Volume 4
Issue 3
WINTER 2017

Primary Care Respiratory **UPDATE**




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HIGHLIGHTS …

Supported self-management for respiratory conditions

Making exercise work for breathless people work

Conference feedback

PCRS-UK Best Practice abstracts

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What is Quality Assured Diagnostic Spirometry?

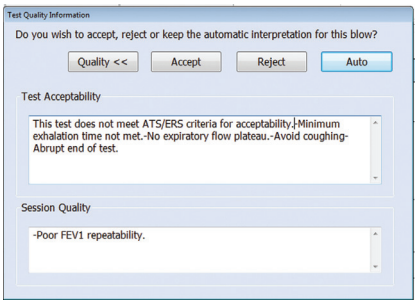
Spirometry is a key pulmonary function test used to evaluate respiratory health. Results from spirometry tests give objective measures of lung function to support the assessment, diagnosis and management of asthma, COPD, cystic fibrosis and other respiratory and systemic diseases.

The 'Quality Assured Spirometry' competency assessment framework has been created by a collaboration of the ARTP, Education for Health, ARNS, Asthma UK, the BLF, the BTS and PCRS-UK in direct response to the recommendations of the All Parliamentary Group (APPG) Report on Premature Mortality from Respiratory Disease (2014). Recommendations include the need for quality training and a common training curriculum, the assessment of healthcare professionals against defined standards and the creation of a national register of those certified to perform spirometry testing. The framework will be phased in from 1st April 2017 and fully implemented by 31st March 2021.

The Importance of Spirometry Quality Assurance

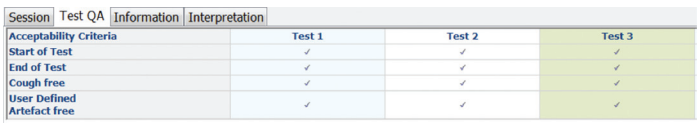
Spirometry quality can be compromised by a wide range of factors, including incorrect testing procedures, inaccurate equipment or the misinterpretation of results. Technically flawed tests often lead to inaccurate interpretations, falsely labelling normal subjects as 'impaired' or impaired subjects as 'normal.' Such flawed test results may convey erroneous information which could be harmful to patients. It is, therefore, very important that practitioners who conduct tests or interpret the results are aware of potential technical pitfalls and current spirometry testing recommendations.

Vitalograph Hardware & Software Aligns With Framework Objectives



As a provider of market leading respiratory test solutions for over 50 years, Vitalograph welcome the framework as a major step in supporting accurate diagnosis through high quality spirometry.

Vitalograph Spirotrac® Software is a sophisticated, easy to use platform built around giving users clear feedback on test quality. Each trial is automatically evaluated against international start and end of test criteria, as well as repeatability criteria. On screen quality assurance messages prompt the user in how to identify submaximal efforts and encourage optimum patient participation.



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- Linear and accurate even at very low flows
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- Fulfilment of all ATS/ERS:2005 guidelines

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Confidence in the accuracy of spirometry and data interpretation is predicated on confidence in your hardware and software quality assurance feedback. Spirotrac includes accuracy checks (as per international and national spirometry guidelines), clear traces, comparative normal reference values including GLI, data trending and traceability of all test data and events.

In order to maintain the skills and knowledge to obtain grade A results every time it is essential to choose the best hardware for accurate, precise readings and software that helps with pattern recognition and pinpoints poor or erroneous tests that may lead to incorrect diagnoses.

For more information please contact sales@vitalograph.co.uk or call (01280) 827110

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See http://www.pcrs-uk.org/sites/pcrs-uk.org/files/files/PI_funding.pdf for PCRS-UK statement on pharmaceutical funding.

Prescribing Fostair® NEXThaler in adult asthma

FOSTAIR®
Beclometasone + formoterol
Extrafine formulation
100/6 & 200/6

Fostair 100/6 and 200/6 Prescribing Information
Please refer to the full Summary of Product Characteristics before prescribing. **Presentation:** Each Fostair pressurised metered dose inhaler (pMDI) 100/6 dose contains 100 micrograms (mcg) of beclometasone dipropionate (BDP) and 6mcg of formoterol fumarate dihydrate (formoterol). Each Fostair pMDI 200/6 dose contains 200mcg of BDP and 6mcg of formoterol. Each Fostair NEXThaler 100/6 dry powder inhaler (DPI) dose contains 100mcg of BDP anhydrous and 6mcg of formoterol. Each Fostair NEXThaler 200/6 DPI dose contains 200mcg of BDP anhydrous and 6mcg of formoterol. **Indications:** *Asthma*: Regular treatment of asthma where use of an inhaled corticosteroid/long-acting $beta_2$-agonist (ICS/LABA) combination is appropriate: patients not adequately controlled on ICS and 'as needed' (prn) short-acting $beta_2$-agonist, or patients already adequately controlled on both ICS and LABA. ***COPD* (Fostair 100/6 only):** Symptomatic treatment of patients with severe COPD (FEV_1 <50% predicted normal) and a history of repeated exacerbations, who have significant symptoms despite regular therapy with long-acting bronchodilators. **Dosage and administration:** For inhalation in adult patients (≥18 years). *Asthma*: **Maintenance And Reliever Therapy (Fostair pMDI 100/6 only)** taken as a regular maintenance treatment and prn in response to asthma symptoms: 1 inhalation twice daily (bd) plus 1 additional inhalation prn in response to symptoms. If symptoms persist after a few minutes, an additional inhalation is recommended. The maximum daily dose is 8 inhalations. Fostair pMDI 100/6 may also be used as maintenance therapy (with a separate short-acting bronchodilator prn). Fostair pMDI 200/6 and NEXThaler (100/6 and 200/6) should be used as maintenance therapy only. Maintenance therapy: Fostair pMDI and NEXThaler 100/6: 1–2 inhalations bd. Fostair pMDI and NEXThaler 200/6: 2 inhalations bd. The maximum daily dose is 4 inhalations. Patients should receive the lowest dose that effectively controls their symptoms. ***COPD* (Fostair 100/6 only):** 2 inhalations bd. Fostair pMDI can be used with the AeroChamber Plus® spacer device. BDP in Fostair is characterised by an extrafine particle size distribution which results in a more potent effect than formulations of BDP with a non-extrafine particle size distribution (100mcg of BDP extrafine in Fostair are equivalent to 250mcg of BDP in a non-extrafine formulation). When switching patients from previous treatments, it should be considered that the recommended total daily dose of BDP for Fostair is lower than that for non-extrafine BDP containing products and should be adjusted to the needs of the individual patient. However, patients who are transferred between Fostair NEXThaler and Fostair pMDI do not need dose adjustment. **Contraindications:** Hypersensitivity to the active substances or to any of the excipients. **Warnings and precautions:** Use with caution in patients with cardiac arrhythmias, aortic stenosis, hypertrophic obstructive cardiomyopathy, ischemic heart disease, severe heart failure, congestive heart failure, occlusive vascular diseases, arterial hypertension, severe arterial hypertension, aneurysm, thyrotoxicosis, diabetes mellitus, phaeochromocytoma and untreated hypokalaemia. Caution should also be used when treating patients with known or suspected prolongation of the QTc interval (QTc > 0.44 seconds). Formoterol itself may induce QTc prolongation. Potentially serious hypokalaemia may result from $beta_2$-agonist therapy and may also be potentiated by concomitant treatments (e.g. xanthine derivatives, steroids and diuretics) and increase the risk of arrhythmias. Formoterol may cause a rise in blood glucose levels. Fostair should not be administered for at least 12 hours before the start of anaesthesia, if halogenated anaesthetics are planned as risk of arrhythmias. Use with caution in patients with pulmonary tuberculosis or fungal/viral airway infections. Increase in pneumonia and pneumonia hospitalisation in COPD patients receiving ICS. Clinical features of pneumonia may overlap with symptoms of COPD exacerbations. Fostair treatment should not be stopped abruptly. Treatment should not be initiated during exacerbations or acutely deteriorating asthma. Fostair treatment should be discontinued immediately if the patient experiences a paradoxical bronchospasm. Fostair not intended for initial management of asthma. Systemic effects of ICS may occur, particularly at high doses for long periods, but are less likely than with oral steroids. These include Cushing's syndrome, Cushingoid features, adrenal suppression, decrease in bone mineral density, cataract and glaucoma and more rarely, a range of psychological or behavioural effects including psychomotor hyperactivity, sleep disorders, anxiety, depression and aggression. Prolonged treatment with high doses of ICS may result in adrenal suppression and acute adrenal crisis. Lactose contains small amounts of milk proteins, which may cause allergic reactions. **Interactions:** Possibility of systemic effects with concomitant use of strong CYP3A inhibitors (e.g. ritonavir, cobicistat) cannot be excluded and therefore caution and appropriate monitoring is advised. Beta-blockers should be avoided in asthma patients. Concomitant administration of other beta-adrenergic drugs may have potentially additive effects. Concomitant treatment with quinidine, disopyramide, procainamide, phenothiazines, antihistamines, monoamine oxidase inhibitors (MAOIs) and tricyclic antidepressants can prolong the QTc interval and increase the risk of ventricular arrhythmias. L-dopa, L-thyroxine, oxytocin and alcohol can impair cardiac tolerance towards $beta_2$-sympathomimetics. Hypertensive reactions may occur following co-administration with MAOIs including agents with similar properties (e.g. furazolidone, procarbazine). Concomitant treatment with xanthine derivatives, steroids or diuretics may potentiate a possible hypokalaemic effect of $beta_2$-agonists. Hypokalaemia may increase the likelihood of arrhythmias in patients receiving digitalis glycosides. Presence of ethanol may cause potential interaction in sensitive patients taking metronidazole or disulfram. **Fertility, pregnancy and lactation:** Fostair should only be used during pregnancy or lactation if the expected benefits outweigh the potential risks. **Effects on driving and operating machinery:** Fostair is unlikely to have any effect on the ability to drive and use machines. **Side effects:** *Common*: pneumonia (in COPD patients), pharyngitis, oral candidiasis, headache, dysphonia, tremor. *Uncommon*: influenza, oral fungal infection, oropharyngeal candidiasis, nasopharyngitis, oesophageal candidiasis, vulvovaginal candidiasis, gastroenteritis, sinusitis, rhinitis, granulocytopenia, allergic dermatitis, hypokalaemia, hyperglycaemia, hypertriglyceridaemia, restlessness, dizziness, otosalpingitis, palpitations, prolongation of QTc interval, ECG change, tachycardia, tachyarrhythmia, atrial fibrillation, sinus bradycardia, angina pectoris, myocardial ischaemia, blood pressure increased, hyperaemia, flushing, cough, productive cough, throat irritation, asthmatic crisis, exacerbation of asthma, dyspnoea, pharyngeal erythema, diarrhoea, dry mouth, dyspepsia, dysphagia, burning sensation of the lips, nausea, dysgeusia, pruritus, rash, hyperhidrosis, urticaria, muscle spasms, myalgia, C-reactive protein increased, platelet count increased, free fatty acids increased, blood insulin increased, blood ketone body increased, blood cortisol decrease, oropharyngeal pain, fatigue, irritability, cortisol free urine decreased, blood potassium increased, blood glucose increased, ECG poor r-wave progression. *Rare*: ventricular extrasystoles, paradoxical bronchospasm, angioedema, nephritis, blood pressure decreased. *Very rare*: thrombocytopenia, hypersensitivity reactions, including erythema, lips, face, eyes and pharyngeal oedema, adrenal suppression, glaucoma, cataract, peripheral oedema, bone density decreased. *Unknown frequency*: psychomotor hyperactivity, sleep disorders, anxiety, depression, aggression, behavioural changes (Refer to SPC for full list of side effects). **Legal category:** POM **Packs and price:** £29.32 1x120 actuations **Marketing authorisation (MA) Nos:** PL 08829/0156, PL 08829/0175, PL 08829/0173, PL 08829/0174 **MA holder:** Chiesi Ltd, 333 Styal Road, Manchester, M22 5LG. **Date of preparation:** Mar 2017. Aerochamber Plus® is a registered trademark of Trudell Medical International.

Adverse events should be reported. Reporting forms and information can be found at www.mhra.gov.uk/yellowcard. Adverse events should also be reported to Chiesi Ltd on 0800 0092329 (GB) 1800 817459 (IE).

CHFTB20170494. Jun 17.

CONTENTS

Primary Care Respiratory **UPDATE**




SPECIAL FEATURES

REGULAR FEATURES

HOW DO YOU HELP EMPOWER SMOKERS TO QUIT?

Combination therapy is more effective in helping smokers to quit, compared with a single NRT.[1]

Prescribe or recommend NICORETTE® dual support[1]

Combination NRT vs Single NRT odds ratio 1.43 (95%CI 1.08 to 1.91)

1. Cahill K et al. Pharmacological interventions for smoking cessation: an overview and network meta-analysis. Cochrane Database of Systematic Reviews 2013, Issue 5.

nicorette® nicotine

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Nicorette Invisi Patch Prescribing Information: Presentation: Transdermal delivery system available in 3 sizes (22.5, 13.5 and 9cm^2) releasing 25mg, 15mg and 10mg of nicotine respectively over 16 hours. **Uses:** Nicorette Invisi Patch relieves and/or prevents craving and nicotine withdrawal symptoms associated with tobacco dependence. It is indicated to aid smokers wishing to quit or reduce prior to quitting, to assist smokers who are unwilling or unable to smoke, and as a safer alternative to smoking for smokers and those around them. Nicorette Invisi Patch is indicated in pregnant and lactating women making a quit attempt. If possible, Nicorette Invisi Patch should be used in conjunction with a behavioural support programme. **Dosage:** It is intended that the patch is worn through the waking hours (approximately 16 hours) being applied on waking and removed at bedtime. ***Smoking Cessation: Adults (over 18 years of age):*** For best results, most smokers are recommended to start on 25 mg / 16 hours patch (Step 1) and use one patch daily for 8 weeks. Gradual weaning from the patch should then be initiated. One 15 mg/16 hours patch (Step 2) should be used daily for 2 weeks followed by one 10 mg/16 hours patch (Step 3) daily for 2 weeks. Lighter smokers (i.e. those who smoke less than 10 cigarettes per day) are recommended to start at Step 2 (15 mg) for 8 weeks and decrease the dose to 10 mg for the final 4 weeks. Those who experience excessive side effects with the 25 mg patch (Step 1), which do not resolve within a few days, should change to a 15 mg patch (Step 2). This should be continued for the remainder of the 8 week course, before stepping down to the 10 mg patch (Step 3) for 4 weeks. If symptoms persist the advice of a healthcare professional should be sought. ***Adolescents (12 to 18 years):*** Dose and method of use are as for adults however, recommended treatment duration is 12 weeks. If longer treatment is required, advice from a healthcare professional should be sought. ***Smoking Reduction/Pre-Quit:*** Smokers are recommended to use the patch to prolong smoke-free intervals and with the intention to reduce smoking as much as possible. Starting dose should follow the smoking cessation instructions above i.e. 25mg (Step 1) is suitable for those who smoke 10 or more cigarettes per day and for lighter smokers are recommended to start at Step 2 (15 mg). Smokers starting on 25mg patch should transfer to 15mg patch as soon as cigarette consumption reduces to less than 10 cigarettes per day. A quit attempt should be made as soon as the smoker feels ready. When making a quit attempt smokers who have reduced to less than 10 cigarettes per day are recommended to continue at Step 2 (15 mg) for 8 weeks and decrease the dose to 10 mg (Step 3) for the final 4 weeks. ***Temporary Abstinence:*** Use a Nicorette Invisi Patch in those situations when you can't or do not want to smoke for prolonged periods (greater than 16 hours). For shorter periods then an alternative intermittent dose form would be more suitable (e.g. Nicorette inhalator or gum). Smokers of 10 or more cigarettes per day are recommended to use 25mg patch and lighter smokers are recommended to use 15mg patch. **Contraindications:** Hypersensitivity. **Precautions:** Underlying cardiovascular disease, diabetes mellitus, renal or hepatic impairment, phaeochromocytoma or uncontrolled hyperthyroidism, generalised dermatological disorders, gastrointestinal disease. Angioedema and urticaria have been reported. Erythema may occur. If severe or persistent, discontinue treatment. Stopping smoking may alter the metabolism of certain drugs. Transferred dependence is rare and less harmful and easier to break than smoking dependence. May enhance the haemodynamic effects of, and pain response, to adenosine. Keep out of reach and sight of children and dispose of with care. Should be removed prior to undergoing MRI procedures. **Pregnancy and lactation:** Smoking cessation during pregnancy should be achieved without NRT. However, for women unable to quit on their own, NRT may be recommended to assist a quit attempt after consulting a healthcare professional. **Side effects:** ***Very common:*** pruritus. ***Common:*** headache, dizziness, nausea, rash, urticaria, vomiting. ***Uncommon:*** hypersensitivity, palpitations, paraesthesia, tachycardia, flushing, hypertension, hyperhidrosis, myalgia, application site reactions, asthenia, chest discomfort and pain, malaise, fatigue, dyspnoea. ***Rare:*** Anaphylactic reaction, GI discomfort, angioedema, erythema, pain in extremity. ***Very rare:*** reversible atrial fibrillation. **NHS Cost:** 25mg packs of 7: £11.15, 25mg packs of 14: £18.28, 15mg packs of 7: £11.10, 10mg packs of 7: £10.99. **Legal category:** GSL. **PL holder:** McNeil Products L.td, Roxborough Way, Maidenhead, Berkshire, SL6 3UG. **PL numbers:** 15513/0161; 15513/0160; 15513/0159. **Date of preparation:** May 2016.

