enteric coated (EC) over uncoated prednisolone tablets for patients with COPD or asthma[13]. For COPD/asthma the clinical risk is that EC prednisolone does not give as rapid a steroid dose as soluble or plain oral prednisolone and in some patients EC potentially gives a sub therapeutic dose. So COPD/asthma patients should never be prescribed EC prednisolone tablets on clinical grounds. In addition there was a six-fold price difference on Drug Tariff Jan 2010. In Somerset, (population 500,000) in 2009 primary care prescribed 38,000 items of 5mg EC prednisolone alone. If it had prescribed plain tablets to 50% of these patients they could have freed up more than £130,000.

Source: Shaun Green, Associate Director, Head of Medicines Management NHS Somerset

10. Action
Local respiratory teams across primary and secondary care should analyse the data and discuss necessary improvements with the medicines management team and formulary committees.

11. Supporting patient adherence - asthma
There is wide variability in the management of asthma and levels of control[14]. See Table 1 as an example where the study found wide variability in the management of asthma and levels of control in 5292 patients across 88 practices throughout the UK.

Criteria	**n=**	**%**	**Variation across practices %**
Patients defined as controlled. ACQ score of <0.75	2845	53.8	5.6–100
Patients identified as probably uncontrolled. ACQ score of >1	1967	37.2	1.5–92.9
Patients identified as uncontrolled. ACQ score of >1.5	1387	26.2	0–77.8
High-risk patients. >2 courses of oral steroids in past 12 months	1099	21	0–66.7

Table 1 Source: ACCT Trial by Optimum Patient Care

12. Action
The reasons for poor control are numerous and have been outlined in a recent IPCRG paper[15] and include wrong diagnosis or confounding illness, incorrect choice

[12] British Thoracic Society and Scottish Intercollegiate Guidelines Network. British Guideline on the Management of Asthma. May 2008 revised June 2009
[13] http://www.nelm.nhs.uk/en/Download/?file=MDs1MTY3MDA7L3VwbG9hZC9RQSBQcmVkIEVDIGZpbmFsLkRPQw__.DOC
[14] Clatworthy J, Price D, Ryan D *et al*. The value of self-report assessment of adherence, rhinitis and smoking in relation to asthma control. *Primary Care respiratory Journal* 2009;18(4):300-5.] as background.
[15] Haughney J *et al*. Achieving asthma control in practice: understanding the reasons for poor control. *Respiratory Medicine* 2008;102:1681-1693.DOI: 10.1016/j.rmed.2008.08.003

of inhaler or poor technique, concurrent smoking, concomitant rhinitis, unintentional or intentional non-adherence, individual variation in treatment response, and under treatment. All of these could be uncovered with a person-centred consultation.