Nicorette QuickMist Prescribing Information: Presentation: Oromucosal spray. Each 0.07 ml contains 1mg nicotine, corresponding to 1mg nicotine/spray dose. **Uses:** relieves and/or prevents craving and nicotine withdrawal symptoms associated with tobacco dependence. It is indicated to aid smokers wishing to quit or reduce prior to quitting, to assist smokers who are unwilling or unable to smoke, and as a safer alternative to smoking for smokers and those around them. It is indicated in pregnant and lactating women making a quit attempt. **Dosage:** ***Adults and Children over 12 years of age:*** The patient should make every effort to stop smoking completely during treatment with Nicorette QuickMist. One or two sprays to be used when cigarettes normally would have been smoked or if cravings emerge. If after the first spray cravings are not controlled within a few minutes, a second spray should be used. If 2 sprays are required, future doses may be delivered as 2 consecutive sprays. Most smokers will require 1-2 sprays every 30 minutes to 1 hour. Up to 4 sprays per hour may be used; not exceeding 2 sprays per dosing episode and 64 sprays in any 24-hour period. Nicorette QuickMist should be used whenever the urge to smoke is felt or to prevent cravings in situations where these are likely to occur. Smokers willing or able to stop smoking immediately should initially replace all their cigarettes with the Nicorette QuickMist and as soon as they are able, reduce the number of sprays used until they have stopped completely. When making a quit attempt behavioural therapy, advice and support will normally improve the success rate. Smokers aiming to reduce cigarettes should use the Mouthspray, as needed, between smoking episodes to prolong smoke-free intervals and with the intention to reduce smoking as much as possible. **Contraindications:** Children under 12 years of age and hypersensitivity to any of the ingredients. **Precautions:** Underlying cardiovascular disease, diabetes mellitus, G.I disease, uncontrolled hyperthyroidism, phaeochromocytoma, hepatic or renal impairment. Stopping smoking may alter the metabolism of certain drugs. Transferred dependence is rare and both less harmful and easier to break than smoking dependence. May enhance the haemodynamic effects of, and pain response to, adenosine. Keep out of reach and sight of children and dispose of with care. Care should be taken not to spray the eyes whilst administering the spray. **Pregnancy & lactation:** Smoking cessation during pregnancy should be achieved without NRT. However, if the mother cannot (or is considered unlikely to) quit without pharmacological support, NRT may be used after consulting a healthcare professional. **Side effects:** ***Very common:*** headache, cough, throat irritation, nausea, hiccups. ***Common:*** toothache, hypersensitivity, burning sensation, dizziness, dysgeusia, paraesthesia, abdominal pain, diarrhoea, dry mouth, flatulence, salivary hypersecretion, stomatitis, vomiting, dyspepsia, fatigue. ***Uncommon:*** abnormal dreams, palpitations, tachycardia, flushing, hypertension, bronchospasm, dysphonia, dyspnoea, nasal congestion, sneezing, throat tightness, eructation, glossitis, oral mucosal blistering and exfoliation, paraesthesia oral, dry skin, urticaria, angioedema, hyperhidrosis, pruritus, rash, erythema, pain in jaw, asthenia, chest discomfort and pain, malaise, oropharyngeal pain, rhinorrhea, gingivitis, musculoskeletal pain, hyperhidrosis. ***Rare:*** dysphagia, hypoaesthesia oral, retching. ***Not known:*** atrial fibrillation, anaphylactic reaction, blurred vision, lacrimation increased, dry throat, GI discomfort, lip pain, muscle tightness, angioedema, erythema. **NHS Price:** 1 dispenser pack £13.03, 2 dispenser pack £20.58. **Legal category:** GSL. **PL holder:** McNeil Products Ltd, Roxborough Way, Maidenhead, Berkshire, SL6 3UG. **PL number:** 15513/0357. **Date of preparation:** June 2016.

Adverse events should be reported. Reporting forms and information can be found at www.mhra.gov.uk/yellowcard. Adverse events should also be reported to McNeil Products Limited on 01344 864 042.

Date of Preparation: April 2017

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Guest Editor's Round-Up

Carol Stonham, *Vice chair, PCRS-UK*

In this issue we explore what makes up the many components of supported self-management for people with long term respiratory conditions. We consider our role as healthcare professionals in supporting self-management and the changes in thinking we need to make to collaborate with patients to be able to offer holistic, person-focused care within the often overwhelming confines of our healthcare system.

Noel Baxter, PCRS-UK Executive Chair, sets the scene having had his beliefs challenged by Stephanie Taylor (co-author of our feature article on supported self-management) where supported self-management is described as a process not an event, and as a shared activity which is the responsibility of all involved.

There is the opportunity to consider how supported self-management feels from different perspectives as we have the health care discussion of a case vignette, reflections from the Lay Reference Group and a personal account of the impact of an episode of acute asthma. Is technology the answer? Or patient support groups?

Journal Watch has a variety of interesting papers. My choice, following this issue's theme, is *Children's, parents' and health professionals' views on the management of childhood asthma: a qualitative study* which looks at the importance of parents and childrens' understanding the importance and inter-relationship of symptoms, triggers and medication, and that forming the foundation of the asthma self-management plan.

During the conference in the Best Practice poster display further work in supported self-management in COPD is shown in this piece of work to reduce readmission rates (BP10: A Quality Improvement Stratgey to Reduce Admissions and Readmissions for patients with COPD).

This issue's policy update concentrates on two areas. Treatment of tobacco dependency is variable throughout the country. PCRS-UK has surveyed its members and presents the results along with latest information on the Tobacco Control Plan for England, and the IPCRG position statement on treatment of tobacco dependency.

The second area is audit. The RCP COPD Primary Care Audit Wales report is discussed along with the BTS adult asthma audit highlights. These results really can be used as a quality improvement tool to effect change in practice.

In Best of the Rest, Editors Choice (*Disease Diagnosis in Individuals with Mild to Moderate Airflow Obstruction*) looks at people diagnosed with mild to moderate COPD from one spirometric test who subsequently perform normal spirometry or whose spirometric diagnosis was unstable – interesting reading given the current emphasis on spirometry in diagnosis.

Finally, to lead you into the issue, keep in your mind it isn't about how you can fit everything in to an already too busy day, but maybe how you can start to think differently.

NEW!

Help your patients take back control of their asthma

Asthma UK's pilot **12-Week Asthma Support Programme** is a free smartphone service for people with asthma

Funded by the Department of Health, it's designed to:

- ✓ Improve medicine adherence
- ✓ Help patients self-manage between appointments
- ✓ Reduce their risk of an exacerbation

Find out more and get free leaflets to give to your patients:

www.asthma.org.uk/patient-programme

Chair's Perspective

Noel Baxter, *PCRS-UK Executive Chair*

Supported Self-Management

The work of Stephanie Taylor and Hilary Pinnock featured in this edition has been at the forefront of mind since I first met Stephanie at the PCRS-UK conference in 2016 at that time as a new trustee of our society. Their thinking to date on supported self-management has been very influential in helping me personally and strategically to understand 'how am I' and 'how are we' going to achieve this important change in healthcare in the current environment?'

At the same meeting in 2016 I was hearing from the wider trustees and our Lay Reference Group that the PCRS-UK self-management campaign to promote supported self-management agreed by the executive in 2015 needed to make some progress.

Like many clinicians I know it's the right thing to do, to learn about, to organisationally make ready for, but I couldn't really see the way forward. I do like to think that I help co-create reasonably helpful asthma action plans and I've tried to design self-management plans over the years as a respiratory leader in practice. However, the limitations of the 10-minute consultation and other mundane practicalities like not having colour printers left me putting this campaign in the 'too difficult' pile.

Over the last year, I have allowed myself to be more receptive to the challenges and ideas they present and to start as Stephanie suggested to me with some small steps to change. I do think we now have momentum within this campaign and I am pleased that this edition is focused on supported self-management .

At a recent 'respiratory insights' meeting to develop one of our three Primary Care Respiratory Academy programmes, colleagues advised that we are doing the right things for people with COPD but we don't seem to be achieving the outcomes. We offer vaccination, stop smoking treatment, pulmonary rehabilitation, exercise programmes, inhalers and community support teams but they – the patients - don't appear to be able to or indeed want to make the best of it because if they did, wouldn't we see less admissions?

Healthcare professionals need to acknowledge the need to think differently about how we spend time with people who have long term conditions. Importantly, we have to be the first to change to enable meaningful supported self-management to become the routine. Appointment lengths and structural organisational changes will take more time.

If they are right, what has been missing? Why don't the study outcomes bear out in real life?

Yes, in some cases the right care is being commissioned and offered – but not universally yet; I recommend you read the recently published national COPD audit[1] if you aren't convinced by that.

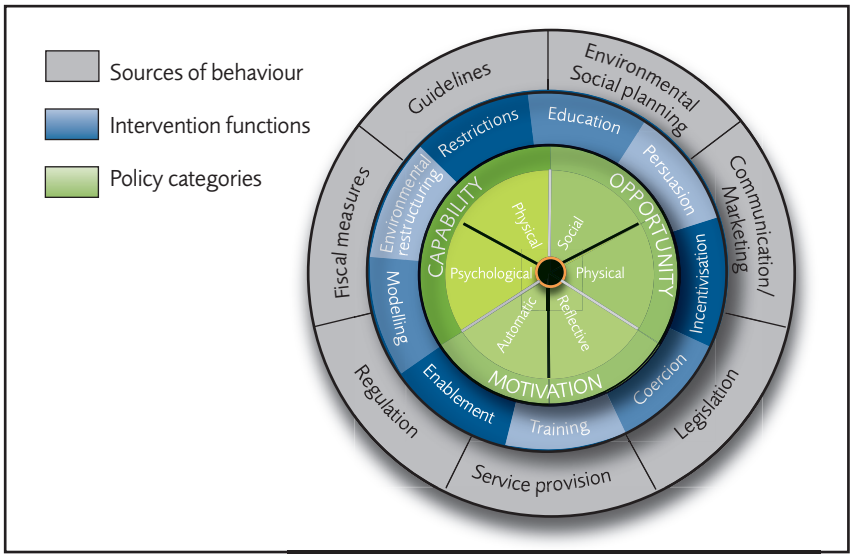
Right Care as defined by Sir Muir Gray originally and now as a key NHS England outcome and spend improvement programme clearly states that the right intervention isn't enough but it also has to be delivered in the right way. Efforts made to follow a guideline to prescribe the right inhaler can be negated by choosing a device that someone can't use and more importantly doesn't want to use. In fact, if someone doesn't even believe they have asthma or COPD then no amount of doing the right thing will achieve the outcome desired. How often do we ask that question?

This inhaler example shows for those of us interested in respiratory care how inefficient and wasteful our activity can be and in a constrained health system we just can't continue this way.

In my own area of Southeast London, we have been exploring recently how to use time in consultations differently to get more out of them. We have seen and heard the principles of the group consultation model with 10-12 patients which delivers a 'joyful' work experience for health professionals and better outcomes for patients with long term conditions. We have also been working with actors, sharing our experiences and reflections to create care plans for people that are genuinely shared and meaningful. It isn't easy. Changing the way, we spend time with patients will require us to change our own behaviour. You can read more about the group consultation model from the team that presented at our 2017 conference.[2]

We usually think that learning behaviour change skill is for the benefit of patients but here we can consider how the thinking might also apply to us. The COM-B model[3] by Psychologist Susan Michie of UCL (Figure 1) is a useful way to consider how we as clinicians might do Behaviour change. We need the **C**apability to change. This means that leaders in the system must aid practitioners in this respect. Organisational restructure will be needed to allow us to support patients to self-manage better. The group consultation example is a way in which we can create the right amount of space for change within the same working day.

Having become more receptive to the idea that we can do supported self-management I can now see more **O**pportunity to change our behaviour In this edition, we describe the components of the approach and evidence for it. Martin Marshall, who opened our 2017 conference highlighted that how we provide the right thing is as important as doing the right thing and he explored how we might do this. The voices from research that inform us



of the evidence about behaviour change and implementation are coming to the fore. I see better awareness of the harm caused by using the wrong language with patients and the benefits of getting the communication right. Language and communication skills now have greater value in teaching and examinations and in some areas they have or are gaining parity with clinician attainment of physical intervention competencies.

Let's value and practice what the evidence and new advances in behavioural psychology and implementation science show us in the same way we would a new ground breaking antihypertensive or inhaler. In this edition of PCRU the 'PRISMS study' by Pinnock and Taylor provide us with a 'picking list' of fourteen interventions that can support people to change their everyday behaviours to manage their condition. The key is not to work through the list verbatim but to work with the individual using what both parties agree is useful.

Arising from the PRISMS study there are 5 core components to this admittedly complex intervention of supported self-management. However, remembering these 5 elements when we design services or work with patients could be one of the first small steps we can take

1. Provision of knowledge and information
2. Provide psychological strategies to support people adjusting to life with a LTC.
3. Practical support for physical care tailored to the specific LTC such as action plans to advise on prompt appropriate action in the event of deterioration or (intensive) disease-specific training to enable self-management of specific clinical tasks.
4. Social support as appropriate.
5. Self-monitoring with feedback and practical support with adherence strategies.

Finally, within the COM-B model we need the **M**otivation to change. Again, those who lead need to create a compelling argument for this, whether they be researchers, clinicians, patients or politicians. I think most would agree that 'where we are now' is not comfortable or sustainable.

Pinnock and Taylor acknowledge that the change required may feel immense and overwhelming but we can all start somewhere. This edition of *PCRU* can help start a shared vision so we know where we are heading.

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Supported self-management for respiratory conditions in primary care

FAQs and evidence

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Over the past two decades Governments and health services across the world have developed an intense interest in promoting better self-management or self-care, particularly amongst people with long-term conditions, as a way of improving population health and containing spiralling health care costs.[1-3] Health care professionals have, understandably, sometimes been less enthusiastic about supporting self–management and have questioned the importance of, and their role in, this endeavour.

In 2014 we published a major, overarching review (the PRISMS study) that looked at the research evidence around self-management support for 14 diverse long term conditions, including asthma and COPD.[4] Based on this work, much of which we have since updated, and on other published research, this article addresses some of the common concerns we have encountered when discussing self-management support with colleagues in primary (and secondary) care.

1. What is "self-management" anyway?

The terms self-management and self-care are often used interchangeably but it can be helpful to distinguish between them. Self-management refers to *"those actions individuals and others take to mitigate the effects of a long term condition and to maintain the best possible quality of life"*. Self-care refers to "a wider set of behaviours which both the healthy and the not so healthy take to prevent the onset of illness or disability, and, again to maintain quality of life".[5]

Self-management involves all the aspects of a person's life that may be affected by living with a long term condition and "... is defined as the tasks that individuals must undertake to live with one or more chronic conditions. These tasks include having the confidence to deal with medical management, role management and emotional management of their conditions."[6] Living with a long term condition inevitably involves an individual taking decisions about (or 'self-managing') their condition for better or worse - even entirely ignoring a long term condition is a way of self-managing for some people. Health care professionals, and others, can support individuals in their self-management, helping them to manage their conditions as effectively as possible to maintain health and wellbeing, so we talk about "supported self-management".

Based on our PRISMS study[4] we developed a classification, or taxonomy, which encompasses possible different activities which might be used to support self- management.[7] These fourteen potential support interventions for self-management, together with examples of activities for asthma and COPD taken from national guidelines, are shown in Table 1.

It is important to note that not all these interventions are necessarily effective, appropriate or even evaluated in every long term condition, and no self-management intervention we are aware of encompasses everything on this list. This is a pick-list, not a check-list.

2. Do patients really want to self-manage, can all patients self-manage, isn't it just trying to get health care on the cheap?

To understand what patients have said about their experience of self-management, and what they would like to support them, the PRISMS study included an overarching review of the published reviews and syntheses of qualitative research around the 14 long term conditions.[4] In addition to studies of self-management support, we included reviews looking at the experience of living with long term conditions in order to extract anything that might be relevant to self-management support.