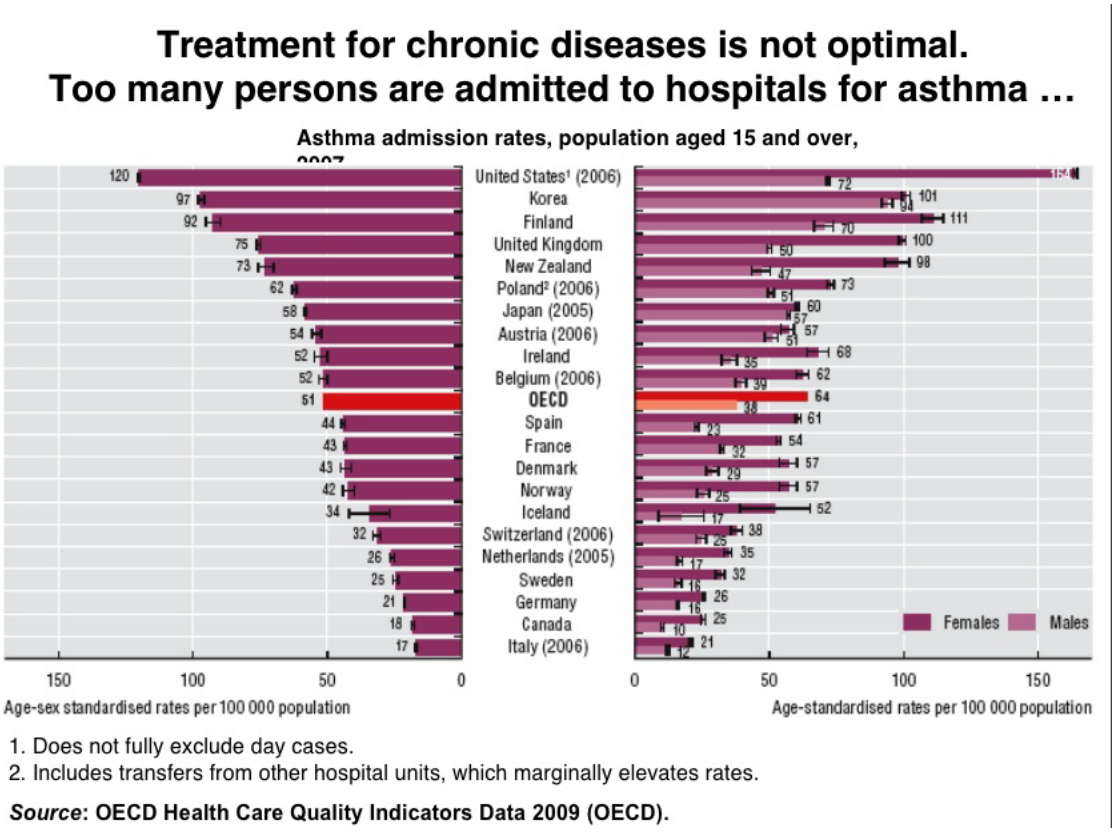
There are now services available to assist practices to undertake similar reviews of practice records using anonymised data extraction, and some which also invite patients to complete questionnaires on their control and adherence. Care should be structured to meet the needs of the different patient streams – with a particular focus on those who appear to be at high risk. A number of these analytical services are free to use, subsidised by the supplier or by a pharmaceutical company.

USE OF BEDS AND SPECIALIST ADVICE

The purpose of an admission should be to provide a sick patient with specialist assessment, treatment and care not available in the community safely. Increasingly, as the use of predictive risk tools and registers becomes more commonplace, respiratory admissions should be of two types: anticipated by the patient and professionals and necessary due to the ongoing disease process(es) and/or coping ability of the patient or, alternatively, unplanned due to uncontrolled disease. This second group should be a declining number if proper structured personalised healthcare (physical and psychological) and social support are in place in the community and systems are in place to identify those at high risk of admission and readmission. Here are some examples of overuse of hospital beds, and underuse of specialist care that could be analysed locally.

BEDS

13. Over-use of hospital beds for asthma leading to cost and quality problems
From Good to Great[2] highlights the excess bed use by people with asthma in the UK compared to other OECD countries.



1. Does not fully exclude day cases.
2. Includes transfers from other hospital units, which marginally elevates rates.

***Source*: OECD Health Care Quality Indicators Data 2009 (OECD).**

According to Asthma UK, children living in Liverpool have an eight times higher chance of an emergency hospital admission for asthma than those living in Richmond and Twickenham.[16] In 2006-07, people in North-West England with asthma were 76% more likely to be admitted to hospital than people in the East of England.

14. Action
Local analysis of data by the respiratory network is necessary to identify what the problems are.

There is evidence that proximity to an acute hospital increases admissions, therefore the health sector needs to offer parents and carers (and patients themselves) effective alternative options for when they are scared by breathlessness. This will require both a community education programme, personal care planning if they are already diagnosed, and service options such as phone lines 24/7 and community-based urgent care services. In addition, predictive risk models ought to be able to pick up those at high risk of admission – see item 10 above