From 30 reviews including 515 unique qualitative studies we identified several common themes. Almost every study highlighted *a need for health care professionals to provide patients with information about their condition and the desire by patients for good collaborative relationships with their health care professionals - we suggest that these two aspects are the cornerstones of self-management support*. The importance of information from health care professionals was also reported in an overview of self-management support by National Voices.[8]

Table 1. Components of the PRISMS taxonomy of self-management support with examples from asthma and COPD

Potential interventions for self-management support from the PRISMS Taxonomy	How this might apply to asthma *(Examples of recommendations taken from British guideline in the management of asthma [22] except *)*	How this might apply to COPD *(Examples of recommendations taken from NICE Guidance on COPD ǂ 2010 [32] except *)*
1. Providing people with information about their condition and/or its management	" Education is a core component of effective self-management programmes in adults and children"	"Specific educational packages should be developed for patients with COPD."
2. Providing people with information about relevant available resources (such as financial benefits, local support groups and charities)	Provide information about Asthma UK (www.asthma,org.uk) *	"Patients disabled by COPD should be considered for referral for assessment by a social services department."
3. Provision of/agreement on specific clinical action plans (which may include rescue medication)	"All people with asthma (and/or their parents or carers) should be offered self-management education which should include a written personalised asthma action plan and be supported by regular professional review."	"The impact of exacerbations should be minimised by: giving self-management advice on responding promptly to the symptoms of an exacerbation..."[n]
4. Regular clinical review by a health care professional	"In primary care, people with asthma should be reviewed regularly by a nurse or doctor with appropriate training in asthma management. Review should incorporate a written action plan."	"Patients with COPD should be reviewed at least once per year, or more frequently if indicated..."
5. Monitoring of the long term condition, by the patients themselves or others, with feedback to the patient	"In adults, written personalised asthma action plans may be based on symptoms and/or peak flows: symptom-based plans are generally preferable for children."	"In older patients attention should also be paid to changes in weight, particularly if the change is more than 3 kg."
6. Practical support with adherence (medication or behavioural)	"Adherence to long-term asthma treatment should be routinely and regularly addressed by all healthcare professionals within the context of a comprehensive programme of accessible proactive asthma care."	"Unless contraindicated, offer nicotine replacement therapy, varenicline or bupropion, as appropriate, to people who are planning to stop smoking combined with an appropriate support programme to optimise smoking quit rates."
7. Provision of equipment to enable, assist or promote self-monitoring and/or self-management of the LTC	"Children and adults with mild and moderate asthma attacks should be treated with a pMDI + spacer with doses titrated according to clinical response."	"People who are already on long-term oxygen therapy who wish to continue with oxygen therapy outside the home, and who are prepared to use it, should have ambulatory oxygen prescribed."
8. Provision of easy access to advice or support when needed	"Strategies that have been used in effective [supported self management] interventions include... telephone calls to provide ongoing support and advice."	"For most patients with stable severe disease regular hospital review is not necessary, but there should be locally agreed mechanisms to allow rapid access to hospital assessment when necessary."
9. Training/rehearsal to communicate with health care professionals	Not specifically mentioned in either guideline but strategies which have been suggested may help include the patient writing a list of questions before eth consultation and the patient making an audio-recording of the consultation to listen to again later.*	
10. Training/rehearsal for everyday activities	"Immediately prior to exercise, inhaled short-acting β2 agonists are the drug of choice"	"Pulmonary rehabilitation should be made available to all appropriate people with COPD, including those who have had a recent hospitalisation for an acute exacerbation."
11. Training/rehearsal for practical self-management, for example training in use of an inhaler	"Before initiating a new drug therapy practitioners, should check adherence with existing therapies, check inhaler technique, and eliminate trigger factors."	"Patients should have their ability to use an inhaler device regularly assessed by a competent healthcare professional and, if necessary, should be re-taught the correct technique."
12. Training/rehearsal for psychological strategies	"In difficult childhood asthma, there may be a role for family therapy as an adjunct to pharmacotherapy"	"Healthcare professionals should be alert to the presence of depression in patients with COPD. The presence of anxiety and depression should be considered in patients: who are hypoxic who have severe dyspnoea who have been seen at or admitted to a hospital with an exacerbation of COPD."
13. Social support	"Peer-led interventions for adolescents in the school setting should be considered."	Patients should be made aware of their Local Breathe Easy Groups. *
14. Lifestyle advice and support	"Parents with asthma should be advised about the dangers, to themselves and to their children with asthma, of smoking, and be offered appropriate support to stop smoking."	"Encouraging patients with COPD to stop smoking is one of the most important components of their management. All COPD patients still smoking, regardless of age, should be encouraged to stop, and offered help to do so, at every opportunity."

ǂ Currently being updated

Other common issues important to patients highlighted in our PRISMS study were:

- The individuality of the illness experience for each patient
- Striking a balance between support and autonomy in relationships with carers
- The need for social and emotional support and/or helpful peer support
- The importance of psychological support
- The challenge of adherence to medication or treatment regimes.

From this it seems clear that patients do want support to manage their long term conditions. This qualitative research is backed up by a survey for the Department of Health by MORI in 2005[9] which found that 87% of those surveyed who lived with a long-term health condition were 'interested' in playing a greater role in taking care of their condition (and nearly half were 'very interested').

Health care professionals may be concerned that not all patients are "capable" of self-management. In reality, however, all people with long term conditions are already taking decisions about their condition – regardless of their "capability". Patient's knowledge, confidence and ability to self-manage their health has been described as patient "activation"[10], and the concept recognises that not everybody is at the same point when it comes to self-management. Patient activation can be assessed using a questionnaire (the Patient Activation Measure PAM 13)[11] and scores may be used to stratify patients from the lowest levels, where individuals may feel overwhelmed by managing their own health, through to the highest levels where individuals have adopted the behaviours they need to manage their conditions.[12] Being older, depressed or anxious, having poor health literacy, multimorbidity, and low social support tend to be associated with lower patient activation as does increasing COPD severity.[13,14] There is some evidence that higher patient activation levels are associated with reduced hospitalisation and emergency room attendance but study designs have tended to be weak and there is very little evidence available on patient activation and outcomes amongst respiratory patients.[15]

Our own PRISMS work suggests that self-management support needs tailoring to the individual patient and their condition[4], but we believe that all patients will benefit from considering how to support their self-management better. Some health care professionals, and indeed *some patients and carers, may be concerned that supporting self-management means abandoning patients to look after themselves*. This is categorically not the case, supporting self-management should be seen as an inherent part of good medical care - it does not replace the need for routine clinical reviews, access to professional advice, appropriate medication or other necessary clinical care – but it may well make this care more effective.

3. Does supporting self-management really work?

There is extensive evidence that interventions supporting self-management improve patient outcomes in a wide range of long term conditions, [4,8] In COPD, self-management interventions improve quality of life, reduce dyspnoea and reduce respiratory related and all cause hospital admissions,[16] although it is not possible to identify the individual components or intervention characteristics which are most effective,[17] nor which patients are most likely to benefit.[18] It has long been known that asthma self-management that includes education about the condition, regular reviews and provision of a personalised asthma action plan reduces asthma hospitalisations, the need for unscheduled care, the use of rescue medications and days off work or school, whilst improving quality of life.19 The findings of 270 randomised controlled trials confirm that supportive self-management for asthma can be delivered effectively in a broad range of clinical settings across a wide range of different demographic and cultural groups without increasing total healthcare costs.[20]

Moreover, evidence from our systematic review of 19 implementation studies demonstrated that it is possible to deliver effective supported self-management in routine clinical practice. 21 We concluded that self-management support interventions which operated at the level of the patient, the health care providers and the health care organisation had the most consistent evidence of benefit in clinical and process outcomes.

4. "It's not my job, the nurse does it....."

As described above, structured education reinforced with ownership of a personalised asthma action plan is an example of effective, evidence based asthma self-management support and is a key recommendation in the British Guideline on the Management of Asthma.[22] In fact this was recommended in the original British Thoracic Society asthma management guidelines in 1990.[23] Personal action plans are a visible marker of supported self-management, despite this asthma action plan ownership remains low with surveys from the UK, United States, Europe, and Australia reporting that less than a third of people with asthma have an action plan.[24-28] In 2014 the UK National review of Asthma Deaths (NRAD) found fewer than one quarter of those who died had had a personal asthma action plan.[29]

Pulmonary rehabilitation (PR) is a very well evidenced intervention supporting self-management in COPD[30] and is recommended in guidelines.[31,32] The UK National COPD Pulmonary Rehabilitation Audit has drawn attention to the relatively low proportion of people referred to PR who actually complete the programme (42%)[33] but cannot measure the proportion of patients with COPD eligible for PR who were not referred in the first place. Anecdotally this is believed to be high with huge variations in referral rates between individual general practices. Surveys in a range of countries. including the UK. report physician referral to PR of between 2 and 16% of potentially eligible patients.[34]

Why is the implementation of these heavily evidence based self-management support interventions so poor? One of the problems is likely to be seeing self-management support as someone else's role rather than a shared activity to which everyone in the health

care team contributes. The current model of UK primary care where including supported self-management is typically seen as the role of the practice nurse or a respiratory nurse specialist within chronic disease care, whereas unscheduled care for exacerbations is often provided by a general practitioner or NHS out of hours services. Whilst this may represent a practical delegation of tasks, it risks causing a division in roles which may undermine doctors' confidence and skills in discussing self-management, and can leave the nurse feeling unsupported. As a result supported self-management may slip down the list of practice priorities.[35] Awareness of different roles enables members of the team to reinforce tasks and 'sell' effective interventions to patients. For example, we know that the enthusiasm of the referring doctor is a factor associated with uptake of the offer of PR.[36]

Green, researching in a single, integrated care organisation in the States, compared characteristics of physicians and other health care professionals whose patients tended to become more activated over time with those whose patients had not.[37] Features of health care professionals whose patients' activation increased included:

- Spending time on patient education
- Emphasising that patients owned their condition
- Working in partnership with patients on goal setting and problem solving
- Helping to break problems down into small steps
- Scheduling more frequent follow ups
- Telling patients how much they valued them.

In contrast, those whose patients tended not to become more activated spent time telling patients the negative health outcomes they could expect if they did not change their behaviour and reported spending little time on lifestyle issues. Interestingly in both groups most of the professionals interviewed had not been trained in supporting behaviour change and had developed their skills through trial and error.

5. It all sounds great but there isn't enough time to do it...

UK primary care feels hard pressed and in the current environment health care professionals may feel they simply don't have enough time to support self-management. However, the time commitment is balanced by a reduction in unscheduled care (in asthma) and admissions (in COPD).[16,20] Moreover, we argue that developing self-management skills is a process not an event,[38] so that whilst initial time may be a delegated to an asthma review, we can all provide on-going support at every opportunity – often in only a few seconds (see Box for some very practical examples from the latest BTS/SIGN guideline.[22]) Finally, in addition to benefiting patients, supporting self-management may lead to more satisfying practice for the clinician; for example, an approach to a review that starts with the patient's agenda, and sees supporting people to understand and cope with their condition as a core objective (and as QOF is reduced in importance) reduces the primacy of tick boxes.

Box: Practical activities to support self-management in asthma reproduced from the BTS/SIGN Asthma Guidelines.[22]

- A hospital admission represents a window of opportunity to review self-management skills. No patient should leave hospital without a written personalised asthma action plan.
- An acute consultation offers the opportunity to determine what action the patient has already taken to deal with the asthma attack. Their self-management strategy may be reinforced or refined and the need for consolidation at a routine follow up considered.
- A consultation for an upper respiratory tract infection or other known trigger is an opportunity to rehearse with the patient their self-management in the event of their asthma deteriorating.
- Education should include personalised discussion of issues such as trigger avoidance and achieving a smoke-free environment to support people and their families living with asthma.
- Brief simple education linked to patient goals is most likely to be acceptable to patients.

A report by The Health Foundation[39] identifies seven features to help embed self-management support:

1. Building a shared vision
2. Creating a strong infrastructure for implementation, but...
3. Fostering local innovation and ownership
4. Harnessing peer power
5. Starting small and scaling up over time
6. Remembering the importance of evidence at all stages
7. Considering sustainability from early on.

Conclusions

All people living with a long term condition are self-managing and the vast majority want support from trusted health care professionals to understand and manage their condition better. Supporting self-management is entirely compatible with the patient centred, holistic nature of primary care and in essence represents good medical care. Supporting self-management is not the sole responsibility of patients, carers or a single group of health care professional but a shared activity which should be everyone's responsibility. Nor does it mean abandoning patients to look after themselves, indeed

regular medical review is a key component of self-management support for patients with asthma and COPD. Health care professionals will need training to optimise their skills, but *embedding self-management support for asthma and COPD in our routine care should result in better outcomes for patients*, reduced unscheduled health care use, and more satisfying practice for clinicians.

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Technology can revolutionise supported self-management of asthma

Andrew Whittamore, Clinical Lead, Asthma UK

Asthma is a variable and unpredictable condition. Over the course of a year a patient's asthma control may vary several times necessitating an alteration of behaviour and treatment to prevent a life-threatening asthma attack. In the limited time afforded to an asthma review it is important to help patient to understand their asthma, their triggers, their symptoms and their treatment. Someone with asthma needs to be supported to understand the behaviours that are needed to keep their asthma stable and crucially what actions are required when their asthma becomes unstable.

Sharing a written asthma action plan is associated with a significant reduction in admissions.[1] The success of a written plan depends on so many factors but ultimately comes down to whether the patient retains it, has it with them and follows the instructions. Many patients are given inadequately completed or no written asthma action plans.

Technology has the potential to transform how we view supported self-care. Primary care and community pharmacists can use readily available data to perform risk stratification and to identify reliever overuse and preventer underuse - these should be prompts for tailored medical and educational interventions.

Written asthma action plans can be created and shared electronically, or at a minimum stored as a photo on the ever-present smart phone. Most GP IT systems in the UK enable clinicians to communicate to their patients by SMS or email. These can be useful for alerts and reminders but also for sharing key information (flu clinics, Asthma UK webpages, links to inhaler videos).

There has been an exponential rise in the use of portable, connectable electronic devices including the smart phone over the last 10 years. The increasingly intelligent way that technology interacts with us means that we need to be prepared for technology-led healthcare to not only become a reality but for healthcare systems and workforces to be re-designed around them.[2]

Healthcare can harness developments in technology along with a greater understanding of human behaviour to support self-care in a consistent, evidence-based, personalised and timely way. We can find ways to interact and create behavioural nudges even with the most poorly engaged of people.

Some of the technologies shaping the future of healthcare

Smart Devices: Sensors attached to existing inhalers or peak flow meters. These might record when the device is used, how well it is used and even location. These have been widely used in research but are being developed for clinical use. Some Smart Inhalers exist that identify biomarkers, pollens, air quality or can vary medication dosage. Data can be sent to an app on the user's smart phone or even healthcare IT systems.[3,4]

Social media: Social media is not new but is getting more insightful. It can assimilate information that you readily provide, along with your online contacts and behaviours. Social media is constantly picking up information about the user and translating that to personalise what you are exposed to. Facebook and Twitter make suggestions for holidays, clothing and even friends, and is becoming central to marketing strategies[5] – not just by the retail industry but also by people who want to influence behaviours.

Artificial intelligence (AI): This is the ability of computer systems to work through complex algorithms based on increasing and ever-changing data. The most common examples cited are of games such as chess where the machine not only understands the implications of what every sequence of moves might mean but then learns from successes and mistakes not just in their own game but by the opponent – meaning the machine has learnt how to have an even better chance of winning next time. Google's AlphaGo taught itself the rules of 'Go' and then taught itself to win.[6]

Applied to healthcare AI has the potential assimilate the 1000's of new pieces of research produced

every day, bring together seemingly endless measurements and markers of health on each individual person and then tailor this new information to inform healthcare decisions.

Natural Language Processing developments now allow AI to interpret the relevance of specific words to individuals.[7] Computers can start to patterns of language eg 'My asthma is bad' 'my asthma is killing me'. Natural language is important not just in understanding context but also in how we (or AI) communicate back to the patient to enhance understanding.

Algorithmic medicine: Every day, healthcare professionals work through 100's of algorithms in their heads. Some based on evidence or guidelines and some based on clinical experience and their knowledge of the patient. Computer software can support healthcare professionals (and patients) to make evidence or value-based decisions by making suggestions. There are many areas of medicine (and particularly in respiratory care) where greater use of supportive algorithms can improve outcomes for the patient and for the health system.

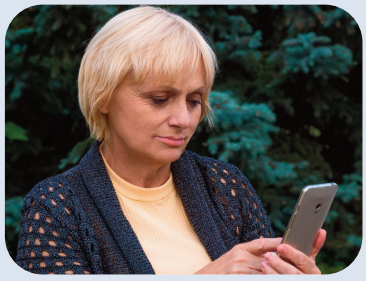
Chatbots: In its most basic form a chatbot is an algorithm that interacts through text or voice.

As AI is utilised, the algorithms can not only become more complex but can start to make use of wider sets of data to make the algorithm more relevant and accessible to the user: personal data (peak flows, medical history), behavioural data (how someone interacts with their devices, with their condition and even how someone responds to different information eg does someone read long webpages, skims headlines, watches videos and what hooks them in) and data such as weather, air quality.

Internet of things: The Internet of things (IoT) is the network of physical devices, vehicles, and other items embedded with electronics, software, sensors, and network connectivity which enable these objects to collect and exchange data. Devices will start sharing data with each other and feed into algorithms that can support people to stay healthy.

Case study

Linda is a 57 year-old lady with asthma. She says she doesn't like technology much but does have a smart phone because everyone else does. She does use it to keep in touch with her family on Facebook and sometimes uses it to browse the internet. Linda thinks that her asthma is well controlled and does what she needs to do to stay well throughout the year.



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	Linda's supported self-care now	Linda's technology supported care
Written asthma action plan	Linda has a written plan for her asthma. She even carries a photo of it on her phone because she doesn't like carrying around a piece of paper.	Linda's plan is uploaded to her phone. Not only is it useful for Linda to know what to do, but it responds to her symptoms and reliever inhaler use to prompt her when to take action.
Annual asthma review	Most years Linda takes time off from work to see her asthma nurse for her annual review. Usually her asthma is well controlled when she goes to the appointment and sometimes she doesn't feel like she gains a lot from the visit.	Linda's asthma is continually being monitored by her smart inhaler and asthma platform. Her nurse contacts her at intervals throughout the year via a chatbot to see how she is doing but more often where there are increased symptom or reliever use or around the times of year when she has struggled in the past. The chatbot recognises the words and phrases that Linda likes to use and learns to understand their relevance, often reflecting them back to her in messages to enhance Linda's understanding.
Asthma triggers	Linda knows that she is allergic to pollens and dogs. She sometimes remembers to take an antihistamine if she knows she is going to be exposed to these triggers.	Linda's Facebook feed contains prompts from Asthma UK about pollen levels and high pollution. Her platform automatically connects to sensors at home and throughout the community that detect air quality and common airborne triggers.

Continued...

	Linda's supported self-care now	Linda's technology supported care
	She also struggles with high pollution levels. There are some good tips on the Asthma UK website but she usually reads these after a day of struggling with symptoms.	Her phone suggests taking an alternative route to work to avoid the worst areas. It has also noted the locations which have led to reliever inhaler use and recommended preventative action.
Asthma Attack	Linda knows to take her blue inhaler, up to 10 puffs if she needs it. Luckily, she hasn't needed to do this in the last year. She has her written plan on her phone just in case she needs to check what to do next.	Linda has a prolonged coughing episode when she had a virus. Her platform (could be via Siri or Alexa) coached her through the self-management of an asthma attack. It also called for an ambulance to her location when she didn't respond to the first 10 puffs.
Monitoring by GP practice	Linda's GP practice note that she requested 6 salbutamol inhalers over the last 12 months. No action was felt to be required by her GP practice. Linda knows her blue reliever inhaler is very effective. She uses it occasionally when she has a cold. Last June she finished 2 blue inhalers in a month and uses 2 more over the rest of the summer. As the blue inhaler worked she didn't need to bother her GP.	Linda's phone/activity tracker provides her with feedback on her activity, sleep and behaviour patterns. She gets information about when and where she is using her reliever inhaler, suggesting solutions to improve her asthma control (avoiding triggers, better adherence). Linda's smart inhaler highlights to her and her asthma nurse when she is using a lot of her reliever inhaler. A chatbot finds out some more information and arranges a call by skype or a face-to-face appointment at a convenient time depending on the severity of the symptoms.
Understanding asthma	Linda is given a print out of written information about what asthma is and what her medicines are for. She has also searched the Asthma UK website and has found a few pages that seem relevant to her. There are lots of other pages too but will come back to them another time (probably). A lot of her understanding of asthma comes from family and friends who share their experiences. She tried joining an online asthma forum but found that most of the contributions came from people with what sounded like very severe asthma or were complaining about the NHS or their medicines. It did make her sceptical about her preventer medication and falsely reassured her that her asthma wasn't very serious.	Linda is directed to a range of online resources that might suit her. Quite quickly her preferences for video clips and short snappy summaries are recognised by her IT systems though she regularly delves into longer articles, case studies and blogs where it catches her attention. She is an avid Facebook user and hasn't noticed that since she 'liked' the Asthma UK Facebook page she receives nuggets of information at important times. She finds some of them really useful. Her asthma platform has recognised the patterns of her asthma symptoms, behaviour and use of language and shares key bits of self-care information at the right time and in the right way for her. It has also learnt what Linda's preferences are so that it doesn't send too many notifications, but does send them at a time when she seems to engage best. Linda is also linked to a larger, virtual community. Though she does not know it, she is clustered with people of a similar behavioural and asthma phenotype that will give her the relevant support that she needs. A combination of her asthma platform understanding her own patterns of asthma, her behaviours and the topics she engages with online creates new preferences for the asthma information that is suggested to her.

Continued...

	Linda's supported self-care now	Linda's technology supported care
Taking her medicines	Linda is really good at remembering her medications. She keeps her inhalers in the kitchen where she remembers to take them. Sometimes, during holidays and at weekends the change in routine makes her forget. Sometimes Linda doesn't order new inhalers in time and goes a few days without her medication. She thinks her inhaler technique is quite good. It has been checked at most of her reviews at the GP surgery and once by the pharmacist. They always tell her that she is inhaling too fast so she tries to do better.	Linda's phone recognises her routine, and notices from her calendar when her routine might change. She doesn't get reminders every day but at weekends she gets an alert, usually when she is near the kitchen. On the occasional day when she does forget to take her preventer she gets an alert before she leaves the house. Linda's phone tells her when her inhaler is running low and enables her to order more on-line. They get delivered to her home the next day. She never runs out. Her smart inhaler not only sends signals to her phone when it has been used but also gives feedback on how good her technique is. Occasionally she gets directed to the Asthma UK video of someone using her inhaler or gets interactive coaching via her platform.
The right medicines	Linda's asthma nurse increases her inhaled steroid medication but is not certain whether to believe she is fully adherent with her preventer medication. Linda does not return for follow up as she feels better. She is a little wary about the higher dose of the steroid inhaler so takes one puff instead of two.	The asthma nurse gets data outlining Linda's adherence, technique and triggers. She has confidence to increase or decrease medication when necessary and can arrange a chatbot follow up after a few weeks to check how the medicines are suiting her. Because she has more information about Linda's asthma and behaviours, treatments and interventions can be individually tailored much more easily. She also receives a reassuring video from Asthma UK discussing the importance and safety of steroid inhalers in asthma. Linda is looking forward to the introduction of a new Smart Inhaler that automatically adjusts her medication dose depending on her risks, triggers and exhaled biomarkers. She hopes this will mean she will only ever take the lowest possible dose of inhaled steroid.

Although Linda's case was theoretical, all of the technologies and digital interventions are possible right now. Regulations around data sharing and technology, clinical and information governance, interoperability and a re-configuration of healthcare are required to make this happen. By achieving this we can support self-management for all people with asthma especially those hardest to reach.

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Breathe Easy Patient Support Groups

Mike McKevitt, Head of Patient Service, British Lung Foundation

In conversations with both patients and respiratory healthcare professionals we regularly hear how much they value our British Lung Foundation Breathe Easy patient support groups. They recognise the value of patient peer support groups for improving patient outcomes.

We understand the importance of keeping patients with life-limiting conditions motivated and positive. People who have low levels of mobility are less likely to play an active role in staying healthy. They are often socially isolated, not confident enough to seek help when they need it and may have difficulty following advice. Managing their own health can be a struggle: this is where patient peer support groups like Breathe Easy can step in. Here healthcare professionals provide a place where patient can share experiences, improve their emotional health, well-being and sense of belonging.

These groups are essential to the aspiration of providing person centred care for our patients. Peer support groups have a key role to play in terms of building patient confidence, knowledge and skills. They encourage supported self-management, ultimately bringing the aspiration of effective person centred care closer to reality.

This view is supported by a 2016 University of Kent study into our Integrated Breathe Easy network. It found that the groups improve patient outcomes, reduce hospital admissions and save the NHS money. The aim of the two-year study was two-fold. Firstly, a process evaluation to look at barriers to integrating a support group into a respiratory care pathway. Secondly, an economic evaluation to measure impact on physical/ mental wellbeing and the benefits to NHS services. The effects of attendance at a group integrated into the respiratory pathway were substantial with 57% reporting a reduction in unplanned hospital admissions and a 42% reduction in unplanned GP visits.

The conclusion was that the support groups are a cost effective programme; for every pound invested in integrated support groups there is a minimum of £5.36 in net gain through a better quality of life health for participants. In summary, support groups provide positive outcomes in terms of health and wellbeing for attendees, providing cost savings and wider social benefits to local communities.

In our experience a network of support groups works best where healthcare professionals, clinical commissioners and the BLF work collaboratively. This will ensure activities are properly integrated into the local respiratory care pathway. The aim, where this happens, is to reduce the burden of lung disease on both the individual and the local health economy.

So how is this achieved and what happens at a support group meeting? Breathe Easy group meetings aim to ensure:

- Members share experience and knowledge. The benefits of learning from one's contemporaries and peers. Attendees are experts by experience, they talk in a language everyone understands in an environment where people are comfortable and more likely to ask questions.
- Peer support where patients find ways to support each other. This can be practical or emotional support or sometimes advice or strategies on living better with their condition.
- Education and instruction with a self-management focus from the BLF and from a variety of healthcare professionals. Groups provide the opportunity for every member of the multidisciplinary team to see a large number of their patients in a single hit and to get key messages across.
- Signposting to other local relevant support services including social care or other voluntary organisations.
- Patients are supported to use their voice to review and improve local services. Patient groups provide the ideal forum for providers and commissioners to explore challenges and potential solutions directly with their service users.

The outcomes for patients include:

- a better understanding of their lung condition
- an increased awareness of what to do when things go wrong
- increased medicine management and compliance
- increased opportunities for social contact (reduced isolation), increased confidence
- a better understanding of health services
- confidence, knowledge and skills to self-manage or self-care

We have found that the scope of activities at support group meetings diversifies as patient numbers grow and individual member confidence increases. Opportunities for maintenance exercise sessions following completion of a pulmonary rehabilitation programme are increasing with 30% of our groups now offering some form of exercise session in addition to their traditional activities. Walking groups, Thai Chi and singing for lung health activities are also growing. This indicates a desire amongst our patients to try different activities.

There has been less research on the effectiveness of singing groups or other innovative activities. However, what is clear is that if people want to improve their health outcomes they need support to do so.

There is also an increasing body of quantitative and qualitative evidence to show the positive impact such groups can have. As one patient told me: "My Breathe Easy group has been a lifeline for me. It has enabled me to go out in public with more confidence and has empowered me to live my life to the full."

If you would like to refer your patients to their local Breathe Easy group or set one up if you don', you can find a full list of them here www.blf.org.uk/BreatheEasy If you don't have a Breathe Easy group but would like to set one up talk to our group support team on 03000 030 555.

There are lots of other opportunities for us to work with you to help improve your patients skills, knowledge and confidence, these include:

- Our Helpline - free advice, information and support available from respiratory nurse specialists and specialist welfare benefits advisers (03000 030 555)
- BLF web community – an on-line respiratory health forum with over 26,000 members www.healthunlocked.com/BLF
- Singing groups www.blf.org.uk/support-for-you/singing-for-lung-health and exercise classes www.blf.org.uk/support-for-you/keep-active
- Our patient information and literature free to order on line www.blf.org.uk/page/conditions
- Our web site and social media feeds www.blf.org.uk @lunguk or www.facebook.com/britishlungfoundation
- Our self-management products for patients and professionals which can be ordered here www.blf.org.uk/Page/Stay-in-control-of-your-lung-condition

Beyond the respiratory consultation: inspiring lifelong change

2017 conference round-up

Fran Robinson, reports on the PCRS-UK annual conference held at the Telford International Centre on 29/30 September.

Exploring how clinicians can work with patients and carers within and beyond the consultation to help them bring about long term sustainable improvements not only in their respiratory condition but also their overall health and wellbeing, through active participation in their care, was the theme of the PCRS-UK 2017 conference.

In the opening plenary Martin Marshall, Professor of Healthcare Improvement, UCL, talked about effective ways of improving care for patients.

He said it was essential that efforts to improve patient care and health services were based on research evidence.

Improvement was a complex social and technical activity and it required culture change in an organisation and a whole systems approach to transformation.

'A paradigm shift is needed for clinicians to take responsibility for influencing the way services are designed, delivered and improved. Another paradigm shift is needed to move away from the idea that research and practice are different things –they need to come together,' he said.

Speakers in the clinical symposia gave delegates a wealth of evidence based ideas for ways they could improve their respiratory care covering topics ranging from interstitial lung disease, bronchiectasis, breathlessness and the sick child plus an in depth discussion on the pros and cons of FeNO (fractional exhaled nitric oxide) testing.

Patients gave an insight into how their conditions impact on their health and lives and explained how clinicians could better support them to self-manage.

Service development sessions covered innovative new ways of providing services ranging from group consultations, a life changing model for informal COPD clinics, a primary care delivery of an obstructive sleep apnoea service to an improvement project which is providing better access to high value COPD care.

A Dragon's Den session, based on the popular BBC TV programme, provided an amusing but informative look at three respiratory innovations as three intrepid respiratory 'entrepreneurs' pitched FeNO testing, the Right Breathe app and Singing for Lung Health. Lung health music therapist and vocal coach Phoene Cave won the Dragons' money for Singing for Lung Health after getting delegates to their feet to participate in a sample session.

The Grand Round, an interactive session, took an in depth look at two patient case studies demonstrating how the primary care team can pick up on opportunities to diagnose respiratory conditions early and accurately.

The number of practical workshops, run in conjunction with Education for Health, proved to be more popular than ever and the research stream attracted a record number of abstracts providing delegates with an insight into the latest respiratory innovation.

PCRS-UK wishes to thank its conference partners Asthma UK, the British Lung Foundation and Education for Health and sponsors AstraZeneca, Boehringer Ingelheim, Chiesi, GSK, Novartis and Pfizer.

Catch up on the Twitter conversation at https://storify.com/PCRSUK/beyond-the-respiratory-consultation-inspiring-life

> *"This conference is one of the highlights of my year because it is so focused on things I do as a GP and a commissioner. It is quite unique. I take a lot of ideas back to use in my presentations and talks about strategy and I meet a lot of like-minded people and key players in the respiratory world"*
>
> Neil, a GP from Folkestone

Clinical symposia

Debate: Should FeNO testing be used as part of the diagnostic work up in all patients suspected of having asthma?

Dr John Alexander, consultant paediatrician with a special interest in respiratory medicine, University Hospitals of the North Midlands, Stoke on Trent, and a member of the NICE guideline committee for the Diagnosis and Monitoring of Asthma, set out the benefits of performing a FeNO assessment:

- It is easier than spirometry and the technology is improving
- A home FeNO monitor is likely to be on the market soon
- Do a FeNO test first because it can be affected by spirometry
- Providing diagnostic testing in a hub and spoke model makes sense because of the skills needed to ensure high quality testing

Conclusion:
A diagnosis of asthma should be informed by clinical features and data from diagnostic testing. Tests of airway inflammation and airway reactivity will help define the asthma subtype and direct our treatment.

Professor Hilary Pinnock, Reader, Asthma Centre for Applied Research, University of Edinburgh and Whitstable GP, won the debate when she argued:

- Asthma is defined as variable airflow obstruction, FeNO testing detects eosinophilic inflammation. This is a treatable trait, not a diagnosis, and there are plenty of false positives and false negatives when FeNO testing is used to diagnose asthma.
- FeNO testing may be useful in some situations but is not essential. Primary care clinicians instinctively think in terms of probabilities.
- When a patient has had a documented acute exacerbation, a FeNO test will make no difference to their diagnosis.
- There are patients at the other end of the scale whose history and tests indicate they definitely have not got asthma - they don't need a FeNO test either.
- In between the two ends of the spectrum FeNO testing may contribute to the diagnosis but even then it is probably not needed because the clinician can see reversibility on spirometry and monitor changes in the patient over time.

Conclusion:
FeNO testing has a role to play but is not enough on its own and is not needed in all patients with suspected asthma.

Interstitial Lung Disease

Jane Scullion, respiratory nurse consultant and PCRS-UK East Midlands Respiratory Lead and Dr Felix Woodhead, consultant respiratory physician specialising in interstitial lung disease (ILD), Glenfield Hospital, Leicester, explained what to look out for in patients who may have ILD and how to manage them in primary care.

Take home messages:

- Suspect ILD even with a normal chest x-ray
- Refer early to ensure patients get the right treatments
- Antifibrotics are the new drugs that work in idiopathic pulmonary fibrosis (IPF)
- Although ILD has a very poor prognosis, be positive – some are patients with the condition are treatable, some remediable
- Think what home support patients might need
- Consider oxygen, especially ambulatory
- Think about rehabilitation
- Consider a transplant
- Consider palliative care

The patient experience

Stephen Jones, a consultant economist, talked about what it is like to live with IPF and to have a lung transplant.

'*Being told you have got IPF is a death sentence. Only one third of patients on the list get a transplant so I was very fortunate. During two months of convalescence I was not able to do much. For the last year I have been feeling a bit better every month.*

'My transplant was transformational I now feel as well as I did 10 years ago - I can walk six miles, ride a bike and I am able to work. But I still have only one healthy lung, so I have learned to value every day. Now I plan to do the best I can to make the most of my new gift of life,' he said.

Bronchiectasis

Dr James Chalmers, clinical senior lecturer and honorary consultant, University of Dundee, predicted that in ten years most bronchiectasis care will be delivered in primary care. 'Bronchiectasis is a disease that has gained in importance because of the increases in diagnosis. The role of the primary care clinician is absolutely crucial because we need you to make the diagnosis and to recognise and treat the exacerbations. We then need you to follow-up even when we are giving patient therapy such as inhaled antibiotics, reserved for secondary care, because you will have to deal with the side effects of this medication. So knowing about these aspects of bronchiectasis is absolutely crucial for primary care,' he said.

Key points:

- Refer all patients into secondary care for a CT scan.
- The patient should have a management plan. Those at the mildest end of the spectrum can be managed in primary care.
- The management of bronchiectasis is very different from the standard COPD care and there may be patients that still need to be seen in secondary care.

- Manage these patients' exacerbations in primary care using more prolonged courses of antibiotics. Make sure you do a sputum culture.
- Children with persistent bacterial bronchitis will go on to have bronchiectasis but unlike adults it can be reversible.