15. Over-use of hospital beds for COPD
Length of stay (LOS) in COPD is related to performance status and albumin, age, SaO_2 and respiratory rate. LOS is reduced in respiratory units with more respiratory consultants, better organisation of care "scores", early discharge scheme and local COPD guidelines (2003 audit[17]). The Whittington Hospital now uses about 1,000 fewer bed days a year than pre-intervention by offering multi-disciplinary outreach support at home to those patients with severe COPD and repeated long admissions assessed by the team and whose treatment is optimised by the respiratory team (approx 9 bed days pa per patient). One of four named key workers (two physiotherapists and two nurse specialists) supports the patient who remains under the GP with support from a named respiratory consultant. Webcast here

16. Positive outcomes for pulmonary rehabilitation
Referral to and timely availability of pulmonary rehabilitation has now been shown to, reduce the three month readmission rate in COPD from 33% to 7%[18]. To date this is the only intervention that has been shown to alter the very high 3 month readmission rate seen in COPD. In the National COPD Audit 30% of PCOs were not offering community based pulmonary rehabilitation at all, and we know that not all the existing schemes offer sufficient programmes of the right quality. There are many resources to help you set up high quality pulmonary rehabilitation.

17. Action
Local respiratory teams should analyse their bed usage and COPD audit data from 2008. If they identify overuse of acute beds, they should examine their capacity for immediate pulmonary rehabilitation and make a business case for developments such as those described here.

SPECIALISTS – RESPIRATORY TEAMS

18. Underuse of specialist inpatient care
Despite the findings of the 2003 audit showing the impact of specialist care on length of stay NCROP (National process and outcomes in COPD audit) 2009 gives data on

[16] Asthma UK, 2009.
[17] Price LC et al. UK National COPD Audit 2003: impact of hospital resources and organisation of care on patient outcome following admission for acute COPD exacerbation. Thorax 2006;61:837-842 doi:10.1136/thx.2005.049940
[18] Seymour et al Thorax 2010;65:423-435

percentages of patients not seen by a specialist nurse or doctor during their admission. For example, the data in Table 2 for South Central SHA shows 29% were not seen by respiratory nurse or respiratory physician during their admission.

Admitting physician	**Discharging physician**
Respiratory physician 24%	Respiratory physician 44%
General Physician 60%	General Physician 39%
Care of Elderly 8%	Care of Elderly 8%
Other 8%	Other 9%

Table 2

19. Action

This can be improved by a range of initiatives that should be discussed locally so that patients are either under the care of a respiratory team or there is a system to ensure all patients who need it have respiratory input into their care. These include dedicated respiratory wards with capacity to match number of patients with primary respiratory presentation, specialty triage in A&E, admissions units and flags for known patients, integrated respiratory clinicians working across primary and secondary care, local guidelines and audit of delivery to national standards. The balance between respiratory workforce and patient numbers, streams and needs should be reviewed. There may be changes needed in the numbers, patterns of work and competences of the respiratory workforce in acute trusts to meet the needs of patients admitted acutely, of whom 25% at least have a respiratory presentation. In addition, there are training and protocol issues to ensure that patients with other comorbidities cared for by respiratory teams also receive high quality care for their other conditions.

SPECIALISTS – PSYCHOLOGICAL THERAPIES

20. Management of anxiety and depression

There are wide-ranging estimates about the importance of actively treating the mental health problems of patients with COPD or asthma. For example, the Breathlessness Clinic at Hillingdon Hospital (click here to access the NHS Evidence entry) has used CBT based interventions to significantly reduce health care utilisation, including accident and emergency attendance, bed usage, and pharmacy costs, with improvements in depression and anxiety: for each £1 invested, £3 was saved.