The patient experience

Barbara Preston, a member of PCRS-UK Lay Reference Group, described her experience of living with bronchiectasis for 70 years. She said clinicians should make sure patients have clear self management plans that cover medication and the social, emotional and practical aspects of the condition and in particular how to cope with the practicalities of chest clearance. They should also discuss sex (there is a useful BLF leaflet about sex and breathlessness) and consider referring them to pulmonary rehabilitation, even though it is normally only considered for people with COPD.

'*Bronchiectasis is all about supported self management. I rely on you as primary care clinicians for advice and medication and I hope you take into account the full picture of the support that patients with bronchiectasis need in their daily lives as well. It is important to listen to the patient and have good channels of communication with them*,' she said.

Antibiotics for respiratory infections

Dr Donna Lecky, senior TARGET (Treat Antibiotics Responsibly, Guidance, Education, Tools) project manager, Public Health England, said that in the UK, 80 percent of antibiotics are prescribed in general practice and GPs still prescribe antibiotics for more than half of all respiratory infections. Targets set by the European Surveillance on Antimicrobial Consumption suggest that primary care should reduce prescribing of antibiotics by two thirds.

Learning points:

- Rule out more serious illness such as pneumonia or sepsis, then target treatment at those most at risk of complications.
- Give the public clear advice about the duration of their illness and what symptoms or signs may mean that urgent care is needed. Offer patient information leaflets.
- Give the patient back-up/delayed antibiotics. A survey has shown that those given more control through delayed/back-up prescribing feel more satisfied and have lower future consultations.

Breathlessness

Dr Rachael Evans, Associate Professor, University of Leicester and Honorary Consultant Respiratory Physician, Glenfield Hospital Leicester, described how in Leicestershire they have set up an integrated diagnostic symptom based pathway and piloted a one-stop diagnostic combined cardio-respiratory speciality outpatient clinic for chronic breathlessness with earlier appointments.

Key points:

- The integrated pathway did not increase the number of investigations being performed for chronic breathlessness.
- There is a need to increase the utilisation of simple tests for the diagnosis of chronic breathlessness in primary and secondary care
- The diagnostic clinic achieved significantly earlier diagnosis and fewer follow up visits compared to the 'usual pathway'
- Joint cardio-respiratory working avoided 30% of patients having inter-speciality referrals
- A 'panel of investigations' led to a comprehensive assessment of the causes of breathlessness identifying multiple co-morbidities
- There is a need to improve our understanding of patients presenting with undifferentiated chronic breathlessness

The sick child

Andrew Bush, Professor of Paediatrics, Imperial College and Royal Brompton and Harefield NHS Foundation Trust, reviewed the acute management of croup, bronchiolitis and paediatric respiratory infections. He stressed that most are single acute episodes in an otherwise well child.

Croup

- Generally benign, self-limiting, can and should be managed with oral dexamethasone in the community
- But make sure recovery is complete
- Think carefully about the toxic child and the non-coryzal child – is the diagnosis correct?

Bronchiolitis

- Mostly a benign, self-limiting illness which can and should be managed in the community
- Prolonged post-RSV symptoms are common, and do not respond to ICS or anything else
- RSV does not cause asthma
- Keep the oddities in mind – this could be a first presentation of immunodeficiency

Pneumonia in children

- Suspect pneumonia if persistent or recurrent T>38.5°, with tachypnoea and respiratory distress, especially focal signs
- If not ill enough for hospital, no tests and antibiotics orally if needed
- Worry if:
  - Symptoms persist, are not responsive to treatment
  - SaO2 < 0.92
  - Signs of a pleural effusion
- General management: dehydration, control of fever, spotting deterioration

When to refer a child with a respiratory infection:

- When the diagnosis is in doubt
- If treatment that should be working, isn't working
- When any party is unhappy (GP, child, family)

Service development stream

Which COPD guideline should we use locally?

This session discussed local guidelines and the length of time it took to develop them. The speakers felt it important and useful to have local guidelines to simplify things for GPs and practice nurses. The first speaker described how the online RightBreathe app, which provides inhaler prescribing information, was developed and is now being used by most CCGs within the London area. There have also been significant improvements in appropriate prescribing, resulting in a cost saving.

The second speaker described the process across Birmingham and how difficult it was just to get secondary care to engage with primary care to even discuss the advantages that a pan Birmingham local guideline would achieve.

Learning points:

- Developing a local guideline takes time but is worth it.
- It is important to get engagement from all the professionals involved.
- Local guidelines need to be easily accessible to everyone who needs to use them.

What models will improve respiratory diagnosis?

This session discussed different ways of delivering and performing spirometry.

Learning points:

- Quality assured spirometry is essential for a correct diagnosis which will then set the patient on the correct treatment pathway.
- New standards and accreditation for spirometry are welcome. There is more than one pathway towards final accreditation catering for both experienced and inexperienced practitioners.
- Every area must find their own solution. There are different ways that spirometry can be delivered. But if all the spirometry is performed in primary care then people have to be trained and their accreditation maintained. If spirometry is provided by a hub there is a risk it will be done mainly by nurses and that GPs will become deskilled. This could jeopardise the concept of having a respiratory team with a respiratory lead and expertise within each practice regardless of whether spirometry is done or not.

> *"This is the best conference I've ever been to. It's a nice size, feels quite informal and the things people are talking about are incredibly relevant to a large number of clinicians and patients"*
>
> William, a secondary care consultant from Dorchester

Working differently with people in the new models of care - Group consultations

Group consultations

Group consultations are an alternative way of consulting with patients in primary care, where 10-15 people with similar medical conditions share a medical appointment led a healthcare professional and facilitator. There is a growing evidence base to suggest that this approach promotes health and wellbeing for patients through relationship building, peer support and increased confidence in self-management. Additionally, it makes efficient use of clinical time, increases staff satisfaction and improves relationships with patients.

The Making Waves programme – a new model for informal COPD clinics

This model of care takes an asset based approach to improving the lives of people with respiratory disease in partnership with third sector organisations and respiratory services. The programme focuses on improving mental wellbeing and social inclusion as well as supporting patient education and self-management. Initial analysis suggests a significant improvement in health outcomes including reduced hospital attendances.

Learning points

- Developing peer support networks positively impacts on health outcomes, the importance of social isolation on health is often underestimated.
- Respiratory services working in partnership with third sector organisations which take an asset-based approach to healthcare can improve peoples' lives.
- Group consultations are an innovative way to increase self-management support for people with long-term conditions in primary care.

Breathlessness services - breathe in or out: where should the service be?

This session learned about a Fatigue, Anxiety and Breathing Clinic (FAB) set up in the West Midlands offering care integrated with a community palliative care service. It is led by a multidisciplinary team (MDT) and focuses on respiratory conditions such as COPD, heart disease and cancer. Patients are taught how to understand and control their breathing, posture and positioning and strategies to conserve their energy. They receive dietary advice to support lifestyle choices and questions are answered by a palliative care doctor.

Learning points

- The MDT have learned about each other's roles and enhanced their skills.
- Patients feel supported and enjoy the clinics.
- There has been a reduction in hospital and community activity.

The obesity epidemic and respiratory services

Primary care delivery of an obstructive sleep apnoea (OSA) clinic

Dr Tahmina Siddiqui, GP with a special interest in respiratory medicine, Whaddon Medical Centre, Bletchley, Milton Keynes, explained how to set up on OSA clinic in primary care.

The practice purchased a number of sleep apnoea testing monitors to support patients presenting with sleep problems. Dr Siddqui learned and practised how to take a sleep history, how to interpret symptoms for suspect-

ing OSA, how to interpret and report overnight sleep oximetry studies and did an online course and attended several meetings and conferences related to sleep medicine.

- The practice reduced referrals for OSA by 70 per cent.
- Patients who were not referred received further support from the practice to treat the underlying causes of their sleep difficulties.

Learning points

- OSA causes road and workplace accidents and lost productivity.
- GP and public awareness of OSA is low.
- Services will only improve if OSA is recognised as a national health care burden and services are commissioned accordingly.

> *"An interesting variety of different conditions are discussed at this conference. I like the way there is a focus on the patient and not just the disease"*
>
> Teresa, respiratory physiotherapist, Bath

Learning from the National COPD Audit

This session heard how the Aneurin Bevan University Health Board, in Wales, created the case for moving funding to higher value COPD healthcare by:

- Using evidence created through data capture and modelling alongside the evidence base.
- Creating confidence with the Board around possibilities in allocative value.
- Creating the opportunity through improvements in technical value.

They created personalised care based on local evidence of what works through connecting services and systems by testing their information governance requirements and gathering data to create their own Value Pyramid.

Learning points

- Know what you want to do.
- Get the data right.
- Involve clinicians from across primary and secondary care to agree what information is important.
- Involve finance colleagues from the start
- Use local planning forums to help guide improvement.
- Someone must champion and drive the changes.

Welsh Respiratory Health Improvement Group

This group improved respiratory care after they identified that 23 per cent of COPD patients had more than two exacerbations a year and one third of asthmatics did not have asthma. Nurses have now been trained in every practice to do quality assured spirometry, spirometry equipment has been standardised and coding has been standardised, 50 per cent of savings are ploughed back in to respiratory medicine.

Learning points

- Primary and secondary care need to work in harmony.
- Variation in care is significant and should drive best practice.
- Start with a secure diagnosis.
- Coding is a major issue, but not difficult to solve.
- Work streams engage stakeholders and promote dissemination of best practice.
- National procurement can save large amounts of money.
- Work closely with IT.

Practical workshops

A series of practical interactive workshops, run in conjunction with Education for Health, offered an opportunity to enhance key consultation and respiratory skills.

- Pulmonary rehabilitation - delegates were given a chance to do the exercises that are given to their patients during pulmonary rehabilitation sessions.
- Spirometry - delegates were given a hands-on session on spirometry interpretation.
- Inhaler technique – delegates were encouraged to review and improve their inhaler technique and how they teach their patients.
- Experiencing oxygen therapy and non-invasive ventilation (NIV) - delegates were given an opportunity to talk to a patient who uses NIV, giving them an insight into how some patients may benefit from this intervention.
- Cognitive behaviour therapy (CBT) – delegates heard about a study which has shown the effectiveness of CBT interventions delivered by nurses for anxiety in patients with COPD.
- FeNO testing – delegates were given a practical demonstration of a FeNO machine.
- How to do a chest examination – this workshop covered the basics of doing a chest examination.
- How to read a clinical paper – delegates were taught how to read a research paper effectively.

Christine Ennor, Conference Organising Committee member who organised the workshops, said: 'These sessions were extremely popular with many delegates saying that the session had been extremely worthwhile.'

Sophie and Leanne, practice nurses, from Leeds, said: 'The workshops are excellent. We have just been to the practical session on pulmonary rehabilitation and it has given us a real insight into what patients can gain from it. It will help us to explain the benefits to patients. In the session on interstitial lung disease it was fascinating to be able to hear the patient's point of view and how non invasive ventilation affects them.'

Kate, a respiratory nurse specialist, from Birmingham, said: 'The CBT session was fantastic and will help me to support my patients who have anxiety and breathlessness.'

> *"Thank you to everyone @PCRSUK for another amazing conference! Roll on next year!"*
>
> tweeted the Leeds Respiratory Network.

Research stream

A record number of abstracts and posters were submitted for display in the conference research sessions in conjunction with *npj Primary Care Respiratory Medicine*. Four of the best were awarded prizes.

Best practice abstract

Winner: Jacqueline Reynolds

Medicines management pharmacist, Aneurin Bevan University Health Board

Strategy to improve respiratory disease management saves £1.4m in Wales

A strategy to improve management of respiratory disease was introduced by the Aneurin Bevan University Health Board after an audit showed that there was variation in respiratory prescribing that could not be fully explained by prevalence, deprivation and smoking rates. High spending and greater use of high dose ICS did not equate to better patient outcomes. The data also showed there was variation in access to pulmonary rehabilitation.

Primary and secondary care doctors, nurses and pharmacists worked together to devise a strategy with three main themes: medicines optimisation to generate cost savings, local treatment pathways for COPD and asthma (including ICS dose comparison charts) and education for health care professionals. A respiratory nurse specialist was employed to work in primary care and funding was provided for advanced inhaler technique training.

In the last two years respiratory prescribing spend has been reduced by £1.4 million (8%), high-dose ICS prescribing has reduced from 40% to 23% of all ICS. The savings made have been reinvested in expanding the pulmonary rehabilitation service.

The judges said: *'This is an excellent example of multidisciplinary working and quality improvement work. It is good to hear that the savings made will be ploughed back in to respiratory care.'*

Best original research abstract

Winner: Rebecca Haydock

Trials manager, Nottingham clinical trials unit

Quadrupling inhaled corticosteroids can prevent asthma exacerbations

This trial showed that temporarily quadrupling inhaled corticosteroids (ICS) when asthma control deteriorates reduces severe asthma exacerbations, unscheduled healthcare consultations and the need for oral steroids.

A total of 1922 patients, recruited from 171 primary care sites and 10 secondary care sites, were randomised to one of two self management plans and for a year.

One group was asked to quadruple their dose of ICS for up to 14 days and use their bronchodilator medication when their asthma control began to deteriorate. The control group was asked only to use their bronchodilators to relieve their symptoms.

These patients all had a clinical diagnosis of asthma and were being treated with ICS and had had at least one exacerbation requiring oral steroids in the previous year.

There was a 20% reduction in the number of exacerbations and in asthma-related hospitalisations in the group who quadrupled their ICS. They were also prescribed fewer oral steroids.

Tim Harrison, chief investigator, had shown in previous research that only doubling the dose of inhaled steroids was not effective in reducing exacerbations.

Rebecca Haydock, trial manager of the study at the Nottingham clinical trials unit University of Nottingham, said: 'I'm really proud of working on this trial and I think that a 20% reduction in exacerbations is significant.'

The judges said: *'This was a very high quality, large study and was chosen as the winner because it was likely to have a large impact on grass roots practice.'*

Best practice poster

Winner: Darush Attar-Zadeh

Respiratory Lead Pharmacist Barnet CCG

Community pharmacists can improve outcomes for COPD patients

This study identified a gap in the education and treatment of COPD across north-west London and the potential for community pharmacists to improve outcomes for respiratory patients and potentially reduce admissions to hospital.

Data collected from patients receiving medicines prescribed for COPD by community pharmacists in North West London, identified poor inhaler technique, poor familiarity with pulmonary rehabilitation services higher than expected ICS use and medication or other issues requiring referral to GPs.

Over half (56%) of the 135 patients in the study were given inhaler training, 65% were offered Medicines Use Reviews, 17% received guidance regarding rescue packs, 28% were referred to GPs and 82% of smokers were referred to stop smoking services.

Printable infographics of these findings have been produced to disseminate this information widely to health professionals at professional meetings and exhibitions.

The judges said: *'This poster delivered a clear message about how community pharmacy can improve COPD management.'*

Details of best practice submissions can be viewed on pages 58-68.

Best research poster

Winner: Jane Young

PCRS-UK Trustee, advanced nurse practitioner in a GP practice and senior lecturer in community nursing, Anglia Ruskin University

Barriers preventing uptake of pulmonary rehabilitation

This study investigated why referral numbers and patient uptake to pulmonary rehabilitation is poor considering that this is a cost effective intervention for patients with COPD.

Analysis of ten patient interviews showed that primary healthcare practitioners' knowledge and understanding of pulmonary rehabilitation affects referrals and pulmonary rehabilitation providers are failing to adequately promote their services.

The authors recommend that primary healthcare practitioners discuss pulmonary rehabilitation with COPD patients and work in partnership with them.

The judges said: *'This was a very visual poster that presented the information in a clear way. It showcased the work of an early career researcher.'*

Self-management: the PCRS-UK Lay Reference Group's view

Fran Robinson, PCRS-UK communications consultant and **Jane Scullion**, PCRS-UK Lay Reference Group Chair in discussion with lay reference group members **John Hubbold, Neil Jackson, Mary Lettington, Barbara Preston, Amanda Roberts**

PCRS-UK promotes supported patient self management because it is a key component of good respiratory care. But what do patients understand by the concept and what support do they expect to receive from their healthcare professionals?

We asked our Lay Reference Group for their views. They completed a questionnaire then discussed the issue at a meeting held during the PCRS-UK 2017 national conference.

What does supported self management mean?

When asked what the term self-management meant to her, Amanda Roberts, who has asthma, said: '*It means that I am empowered to care for myself but my healthcare professional has not cut me adrift and I can refer to them when there are flare-ups or the underlying condition changes.*'

Barbara Preston, who has bronchiectasis, said having a rescue pack and knowing when to use it gave her a sense of security and made her feel that she was an expert in her condition.

Mary Lettington, who has COPD and emphysema, said for her, supported self management meant a named person who co-ordinated her care and viewed her health and social situation holistically. '*When I tell them what is relevant to me, they will listen and incorporate what I say into our discussion and not edit out, judge, or dismiss the parts that do not fit into their own conceptual framework*,' she said.

Neil Jackson, who has alpha-1 antitrypsin deficiency (AATD), said: '*Sometimes, it means letting me get on with it, and relying on me to report to my GP when/if there is a problem or variation in my condition that concerns me.' However, in more cynical moods, it feels like it means leaving me to fend for myself, knowing full well that there isn't really much more that can be done with my condition, in terms of day-to-day help, other than the inhalers I've already been given. Super-cynically, it could be construed as a ruse to save the NHS some work/money/pressure.*'

What does supported self-management look like from the patient's perspective?

Neil Jackson said: '*There isn't a great deal more that my GP can do to make my self-management any more ideal than it is at the moment.*' Neil has a rescue pack of antibiotics, a repeat prescription for his inhalers, and a recent pulmonary rehabilitation course has given him a new lease of life.

However although he rates himself as being 'pretty good' at self-management he said he still worried that he might make a mistake or fail to notice a gradual decline. Ideally he would like his GP to prompt him to come in for a review rather than having to rely on him having to request an appointment.

Amanda Roberts described self management as 'a regime which works to control my asthma and ensures easy access to timely appointments.'

John Hubbold, who has relapsing polychondritis, said self-management meant he had almost complete control of his life with very little input from the professionals.

Barbara Preston said: '*Ideally I would like to be in the position where communication is always clear, my history recorded, there is a clear bronchiectasis pathway and my relationship with healthcare professionals is adult to adult.*'

Pulmonary rehabilitation and exercise

The group discussed the benefits of pulmonary rehabilitation. Neil said initially he hadn't wanted to go to pulmonary rehabilitation because he perceived it as a course for older people. But he ended up going because his friends in the lay reference group recommended it. Afterwards he said he was glad he had done the course.

Jane Scullion, respiratory nurse consultant, PCRS-UK trustee and lay reference group chair, said pulmonary rehabilitation was about patients changing their lifestyle in the longer term. The problem was that people often got out of the habit of exercising during the year after a pulmonary rehabilitation course. Exercise should be part of the treatment plan from the start.

PCRS-UK Chair Noel Baxter said: '*GPs should be prescribing more exercise but the problem is that there is no research to inform us - we don't know what the doses are, we don't know what the range of treatments are for each condition. Sometimes the language that commissioners use worries us, for example they say things like - do not refer this patient if their condition is unstable, it is too vague. GPs should be confident about prescribing exercise.*'

Neil raised the issue of the blue badge scheme which provides disabled people with parking permits. He said he didn't feel he qualified for one as he wasn't disabled but there were times when he found walking difficult and could do with being able to park closer to things. Noel said that giving patients blue badges should be part of a self management plan.

How can the healthcare professional support the patient to self manage?

Neil Jackson said: '*A good honest relationship and trust with your GP is probably the most helpful thing you could wish for.*'

John Hubbold said he had found that physiotherapists were the most helpful healthcare professionals for self management as in his experience they all possessed good interpersonal skills. Two key requirements for him were that healthcare professionals should be easily contactable and should treat patients as equals.

What patients want from self-management:

- A number to call when things go wrong.
- A collaborative, patient-centred relationship with their health care professional
- Information and educational support.
- Recognition that their experience is unique to them,
- Psychological, social and peer support.

'*Everyone needs to know these five things. It represents what people are saying consistently and it resonates,*'

says PCRS-UK Chair Noel Baxter

Barbara Preston said that healthcare professionals should explain matters clearly, listen to the patient, adult-to-adult, read the patient's records carefully and give the patient a clear self-management plan tied in with a comprehensive annual review lasting longer than 10 minutes.

She added that although the support she received from healthcare professionals had improved considerably over the 70 years she had lived with her condition, she still felt that some only paid lip service to self-management.

She said she had learned a lot through her local Breathe Easy group. 'Patients don't expect to be medical experts but we can learn a lot from each other, from talks and British Lung Foundation publications. I've also come to understand the value of looking after myself in general.'

Mary Lettington said in her experience healthcare professionals too often limited themselves to the medical model of care and failed to join up the dots. But when the team did work well it worked brilliantly. *'Healthcare professionals always intend to be helpful and they are always kind,'* she said.

Supported self-management – Do it yourself health?

In this article, **Charles Waddicor**,chair of the PCRS-UK Trustees, shares his experience of surviving an asthma attack and his approach to self-management. The article is introduced by **Carol Stonham** guest editor for this issue of *Primary Care Respiratory Update*

When we consult with patients during an annual review, we go through a series of information gathering to confirm that the asthma is well controlled. We do our best to offer education on the disease processes and the effect the prescribed medication has on the disease. Taking this a step further, we co-complete an asthma action plan to help our patients recognise deterioration in their condition and act promptly to prevent further decline. Don't we?

But what about the patients that don't attend for review? Or those that have asthma all their lives and know their disease well? The report from the National Review of Asthma Deaths 'Why Asthma Still Kills' worryingly found that 43% of the patients had not been reviewed by their practice in the year preceding their death and only 23% of patients had personal asthma action plans. Almost half died without seeking medical assistance during their fatal attack.

So what happens to people with asthma for the biggest part of their lives outside of their annual check-up? Is self-management a learnt skill based around knowledge of their condition safely supported by health care professionals or more a case of making it up as they go along?

We are privileged in having a real-life account of how confidence in self managing a long-term condition can teeter from keeping things well under control to failing to recognise when an emergency is arising.

I would suggest you read this account through twice – once from the patient perspective to appreciate how unsettling losing control of a lifelong condition that you had mastered, and once from your perspective as a health care professional. The second time consider how you could do things differently. Self-management isn't just a paper plan given to a patient.

Carol Stonham, Guest Editor, Primary Care Respiratory Update

I am 66 years old. I have had asthma since I was less than 12 months. It was a real problem for me to manage as a child. I was and still am allergic to grass and tree pollens, as well as mould spoors. Generally, I am more symptom free in the autumn and winter and more prone to wheezing in the late spring and summer.

The drugs and delivery systems available in the 1950s and 1960s were not very effective and/or had significant side effects. However, once I reached my mid-20s the availability of sodium cromoglicate and salbutamol had transformed my ability to cope.

By the time I had reached my early 30s I had stopped having attacks. I was more active than I had ever been: cycling, running half marathons in my 50s and completing a Triathlon sprint when I was 64. I was becoming over-confident. I felt I knew my asthma. I was in control and could adapt my drug regime to my needs without effort. I rarely had to see my doctor and never about my asthma. I didn't attend asthma clinic appointments. Why should I? I knew more about my asthma than anyone.

The spring of 2017 was a little unusual. It was early, warm and dry. The trees and spring flowers re-

sponded accordingly. Moreover they stayed in bloom for longer. We went to France in April and I strimmed and cut grass for much of the two weeks. By the time we came back at the end of April I began to notice I was wheezing. I upped my dose of beclometasone (100mgs) from 1 puff per day to 3 puffs. When this had no effect I increased it to 4 puffs a day and used my Ventolin 6 or 7 times a day. Rather alarmingly my wheezing got steadily worse. I went to the doctor and he prescribed fluticasone propionate and salmeterol (250mgs) 4 times a day. He tested my peak flow, which was 200. He asked me what it usually was. I had no idea. There was a bit of confusion about the right make of inhaler to fit the large volume spacer, which was eventually resolved by the pharmacist. The day afterwards I was due to go to visit friends in Warwickshire for lunch. I didn't want to disappoint them by cancelling, although I was not feeling well. I was sleeping poorly and was using my salbutamol inhaler every hour. We went to Warwickshire and had lunch outside their house, surrounded by fields and woods. On my way home I realised I was becoming seriously unwell.

My wife took me to A&E where I was seen promptly. My peak flow by this stage was 140. I had two nebulizers and prednisolone intravenously. After 3 hours I had recovered enough to be discharged.

I have reflected on what these events have taught me and have had lots of helpful advice from Dr. Noel Baxter, Chair of the Executive Committee. I had clearly been over-confident about my ability to manage my asthma. I had been under-medicating myself. I had also increased my drug dosage too late and had waited too long to see my GP. I didn't know what my normal peak flow was and I wasn't using a spacer to take my inhalers. I didn't accept any limitations in my life whilst I was unwell, expecting to carry on as normal.

So what do I do now? I have accepted I must increase my beclometasone dosage to cope with the spring and summer allergens much earlier. I will increase it from 2 to 4 puffs a day at the end of February. I also understand this is not an exact science. In 2017 the pollens arrived earlier than in 2016 and stayed longer. The grass pollens hadn't even started in earnest by the time I had to go to A&E. I now use a large volume spacer each time I take my inhaler, which dramatically increases the effectiveness of each dose. I do check my peak flow regularly. Normal for me on a good day is about 400. Psychologically, I was shaken by the severity of the attack. I felt vulnerable and less confident. Fortunately, these feelings have passed, but I am determined not to underestimate my old advisory again.

Supported self-management case history Teenage asthma

The first in a series of snapshot case vignettes aimed at illustrating self-management opportunities. This case has been brought to you by Dr Vince Mak. Three healthcare professionals have provided their feedback on the case. What do you think?

Asthma - Case 1

14 year old girl – asthma since toddler. Has had eczema but no hay fever. Has occasional bad attacks and days off school with "asthma". Avoids exercise as makes her wheezy, is putting on weight and is in the upper 10%. Wakes once or twice a week with cough. Has 2 younger siblings, one with asthma. Mother smokes but not in the house. She herself claims not to smoke but a lot of her friends do and does not use recreational drugs. Has a cat and a dog and siblings have a hamster at home.

Is currently meant to be taking a combination inhaler containing budesonide 200mcg and formoterol fumarate dehydrate 6mcg, 2 puffs twice a day and has this on automatic repeat and claims to be using it. Uses salbutamol 2-3 times a day as wheezy. Has had two courses of steroids in the last year (one from GP and one from UCC). Does not think that asthma is a major problem.

© Susanne Neal | Dreamstime

Response

Dr Luke Daines, GP, Clinical Commissioner, Researcher

Supporting both 14 year old and parent(s).

This case identifies multiple indicators of poorly controlled asthma; excessive use of SABA, two courses of OCS in past year, regular symptoms. Other considerations: Mother and friends smoking and family environment loaded with potential allergens.

In terms of supported self-management aims would be:

- Education:
  - improve Mum and child's understanding about asthma
  - connecting the symptoms she experiences with poor asthma control
  - discussing aspects that are contributing to poor control
  - smoking cessation advice +/- support/referral
- Regular asthma review – I'd be keen to ensure a period of regular review to consolidate the healthcare-patient relationship, support more intensively and monitor asthma control
- Personalised asthma action plan: completed together after shared agreement of goals.
  - Taking ICS regularly and reducing SABA use
  - Discussing monitoring (ideally PEF as she has poor symptom recognition, but realistically may take time to convince patient of benefit)
  - Discussion of triggers
  - Clear plan for recognising and managing deterioration, discussing medication use and when / who to contact for help

Response

Dr Andrew Whittamore, Clinical Lead, Asthma UK

We firstly need to help them to accept that there is a problem that needs to be addressed. We need to be realistic that all the potential behaviours and triggers cannot be fixed in one appointment. It is also important to help her to take some ownership of her asthma and general health – until now she may have felt that it was her mum's role.

Engaging the daughter about what her health is stopping her doing, whether there are any aspects to her life she would like to change and what she would like to be able to achieve could be a useful opening. She may want to lose weight, feel fitter or not need to use her inhalers in public. She may want to avoid taking steroid tablets or having asthma attacks.

An abnormal spirometry, peak flow or FeNO might highlight to the girl and her family that her asthma is being undertreated. Doing carbon monoxide levels on the girl might reveal that she is either smoking or being exposed to her mother's smoke and trigger a change in behaviour that can be monitored.

Many parents think about their children's health before their own. Mum has already made the effort to smoke away from her children. Have a discussion with mum about the seriousness of asthma and some of the simple measures that she can make and how she can support her daughter to improve her health and reduce her risk.

Information about what asthma is, how the inflammation/symptoms can easily be controlled and about asthma triggers should be shared. The family may respond better to a face to face discussion and/or the Asthma UK website ('asthma and young people') which also has a range of case studies ('your stories').

The Asthma UK risk checker is suitable for adults and children over 12. It produces a tailored report explaining the key behaviours that constitute good asthma self-care.

https://www.asthma.org.uk/advice/manage-your-asthma/risk/?utm_source=print&utm_medium=print&utm_campaign=asthma+attack+risk+checker

We need to understand whether there are any barriers to using her medication as prescribed. Many teenagers have preconceptions about their inhalers and inhaled steroids so being open and exploring this is important.

Allowing the girl to choose an inhaler that she likes and can use effectively may improve adherence.

A written asthma action plan should be completed together. A photo of it can be kept on her phone so that she always has access to it.

She is old enough to engage with social media. Suggest following Asthma UK on Facebook and Twitter this could drip information about asthma and self-care into their lives as well as placing her into a supportive network. The Asthma UK website and helpline nurses can reinforce the messages that we are trying to convey and can be accessed anonymously without the hassle of making an appointment.

We need this family to keep engaging so remaining open and non-judgemental is important. Regular review for a period of time can demonstrate how seriously you are taking the asthma can trigger a change away from complacency. This will also give you an opportunity to repeat and reinforce messages and build up a constructive relationship with the family.

Response

Carol Stonham, primary care nurse practitioner

The first thing we need to do is build a relationship with her so that there is some trust. At 14 she is able to be the active participant in the consultation herself.

We need to gauge what she understands asthma to be as this is often the main problem. Simple explanations – I would draw circles to explain the inflammation and muscle twitch – and include the action of the inhalers on what is happening in her chest. The effect of triggers on this is really important – smoke, pets, emotion etc.

Explaining what can be achieved (total or near total control of symptoms) shows where it is possible to aim then relating that to a patient set goal(exercise, sleeping well, whatever) so that she has her own aim.

Continued on page 36...

A logical choice

of maintenance treatment to help prevent exacerbations of COPD

Trimbow®

beclometasone/formoterol/
glycopyrronium (87/5/9 mcg)

a combination of 3 established compounds in an extrafine formulation

Inspired logic

Chiesi

Trimbow is indicated for maintenance treatment in adult patients with moderate to severe COPD who are not adequately treated by a combination of an inhaled corticosteroid and a long-acting β_2-agonist (for effects on symptoms control and prevention of exacerbations see section 5.1 of the SPC)