21. Completion of pulmonary rehabilitation programmes

Many commissioners are responding to guidelines and the imminent Strategy by expanding or creating pulmonary rehabilitation programmes. Whilst this is good, these do need to meet certain standards such as the IMPRESS standards. In addition, many patients – as many as 50% around the country - do not complete programmes. Those patients who do not complete are typically associated with high anxiety and depression scores *and* significantly higher number of admissions in that year. They are readily identifiable and could be supported with psychological therapy that is becoming more available in primary care, but not necessarily targeted at people with COPD - for example, the improving access to psychological therapies programme (IAPT). The Whittington Hospital showed completion rates increased from 50% to 92% by involving a psychologist, leading to a significant decrease in admissions and bed days in the subsequent year.[19]

[19] Stern M, Abell F, Potter C, Purcell S, Broomfield H, Griffin M, Restrick LJ, Erskine E The effect of including psychological intervention in pulmonary rehabilitation (PR) on completion rates and hospital

22. Action
Unless this work is already done as part of a predictive risk analysis or other local assessment, review any data about psychological morbidity associated with your local population with long term conditions and the subset who have respiratory problems, Review as a team their needs for psychological input and the local options available. Agree to use a standardised validated assessment tool eg Hospital Anxiety and Depression Score (HADS[20]) or the Patient Health Questionnaire (PHQ)[21] across primary and secondary care. Build in ways to address common problems for patients such as transport and parking. Consider ways to maximise capacity on programmes by offering rolling programmes.

SPECIALISTS – OUTPATIENTS – overuse of appointments that could be reduced

23. **Overuse of Outpatients for common conditions**
There is still significant scope to reduce the number of outpatient appointments sometimes through substitution with a cheaper alternative that provides equivalent or possibly enhanced quality of care (in terms of access and continuity) but also through streamlining processes. The NHS Opportunity Locator Outpatient First Attendance indicator (see figure 2 below) [22]outlines the shift potential that could be realised if first attendances were reduced in line with the 10th percentile of PCTs. It estimates just over £11m could be saved in respiratory care by shifting first outpatient attendances to the community for ambulatory care sensitive conditions in respiratory medicine (asthma, COPD and pneumonia) (quarter 2 data 2009/2010 All SHAs, all PCTs). This represents 45,800 attendances out of a total of nearly 80,000. The equivalent figures for follow-up appointments are: £9.8m; or over 67,000 attendances.

Outpatients for Lung Cancer, Bronchiectasis, Interstitial lung disease
Ninewells Hospital. Dundee, as well as a number of other hospitals, have reduced outpatient journeys by one clinic visit per patient through pre-booking CT scans. This required cooperation with the radiologists. The scan is booked on review of the referral letter. The consultant sees the patient after the scan has been reported. Also, for lung cancer, if the radiologist suspects lung cancer from the GP-referred chest X-ray s/he books a staging scan and specialist out-patient appointment on behalf of the patient and notifies their GP.
Source: Dr Tony France, Consultant Physician, Ninewells Hospital, Dundee

Outpatients for solitary pulmonary nodules
Nodules picked up as either incidental findings, or in the course of investigation for potential lung cancer, are now followed up in the weekly Solitary Pulmonary Nodule (SPN) "Virtual Clinic". The radiologist refers patient with SPN to the virtual clinic. There the consultant reviews the imaging, and sends a standardised letter to the patient copied to their GP informing them that they have a SPN, and offering a follow up plan. The letter includes a realistic evaluation of the likelihood of malignancy. The letter explains that the patient can attend the clinic to see the consultant if they wish,

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resource utilisation in chronic obstructive pulmonary disease (COPD) chronic respiratory disease 2010 (Submitted for publication).
[20] Zigmond AS, Snaith RP; The hospital anxiety and depression scale. Acta Psychiatr Scand. 1983 Jun;67(6):361-70
[21] http://www.mapi-trust.org/services/questionnairelicensing/cataloguequestionnaires/129-phq
[22]
http://www.institute.nhs.uk/opportunitylocator/savings.aspx?sha=ALLSHA&pct=ALLPCT&percentile=10&chartBy=Finance&period=2009/10%20Q2&ageGroup=

or they can fill in a questionnaire and be followed up virtually. The GP is also told to refer early if s/he spots any warning signs. This saves patient and specialist time. It requires cooperation with the radiologists. Eight patients can be seen in less than two hours, including all administration; patients are saved up to 5 clinic visits to be told everything is stable. At Ninewells, 90% patients are happy to be followed up virtually and the service has a robust database for call, recall and audit.
Source: Dr Tom Fardon, Consultant Physician, Ninewells Hospital, Dundee

24. Action

Use a tool such as the Opportunity Locator to review the potential for shift. Use the examples here as a way of stimulating discussion about pathway improvement. Refer to the work of the Lung Improvement team to learn about improvement methodologies. Refer to the IMPRESS guide Delivering Respiratory Care closer to home by improving the way respiratory outpatient care is provided for options.