Prescribing information can be found overleaf

CHTRI20170962F(1) Oct 2017

Prescribing Information

Trimbow 87/5/9 Pressurised Metered Dose Inhaler (pMDI) Prescribing Information Please refer to the full Summary of Product Characteristics (SPC) before prescribing. **Presentation:** Each Trimbow 87/5/9 pMDI delivered dose contains 87micrograms (mcg) of beclometasone dipropionate (BDP), 5mcg of formoterol fumarate dihydrate (formoterol) and 9mcg of glycopyrronium. This is equivalent to a metered dose of 100mcg BDP, 6mcg formoterol and 10mcg glycopyrronium. **Indications:** Maintenance treatment in adult patients with moderate to severe chronic obstructive pulmonary disease (COPD) not adequately treated by a combination of an inhaled corticosteroid (ICS) and a long-acting beta$_2$-agonist (for effects on symptoms control and prevention of exacerbations see section 5.1 of SPC). **Dosage and administration:** For inhalation in adult patients (≥18 years). 2 inhalations twice daily (bd). Can be used with the AeroChamber Plus® spacer device. BDP in Trimbow is characterised by an extrafine particle size distribution which results in a more potent effect than formulations of BDP with a non-extrafine particle size distribution (100mcg of BDP extrafine in Trimbow are equivalent to 250mcg of BDP in a non-extrafine formulation). **Contraindications:** Hypersensitivity to the active substances or to any of the excipients. **Warnings and precautions:** Not for acute use in treatment of acute episodes of bronchospasm or to treat COPD exacerbation. Discontinue immediately if hypersensitivity or paradoxical bronchospasm. *Deterioration of disease:* Trimbow should not be stopped abruptly. *Cardiovascular effects:* Use with caution in patients with cardiac arrhythmias, aortic stenosis, hypertrophic obstructive cardiomyopathy, severe heart disease, occlusive vascular diseases, arterial hypertension and aneurysm. Caution should also be used when treating patients with known or suspected prolongation of the QTc interval (QTc > 450 milliseconds for males, or > 470 milliseconds for females) either congenital or induced by medicinal products. Trimbow should not be administered for at least 12 hours before the start of anaesthesia as there is a risk of cardiac arrhythmias. Caution in patients with thyrotoxicosis, diabetes mellitus, phaeochromocytoma and untreated hypokalaemia. Increase in pneumonia and pneumonia hospitalisation in COPD patients receiving ICS observed. Clinical features of pneumonia may overlap with symptoms of COPD exacerbations. Systemic effects of ICS may occur, particularly at high doses for long periods, but are less likely than with oral steroids. These include Cushing's syndrome, Cushingoid features, adrenal suppression, growth retardation, decrease in bone mineral density, cataract, glaucoma and more rarely, a range of psychological or behavioural effects including psychomotor hyperactivity, sleep disorders, anxiety, depression and aggression. Use with caution in patients with pulmonary tuberculosis or fungal/viral airway infections. Potentially serious hypokalaemia may result from beta$_2$-agonist therapy. Formoterol may cause a rise in blood glucose levels. Glycopyrronium should be used with caution in patients with narrow-angle glaucoma, prostatic hyperplasia or urinary retention. Use in patients with severe hepatic or renal impairment should only be considered if benefit outweighs the risk. **Interactions:** Since glycopyrronium is eliminated via renal route, potential drug interactions could occur with medicinal products affecting renal excretion mechanisms e.g. with cimetidine (an inhibitor of OCT2 and MATE1 transporters in the kidney) co- administration, glycopyrronium showed a slight decrease in renal excretion (20%) and a limited increase in total systemic exposure (16%). Possibility of systemic effects with concomitant use of strong CYP3A inhibitors (e.g. ritonavir, cobicistat) cannot be excluded and therefore caution and appropriate monitoring is advised. *Related to formoterol:* Non-cardioselective beta-blockers (including eye drops) should be avoided. Concomitant administration of other beta-adrenergic drugs may have potentially additive effects. Concomitant treatment with quinidine, disopyramide, procainamide, antihistamines, monoamine oxidase inhibitors (MAOIs), tricyclic antidepressants and phenothiazines can prolong the QTc interval and increase the risk of ventricular arrhythmias. L-dopa, L-thyroxine, oxytocin and alcohol can impair cardiac tolerance towards beta$_2$-sympathomimetics. Hypertensive reactions may occur following co-administration with MAOIs including drugs with similar properties (e.g. furazolidone, procarbazine). Risk of arrhythmias in patients receiving concomitant anaesthesia with halogenated hydrocarbons. Concomitant treatment with xanthine derivatives, steroids or diuretics may potentiate a possible hypokalaemic effect of beta$_2$-agonists. Hypokalaemia may increase the likelihood of arrhythmias in patients receiving digitalis glycosides. *Related to glycopyrronium:* Co-administration with other anticholinergic-containing medicinal products is not recommended. *Excipients:* Presence of ethanol may cause potential interaction in sensitive patients taking metronidazole or disulfram. **Fertility, pregnancy and lactation:** Should only be used during pregnancy if the expected benefits outweigh the potential risks. Children born to mothers receiving substantial doses should be observed for adrenal suppression. Glucocorticoids and metabolites are excreted in human milk. It is unknown whether formoterol or glycopyrronium (including their metabolites) pass into human breast-milk but they have been detected in the milk of lactating animals. Anticholinergic agents like glycopyrronium could suppress lactation. A risk/benefit decision should be taken to discontinue therapy in the mother or discontinue breastfeeding. A decision must be made whether to discontinue breastfeeding or to discontinue/abstain from therapy. **Effects on driving and operating machinery:** None or negligible. **Side effects:** *Common:* pneumonia (in COPD patients), pharyngitis, oral candidiasis, urinary tract infection, nasopharyngitis, headache, dysphonia. *Uncommon:* influenza, oral fungal infection, oropharyngeal candidiasis, oesophageal candidiasis, sinusitis, rhinitis, gastroenteritis, vulvovaginal candidiasis, granulocytopenia, dermatitis allergic, hypokalaemia, hyperglycaemia, restlessness, tremor, dizziness, dysgeusia, hypoaesthesia, otosalpingitis, atrial fibrillation, electrocardiogram QT prolonged, tachycardia, tachyarrhythmia, palpitations, hyperaemia, flushing, cough, productive cough, throat irritation, epistaxis, diarrhoea, dry mouth, dysphagia, nausea, dyspepsia, burning sensation of the lips, dental caries, rash, urticaria, pruritus, hyperhidrosis, muscle spasms, myalgia, pain in extremity, musculoskeletal chest pain, dysuria, urinary retention, fatigue, asthenia, C-reactive protein increased, platelet count increased, free fatty acids increased, blood insulin increased, blood ketone body increased, blood cortisol decreased. *Rare:* Lower respiratory tract infection (fungal), hypersensitivity reactions, including erythema, lips, face, eyes and pharyngeal oedema, decreased appetite, insomnia, hypersomnia, angina pectoris (stable and unstable), ventricular extrasystoles, nodal rhythm, sinus bradycardia, blood extravasation, hypertension, paradoxical bronchospasm, oropharyngeal pain, angioedema, nephritis, blood pressure increased, blood pressure decreased. *Very rare:* thrombocytopenia, adrenal suppression, glaucoma, cataract, dyspnoea, growth retardation, peripheral oedema, bone density decreased. *Unknown frequency:* psychomotor hyperactivity, sleep disorders, anxiety, depression, aggression, behavioural changes (Refer to SPC for full list of side effects). **Legal category:** POM **Packs and price:** £44.50 1x120 actuations. **Marketing authorisation No:** EU/1/17/1208/002 **UK Distributor:** Chiesi Limited, 333 Styal Road, Manchester, M22 5LG. **Date of preparation:** Jun 2017. AeroChamber Plus® is a registered trademark of Trudell Medical International.

Adverse events should be reported. Reporting forms and information can be found at www.mhra.gov.uk/yellowcard. Adverse events should also be reported to Chiesi Limited on 0800 0092329 (GB), 1800 817459 (IE).

Trimbow®

beclometasone/formoterol/
glycopyrronium (87/5/9 mcg)

Continued from page 34...

Supported self-management case history
Teenage asthma

Measurement to further explain – peak flow, spiro, FeNO which is really helpful, to illustrate the point.

Check inhaler is appropriate (this age group sometimes dislike the shape of a turbohaler!), inhaler technique, side effects etc, agree realistic short term goals and review in a month when, with better understanding, better technique and compliance with meds, she is likely to have achieved goals, FeNO will have dropped (demonstratable measurable improvement) and she will be feeling better.

Talk about triggers (pets), unlikely to get rid but how to manage. Keep on side!

Discussion

Dr Vince Mak, Consultant Physician in Respiratory Integrated Care, Imperial College, London

Each of the responses highlight some of the areas discussed in the article from Taylor and Pinnock in this edition of *PCRU*:

- Engagement and building a relationship with the patient, and in this case her mother, are key. That successful management of her condition will be a collaboration between herself, her family and the healthcare professionals caring for her.
- Patient participation/activation in the process with agreed and realistic goals. Understanding what the patient and her family understand about their condition and the potential for good control (rather than the consequences of poor control).
- Education and providing information are important elements that equip the patient to self manage. The use of objective measurements can help illustrate the problem and give objective goals to aim for as well.

Each response clearly deals with the patient and their family in a holistic and patient- centred approach, and not just knowing what to do when at times of deterioration of their symptoms.

NEW

once-daily

NACSYS®

acetylcysteine 600mg effervescent tablets

Atlantic Pharma

NACSYS - £5.50 for 30 days. Only 18p per day[1]

NACSYS - 2017 GOLD guidelines recommend regular use of acetylcysteine to reduce the risk of exacerbations in certain COPD patients[2]

NACSYS - once daily, easy to take effervescent formulation with no dose titration needed[3]

NACSYS - the convenience of one effervescent tablet per day, compared to 4-6 capsules of carbocisteine per day

NACSYS - Prescribe the most globally used mucolytic **by brand** and realise significant savings; Save £11.07 per day over generic acetylcysteine 200mg powder for oral solution[1]

Abridged Prescribing Information

Product name: NACSYS 600mg effervescent tablets.

Composition: Each effervescent tablet contains 600mg of acetylcysteine, sodium hydrogen bicarbonate (E500) (equivalent to 115mg of sodium).

Therapeutic Indication: NACSYS is indicated for use as a mucolytic in adults with respiratory disorders.

Posology: One effervescent tablet of 600mg to be taken once daily.

Method of Administration: Dissolve NACSYS 600mg, effervescent tablets in half a glass of water to produce a solution that can be consumed immediately. Patients with a reduced cough reflex (elderly and weakened patients) are advised to take the tablet in the mornings.

Contraindications: Hypersensitivity to acetylcysteine or to any of the excipients. The tablets should not be used by children under two years of age.

Special warnings and precautions: Bronchospasm may occur with the use of NACSYS. Treatment with NACSYS should be discontinued immediately if this occurs. The administration of NACSYS may liquefy bronchial secretions and increase their volume. If the patient is unable to expectorate efficiently, postural drainage and bronchoaspiration should be used.

Interactions: Antitussive drugs and acetylcysteine should not be administered concomitantly; activated charcoal may reduce the effect of acetylcysteine; it is precautionary to advise the administration of oral antibiotics at least two hours before or after acetylcysteine; concurrent administration of acetylcysteine with nitro glycerine may enhance its vasodilatory effect. Acetylcysteine can interfere with the colorimetric assay for the determination of salicylates.

Pregnancy & Lactation: If necessary NACSYS 600mg may be used during pregnancy and lactation although there are limited data about its use.

Undesirable effects: Common (>1/100) undesirable effects have not been reported. Uncommon (≥1/1000, <1/100) Hypersensitivity headache; tinnitus; tachycardia; hypotension, gastrointestinal reaction (vomiting, diarrhoea, stomatitis, abdominal pain, nausea); fever. Rare (> 1/10000< 1/1000): dyspepsia; Very rare (<1/100000): anaphylactic shock, anaphylactic reaction, haemorrhage; Serious skin reactions such as Stevens-Johnson syndrome and Lyell's syndrome have very rarely been reported in temporal connection with the use of acetylcysteine. Prescribers should consult the Summary of Product Characteristics in relation to other adverse effects.

Reporting adverse effects: Reporting forms and information can be found at www.mhra.gov.uk/yellowcard. Adverse events should also be reported to Atlantic Pharma at safety@atlanticpharma.co.uk and 0845 5191 609

NHS price: £5.50 for a pack of thirty effervescent tablets.

Legal classification: POM

Distributor: Atlantic Pharma, 25a Becher Close, Renhold, MK41 OLP

MA number: PL 31388/0006
Date of revision of the text: 01/09/2017 AL0001

Ref:

1. Drug Tariff November 2017. Accessed on 1st November 2017 at https://www.nhsbsa.nhs.uk/
2. GOLD guidelines 2017. Accessed on 1st November 2017 at http://goldcopd.org/
3. SmPC NACSYS. Accessed at http://mhra.gov.uk/spc-pil/

AL0018 Date of preparation: Nov 2017

atlanticpharma.co.uk

Policy Round-Up

Bronwen Thompson, *PCRS-UK Policy Advisor*

A summary of the latest developments in the UK health services, including any major new reports, guidelines and other documents relevant to primary care respiratory medicine

Treating tobacco dependency – new strategy for England

The long awaited Tobacco Control Plan for England was published in July 2017 with positive news of falling prevalence of smoking overall, but highlighting continuing higher rates for those in routine and manual occupations. New targets to reduce smoking by 2022 for adults, teenagers, pregnant women, and for routine and manual workers were announced.

Importantly, the plan tasks both healthcare professionals and commissioners with supporting people to quit. PCRS-UK welcomes a pledge by Public Health England to

- provide all health professionals with access to tobacco dependency training;
- promote links to stop smoking services across the health and social care system;
- implement all NICE guidelines by 2022.

We shall continue to promote the messages that smoking is not a lifestyle choice but a relapsing long term condition that usually starts in childhood and that diagnosing and treating tobacco dependency is the responsibility of every healthcare professional. We encourage all healthcare professionals to use the effective, evidence based, treatments that can be delivered in primary care.

Treating tobacco dependency – an international primary care perspective

A new position statement on treating tobacco dependency in primary care has been published by the International Primary Care Respiratory Group (IPCRG) (June 2017), of which PCRS-UK is a member. The statement reinforces the key messages of the PCRS-UK tobacco dependency campaign.

The IPCRG paper sets out the following strategies which are quick and easy to implement in the practice:

- Make your practice 'smoke-free' by banning smoking on the premises, displaying information on smoking cessation in the waiting room
- Offer Very Brief Advice (VBA) to quit. This involves:
  - ASK: establish smoking status
  - ADVISE: advise on the benefits of cessation and/or making the offer of help to quit
  - ACT: act on the patient's response and make a referral/ provide support
- Train practice nurses and other staff to encourage smokers to quit and offer assistance
- Recommend a local telephone counselling service, where available, to all smokers who indicate interest in quitting
- Consider prescribing drug treatment for tobacco dependence such as nicotine replacement therapy, bupropion, varenicline
- Use a non-judgemental communication style
- Use motivational interviewing techniques to help people understand their own attitudes to smoking and quitting

PCRS-UK survey on smoking cessation services – what did we find?

Many thanks to all those of you who responded to our brief survey in October where we asked you about your local smoking cessation services. We had responses from 101 of you and the topline results were as follows.

Key findings:

- 18% have no specialist smoking cessation service to refer people to, and 7% don't expect to have one from next year
- However, over 60% do have a service outside the practice to refer people to
- 33% have someone within their team to refer to
- Over half the individuals who responded are providing smoking cessation support to patients, either with or without training

		%
1.	We have no access to a specialist smoking cessation service	18
2.	We have access to a specialist smoking cessation service locally (outside the patient's own practice)	61
3.	We have access to someone within our team with specialist smoking cessation training	33
4.	We don't expect to have a specialist smoking cessation service to refer people to next year	7
5.	I am untrained but support patients myself in stopping smoking	14
6.	I have been trained and support patients myself in stopping smoking	40
7.	None of the above	1

(n=101)
Respondents were able to select more than one answer to describe their local situation.

The comments you made in free text also offered a good insight into the variation round the country. It seems that some of you are trained to provide advice to help smokers quit, but are unable to provide this in practices due to time and/or funding constraints or because the service has been decommissioned in favour of providing the service outside practices. Some of you mentioned pharmacies, and others said smoking cessation had become part of a more general 'health promotion' service. In some instances, it seems that a service exists but may vary for the smoker according to whether they are in a 'high risk' category, with some only having access to online or telephone support. Many of you talked about it being a service undergoing a lot of reorganisation and change.

We have shared these results with NICE in our feedback to them on a draft guideline on Smoking cessation interventions and services, as they give a really good picture of the variability and instability of services around the country. We expect the final guideline in March 2018.

COPD audit primary care Wales

The second report from the RCP National COPD primary care audit in Wales has been published and reinforces the messages about the status of COPD care in Wales from the first report in October 2016. This was a more focused audit with only the most important areas covered, so the number of questions was reduced by 50% after the learning from the first. It was pleasing however that 94% of Welsh practices participated by actively opting-in to the audit. Accurate diagnosis and accurate coding of diagnosis continue to be an issue, with over half the patients labelled as COPD having a record of spirometry consistent with COPD, but only 11% having a record of the gold standard and most appropriate diagnostic test for COPD (a post bronchodilator FEV1/FVC or FEV1/VC).

It was disappointing that only 40% had an MRC breathlessness test score recorded and only 27% had a record of FEV1% predicted – both of which are indicators of severity, which should be factored into treatment choices, so it is likely that this resulted in people not getting the appropriate treatment. Similarly, recording of exacerbations is recognised increasingly as important for determining treatment choices, yet this emerged as an area where coding was poor or inconsistent. Inhaled steroid usage is only indicated where a patient is having frequent exacerbations, but is being used in twice the number of patients that the data suggest they should be. Greater use could also be made of pulse oximetry as an indicator of severity and to guide appropriate treatment with oxygen.

The report also highlighted significant inequalities, with COPD patients with mental health issues, current smokers, and those of lower socioeconomic status receiving less comprehensive management of their COPD than others. The report makes clear recommendations for quality improvement on the basis of key findings, and practices across the country, not just in Wales, will benefit from studying this report with a view to making improvements in their own practice.

QI opportunity? - COPD has been selected as one of five priority conditions from which local organisations (cluster networks) in Wales can choose to undertake a programme of improvement, so we hope to see some improvement in COPD care in the coming years, which should be picked up in future data collection for the audit in Wales.

STOP PRESS – Asthma is to be added to national COPD audit from 2018, so we expect future national audits of primary care to cover both asthma and COPD for the first time. Work is underway to determine the questions that will be asked for asthma.

BTS adult asthma audit highlights issues with diagnosis and treatment

Every few years the BTS undertakes an audit of adult asthma management in hospitals. Most recently they gathered data in 2016 and published a report at the end of September 2017. The main purpose is to see whether good practice is being followed in managing acute asthma in hospitals and to see if the quality of care is improving over time.

The key audit findings relevant to primary care are:

- 69% of patients had had a previous admission and 17% of patients had previously been admitted to critical care. 30% of patients had been readmitted to hospital in the previous 12 months.
- 89% of patients had a diagnosis of asthma on admission, and only 42% of those had a diagnosis supported by objective testing. The report says this data suggests that more needs to be done to ensure that a diagnosis of asthma is made on an objective basis.

- Smoking rates among patients admitted with asthma (27%) were significantly higher than among the general population (16%).
- Only 68% of patients were on regular inhaled corticosteroids (ICS) before the admission and 9% were on ICS but were poorly concordant. A further 15% were commenced on ICS prior to discharge.

We have recommended that practices look into their own asthma register to check on the quality of diagnosis, look into how well controlled they are and how well equipped to self manage, and review data on admissions for patients on their asthma register and identify those most at risk of an acute admission, with a view to preventing future admissions.

Read codes in primary care to be discontinued in England

Read codes have been used to capture important clinical information in the NHS since 1985 and have been the main coding mechanism in primary care in the UK. However, Read codes will be discontinued in primary care in England from April 2018 and will be replaced with SNOMED CT which is widely regarded as the most comprehensive and precise clinical health terminology system in the world. By 2020, all parts of the NHS will be using this system, so vital information can be shared consistently within and across health and care settings.

PCRS-UK is working with relevant individuals and organisations with the intention that the codes and classifications support best practice and are aligned with current guidance on the care of people with respiratory disease.

In brief –

Update on asthma and COPD work at NICE

Home oxygen QS published by BTS – 10 quality statements each describe a key marker of high- quality, cost-effective care for home oxygen use. See BTS webpages on quality standards. (September 2017)

New app for medicines information from BNF and BNFC - download it from https:// www.bnf.org/products/bnfbnfcapp/ for up to date medicines information which you can access wherever you are.