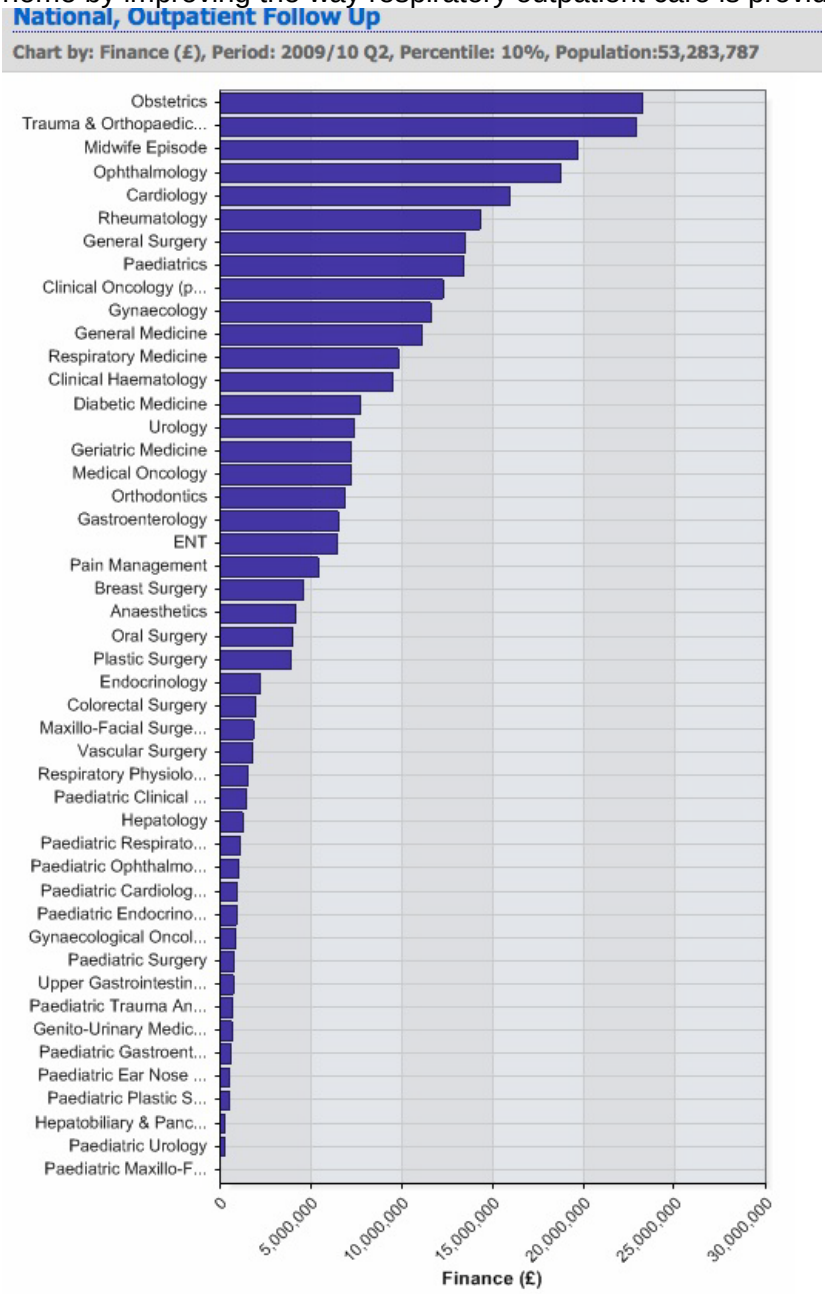


Figure 2 Source: NHS Institute Opportunity Locator

25. Under-coordination with social care

There is not yet as standard, a system whereby healthcare and social professionals are geared to working together as a support framework for patients with COPD and asthma to self manage. This would require joint formularies (including medications for comorbidities), joint approaches to personalising care through the agreement of action plans and information prescriptions, and joint approaches to sharing information about changes to a patient's needs or history through a shared register. Some organisations have put parts in place eg in Torbay there is a shared community and social care patient record; NHS Hampshire is expanding its model of a shared diabetes care record to COPD; and in NHS Lambeth and Southwark there is a web-based COPD register. A number of local authorities are piloting work on Total Place and there are two integrated care pilots for COPD in Northumbria and Nottingham, but none has yet reported its findings. East of England SHA is amongst a number of organisations piloting electronic records to support personalising care initiatives. We welcome the pilots, because electronic patient records and shared records systems do need careful consideration to ensure issues are tested such as avoidance of duplication of data entry in more than one set of notes, data retrieval, confidentiality, access to data on co-existing morbidities that might use different systems, and training.

26. Action

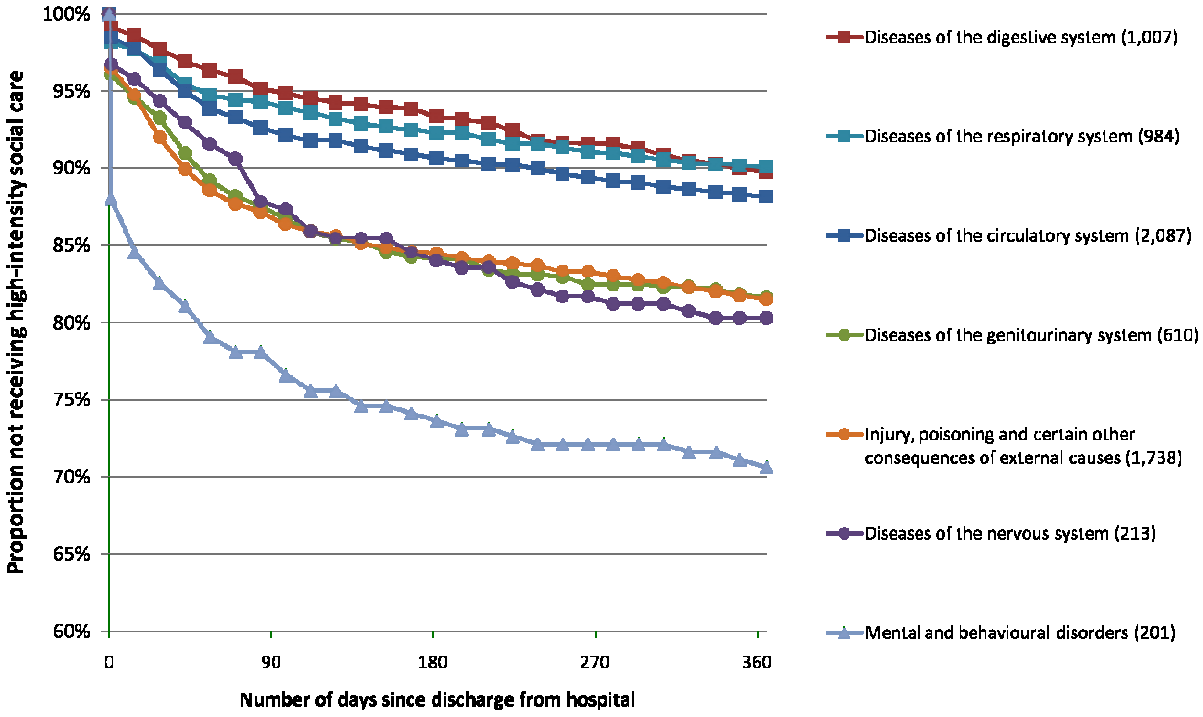
To improve patient safety the standard NHS contract for 2010 requires all acute trusts to conform to a new standard of discharge information: that it should be sent out with the patient and a copy should be received by the GP within 24 hours. Medicines reconciliation should occur for all patients on admission, as guided by NICE[23] and the National Patient Safety[24] alert. IMPRESS argues that this would improve care and that a similar standard on admission should also be set – as long as the information is received by each organisation in a readily accessible format that meets their needs as busy clinicians. We also suggest that primary care should have a process to prioritise the patients who should have a medication review such as COPD/asthma patients post discharge or following a change in medication in another clinic.

IMPRESS is producing a guide to health and social care interface that will provide a more detailed picture of the opportunities to improve care, and to understand the systems. [Go here to sign up for RSS feed to be alerted when it is available]. The Nuffield Trust's analysis about people known to the system shows the potential for improved coordination of information.

[23] http://guidance.nice.org.uk/PSG001

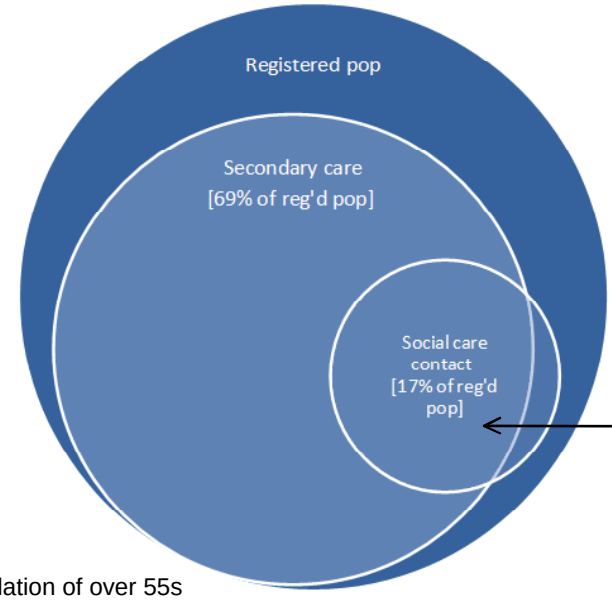
[24] http://www.npci.org.uk/medicines_management/safety/reconcil/library/library_good_practice_guide1.php

Social care use for people aged 75+ following an emergency hospital admission, by diagnosis on admission



Source: Martin Bardsley, Nuffield Trust

Horizontal Data linkage



90% of those with a social care contact have also had secondary care contact(s) in the last three years

Population of over 55s registered in one PCT

Source: Martin Bardsley, Nuffield Trust

Mergers of services may improve communication, and vertical integration may overcome some of the important barriers to improved working due to limitations in codes and tariffs for community based care. However, things will only improve if teams in the different organisations work differently and to agreed and shared protocols and standards in an integrated and innovative way.

Example of **vertical integration to improve coordination eg Derbyshire**
Whilst we do not advocate any particular type of integration, we are aware that by default, many community organisations will be merging with their acute trusts. An example of planned vertical integration between a hospital and community respiratory nursing team is Derbyshire. Here the teams are working to one new service specification including expanded pulmonary rehabilitation, improved education for clinicians and patients, extended hours and expanded early supported discharge team.
Source: Christine Urquhart, Service Improvement NHS Derby City PCT

27. Conclusion
If national respiratory strategies are to be implemented within existing resources, then it is the responsibility of all those delivering care now to find the best ways to do this. There are many opportunities to improve both the quality and productivity of the care provided by respiratory teams through closer analysis of the data, and shared solutions across primary and secondary care. This paper offers some ideas, showing how significant improvements can be made relatively simply and would hope these might be considered for local adaptation and implementation. We support the establishment or further development or local respiratory networks/communities of practice that involve all local stakeholders and build strong working relationships. We advise them to consider drawing up a programme of phased change starting with what they think will be easily achievable.

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