PCRS-UK News Round-Up

CONFERENCE ORGANISING COMMITTEE NEW MEMBERS

Following the completion of the terms of office of Sandy Walmsley, Thea Oliver and Christine Ennor to whom we are incredibly grateful for their service and the retirement of Johnathan Laird, we are delighted to announce the appointment of Heather Matthews, Darush Attar, Nicola Wood and Sanjeev Rana to the conference organising committee. Heather, Darush Nicola and Sanjeev attended the first meeting of the group last month and we welcome their enthusiasm and valuable contribution towards planning next year's conference.

NEW EXECUTIVE COMMITTEE MEMBER

We would like to welcome Sanjay Tanna to the Executive Committee of PCRS-UK. Sanjay will be bringing his perspective as a community pharmacist to the group and help to ensure we consider the wider allied healthcare professionals and their role in the management of respiratory disease.

GOING FOR GOLD ARTICLE UPDATED

The very popular article, Treatment guidelines for COPD – Going for GOLD?' previously published in the September issue of Primary Care Respiratory Update has been updated with minor changes and is available as a stand-alone article at https://pcrs-uk.org/treatment-guidelines-copd-going-gold. This is a consensus based article, that sets out a simple treatment pathway based on the predominant characteristics of COPD for an individual – whether symptoms or exacerbations– distilled from current guidelines. The article has been developed by a group of clinicians working with and in primary care, facilitated by integrated care consultant, Vince Mak, GPs, Duncan Keeley and Kevin Gruffydd-Jones and practice nurse, Carol Stonham

CPD MODULES – PCRA

The Primary Care Respiratory Academy has produced a number of CPD modules to support professional development including respiratory tests, supported self-management in COPD, Management of co-morbidities in COPD, Spirometry, Supported asthma self-management, inhaler devices, Management of co-morbidities in asthma, smoking cessation, acute exacerbations of COPD and childhood wheeze. You can access the modules free of charge at http://www.respiratoryacademy.co.uk/clinical-resources/cpd-modules/

Journal Round-Up

npj Primary Care Respiratory Medicine Key Summaries

A selection of short summaries of original research articles published in *npj Primary Care Respiratory Medicine*. The articles featured have been selected by the Primary Care Respiratory Update editorial board as being the most relevant and useful to primary care respiratory clinical practice in the UK. You can download freely any articles of interest from the website http://www.nature.com/npjpcrm/

npj Primary Care Respiratory Medicine is the only fully indexed scientific journal devoted to the management of respiratory diseases in primary care. It is an international, online, open access journal and is part of the Nature Partner Journal series.

If you would like to be informed when a new paper is published by *npj Primary Care Respiratory Medicine* simply join the npj Primary Care Respiratory Medicine e-alert list to receive notification direct to your inbox. Visit www.nature.com/npjpcrm/ and click the link on the right titled E-alert.

**** EDITOR'S CHOICE ****

Children's, parents' and health professionals' views on the management of childhood asthma: a qualitative study
Aidan Searle, Russell Jago, John Henderson & Katrina M. Turner
npj Primary Care Respiratory Medicine 27, Article number: 53 (2017)
doi:10.1038/s41533-017-0053-7

Both parents' and children's perceptions and understanding of childhood asthma should be considered when developing asthma management plans. The management of asthma is challenging and can result in poor disease outcomes if care is not taken. An individual's perception of their (or their child's) asthma can also affect the efficacy of treatment. Aidan Searle at the Bristol Biomedical Research Centre, UK, and co-workers, interviewed nine parent-child groups and thirteen health professionals to determine their perceptions of childhood asthma management in primary care. While some children had a strong awareness of symptoms and appropriate medication use, some parents found it difficult to identify asthma triggers and symptoms. Parents also displayed a lack of understanding of management through medication. Health professionals focused on the need for clearer information for families when guiding management of childhood asthma.

Perceptions of asthma control in the United Kingdom: a cross-sectional study comparing patient and healthcare professionals' perceptions of asthma control with validated ACT scores
Andrew Menzies-Gow & Gavin Chiu
npj Primary Care Respiratory Medicine 27, Article number: 48 (2017)
doi:10.1038/s41533-017-0050-x

Asthma patients and their doctors often misperceive whether the disease is under control, according to a British study. Andrew Menzies-Gow from Royal Brompton Hospital in London and Gavin Chiu from Boehringer Ingelheim UK in Bracknell used an online questionnaire to assess perceptions of asthma control among 234 patients and their healthcare providers. All participants had at least intermittent asthma that required occasional treatment; many had more severe disease. The researchers found that 84% of patients and 74% of doctors thought the asthma was well controlled, but results of the Asthma Control Test indicated only 55% of patients objectively achieved disease control. Correct agreement between the validated test and more subjective perceptions occurred in only 68 % of patients and 69% of doctors. Addressing this mismatch could go a long way to improving asthma control among British patients.

A qualitative study of GP, nurse and practice manager views on using targeted case-finding to identify patients with COPD in primary care
Rachael H. Summers, Taniya Sharmeen, Kate Lippiett, Kate Gillett, Carla Astles, Linh Vu, Mark Stafford-Watson, Anne Bruton, Mike Thomas & Tom Wilkinson
npj Primary Care Respiratory Medicine 27, Article number: 49 (2017)
doi:10.1038/s41533-017-0049-3

Additional staff and resources would facilitate targeted searches for patients showing symptoms of early-stage chronic lung disease. Chronic obstructive pulmonary disease (COPD) costs the UK economy billions of pounds each year, yet disparate symptoms mean patients

aren't always diagnosed in the early, treatable stages of the disease. Recent guidelines suggest introducing 'targeted case-finding', where symptomatic patients with known risk factors are identified and approached for testing by doctors. Rachael Summers and colleagues at the University of Southampton analyzed the opinions of healthcare professionals on implementing targeted case-finding in primary care. While most of the 36 professionals interviewed agreed that diagnosing COPD earlier had clear benefits, concerns were raised regarding negative patient responses and increased stress for patients, alongside the added strain on already stretched resources. Employing independent staff and enhancing resources may facilitate such a program.

Ethnic differences in smoking intensity and COPD risk: an observational study in primary care
Alexander Gilkes, Sally Hull, Stevo Durbaba, Peter Schofield, Mark Ashworth, Rohini Mathur & Patrick White
npj Primary Care Respiratory Medicine 27, Article number: 50 (2017)
doi:10.1038/s41533-017-0052-8

Lower smoking intensity among blacks and south Asians does not explain their lower risk for chronic obstructive pulmonary disease (COPD). A UK team led by Alexander Gilkes from Kings College London analysed primary care data from more than a million people living in four multi-ethnic boroughs of the British capital. The researchers found that smoking status and intensity (as measured by number of cigarettes smoked per day) were both significantly higher in white British or Irish groups than in other ethnic populations. Even after statistically adjusting for smoking status or smoking intensity, however, the researchers couldn't account for the fact that people of south Asian or African descent had much lower prevalence rates of COPD, a lung disease linked to smoking. The findings suggest that other explanations of ethnic differences are still needed.

Understanding the factors affecting self-management of COPD from the perspectives of healthcare practitioners: a qualitative study
Oladapo J. Ogunbayo, Sian Russell, James J. Newham, Karen Heslop-Marshall, Paul Netts, Barbara Hanratty & Eileen Kaner
npj Primary Care Respiratory Medicine 27, Article number: 54 (2017)
doi:10.1038/s41533-017-0054-6

Better co-ordination between healthcare services, practitioners and patients may help improve self-management for chronic lung disease. Self-management is crucial for patients with chronic obstructive pulmonary disease (COPD), but it can be difficult for healthcare workers to monitor and support patient progress. Oladapo Ogunbayo at Newcastle University, UK, and co-workers conducted interviews with healthcare practitioners to explore perceived barriers to successful self-management of COPD. Three distinct categories emerged; those at patient level, practitioner level and organisational level, the needs of which should be carefully balanced to improved self-management. Patient knowledge and understanding of COPD, alongside individual life circumstances, were often barriers to effective self-care. Those practitioners with specialist respiratory knowledge took a more holistic approach to self-management than their primary care counterparts. A lack of continuity between services and across self-management planning tools presented further barriers.

Longitudinal outcomes of different asthma phenotypes in primary care, an observational study
Rishi J. Khusial, Jacob K. Sont, Rik J. B. Loijmans, Jiska B. Snoeck-Stroband, Pim J. J. Assendelft, Tjard R. J. Schermer, Persijn J. Honkoop & for the ACCURATE Study Group
npj Primary Care Respiratory Medicine 27, Article number: 55 (2017)
doi:10.1038/s41533-017-0057-3

Asthma patients should be characterised according to their individual asthma type to ensure more targeted treatment. Even though asthma manifests itself in a wide variety of forms with differing degrees of severity, treatment of the disease often takes a broad, one-size-fits-all approach. To determine if asthma can indeed be split into distinct phenotypes, Rishi Khusial at the Leiden University Medical Center and co-workers across the Netherlands analysed data from 611 adult asthmatics treated in primary care, and followed them up after one year. The team identified five phenotypes in the primary care cohort, including one group with early onset asthma, another whose asthma responded well to bronchodilators, and a group classed as frequent exacerbators. Further analysis of long-term asthma outcomes showed clear differences between phenotypes, particularly in terms of asthma control and quality of life.

Patients' experiences of breathing retraining for asthma: a qualitative process analysis of participants in the intervention arms of the BREATHE trial
Emily Arden-Close, Lucy Yardley, Sarah Kirby, Mike Thomas & Anne Bruton
npj Primary Care Respiratory Medicine 27, Article number: 56 (2017)
doi:10.1038/s41533-017-0055-5

Patients with asthma taught how to change their unconscious breathing patterns generally like non-pharmacological interventions. Researchers in the UK, led by Mike Thomas from the University of Southampton, interviewed 16 people about their experiences in a trial that tested breathing retraining exercises delivered by DVD or face-to-face sessions with a respiratory physiotherapist. Overwhelmingly, trial participants reported that breathing retraining sessions gave them greater control over their symptoms, helped them relax, improved their quality of life and reduced the need for medications. Some participants who received DVD instruction said they had trouble mastering the techniques, and many in both groups found it hard to find time to practice the exercises. Overall, however, patients were positive about the experience. The authors conclude that breathing exercises are likely to be a well-received method of asthma management.

The recording and characteristics of pulmonary rehabilitation in patients with COPD using The Health Information Network (THIN) primary care database
Ali Hakamy, Tricia M. McKeever, Jack E. Gibson & Charlotte E. Bolton
npj Primary Care Respiratory Medicine 27, Article number: 58 (2017)
doi:10.1038/s41533-017-0058-2

Analysis of recent UK data suggests that more patients with chronic lung disease could benefit from lung rehabilitation programmes. During pulmonary rehabilitation (PR), patients with chronic obstructive pulmonary disease (COPD) work with specialists to learn exercises and optimise breathing techniques. The programmes are recommended under current guidelines, particularly for patients with a high breath-

lessness score. Despite this, when Charlotte Bolton and co-workers at the University of Nottingham analysed 36,189 patient primary care records gathered since 2004, they found only 9.8% of COPD patients had ever had a coded record of being assessed, referred for, or undertaken PR. Those patients who completed PR were 22% less likely to die that those who didn't, although appeared they had also received better overall COPD care. Current smokers, those suffering from co-morbidities and younger patients were more likely to receive PR than other patient groups.

Levels of exhaled carbon monoxide measured during an intervention program predict 1-year smoking cessation: a retrospective observational cohort study

Huei-Guan Shie, Sheng-Wei Pan, Wen-Kuang Yu, Wei-Chih Chen, Li-Ing Ho & Hsin-Kuo Ko

npj Primary Care Respiratory Medicine 27, Article number: 59 (2017)
doi:10.1038/s41533-017-0060-8

Researchers in Korea identify key predictors that pinpoint people most likely to quit smoking successfully during intervention programs. Millions are spent each year supporting people to quit smoking. However, successful quitters remain in the minority, with only 9–35 per cent of those in intervention programs abstaining for at least a year. Hsin-Kuo Ko at Taipei Veterans General Hospital and co-workers identified key independent indicators of successful abstinence in 162 smokers attending an intervention program. Alongside having a high intention to quit and using varenicline medication, a potential predictor is having an exhaled carbon monoxide (CO) level of less than 4.5 parts-per-million by day 8 of the course. Exhaled CO is higher in smokers than in non-smokers. Measuring CO levels one week into courses may be a useful biomarker to identify those fully committed to quit.

Comprehensive assessment of the safety of olodaterol 5 g in the Respimat® device for maintenance treatment of COPD: comparison with the long-acting β2-agonist formoterol

Andrea Koch, Henrik Watz, M. Reza Maleki-Yazdi, Ulrich Bothner, Kay Tetzlaff, Florian Voß & Lorcan McGarvey

npj Primary Care Respiratory Medicine 27, Article number: 60 (2017)
doi:10.1038/s41533-017-0059-1

The long-term safety of a recently-certified inhaled drug for the treatment of chronic lung disease is verified by scientists in Germany. The management of chronic obstructive pulmonary disease involves inhaled drugs called long-acting β2 agonists (LABAs). The most recently-certified LABA is called olodaterol. Andrea Koch at the Klinikum der Ludwig-Maximilians-Universität in Munich, Germany, and co-workers have clarified the long-term safety of olodaterol during two trials that compared it with formoterol, an existing LABA. The trials lasted 48 weeks and involved 1379 patients—460 were given a placebo, 459 received 5 µg olodaterol via a Respimat device, and 460 received formoterol. Side effects from olodaterol were no more severe or persistent than those associated with formoterol. Reassuringly, the new drug also displayed similar or slightly lower incidence of cardiovascular side effects such as heart palpitations compared with formoterol.

Best of the rest

These reviews were prepared by Dr Basil Penney and published by Doctors.net.uk Journal Watch. They have been selected and edited for inclusion into *Primary Care Respiratory Update* by editor Dr Iain Small.

The Doctors.net.uk Journal Watch service covers other specialities as well as respiratory medicine. Doctors.net.uk is the largest network of GMC-registered doctors in the UK. To find out more about membership visit http://www.doctors.net.uk

Abbreviations used in these reviews are:

Diseases/disorders

AECOPD	Acute exacerbation of chronic obstructive pulmonary disease
ACOS	Asthma:COPD overlap syndrome
COPD	Chronic obstructive pulmonary disease

Measures, doses and investigations

ACT	Asthma Control Test
BID	bis in die (Twice daily)
BMI	Body mass index
BDR	Bronchodilator response
CO2	Carbon dioxide
CXR	Chest X-ray
FEV1	Forced expiratory volume in 1 second
FVC	Forced vital capacity
LDCT	Low dose computerized tomography
mmHg	Millimetres of mercury
pMDI	Presurised metered dose inhaler

Organisations/People

GOLD	Global Initiative for Chronic Obstructive Lung Disease
GINA	Global Initiative for Asthma

Treatments

ICS	Inhaled corticosteroids
LABA	Long acting beta-agonist
LAMA	Long acting muscarinic agent
SABA	Short acting beta-agonist

Statistical terms

n	Number(s)
HR	Hazard ratio
p-value	Probability value
RCT	Randomised controlled trial
RR	Relative risk
SD	Standard deviation
95% CI	95% Confidence interval

**** EDITOR'S CHOICE ****

Diagnostic Instability and Reversals of Chronic Obstructive Pulmonary Disease Diagnosis in Individuals with Mild to Moderate Airflow Obstruction

Aaron SD, Tan WC, Bourbeau J *et al*; *Am J Respir Crit Care Med* Vol 196, Iss 3, pp 306–314, Aug 1, 2017 DOI: 10.1164/rccm.201612-2531OC

The presence of COPD is usually established on the basis of spirometry performed on a single day. However transient factors can cause spirometric measures to fluctuate from one visit to the next and include respiratory infections and exposure to irritants. Such transient variation could lead to patients being mislabeled as having COPD if their spirometry test results fell below the diagnostic threshold for a brief period that coincided with the time of the diagnostic test.

Aaron et al analysed data derived from two large longitudinal studies of subjects with mild to moderate COPD: -The Lung Health Study (n = 5,861) and the Canadian Cohort of Obstructive Lung Disease (CanCOLD) study (n = 1,551); to identify the frequency of diagnostic instability (how often patients crossed the spirometric diagnostic threshold to normal and back to COPD over a series of visits) and diagnostic reversals (how often an individual's COPD diagnosis at the study outset reversed to normal by the end of the study).

Diagnostic instability occurred in 19.5% of the Lung Health Study subjects and 6.4% of the CanCOLD subjects. Diagnostic reversals of COPD occurred in 12.6% and 27.2% of subjects in the Lung Health Study and CanCOLD study, respectively. The risk of diagnostic instability was greatest for subjects whose baseline value was closest to the diagnostic threshold, and the risk of diagnostic reversal was greatest for subjects who quit smoking during the study.

These results suggest that a single spirometric assessment may not be reliable for diagnosing COPD in patients with mild to moderate airflow obstruction at baseline.

Work-related asthma in a sample of subjects with established asthma

Talini D, Ciberti A, Bartoli D *et al*. *Respiratory Medicine*, September 2017 Vol 130 Pages 85-91 http://dx.doi.org/10.1016/j.rmed.2017.07.008

The associations between occupational exposure and asthma is underestimated because the prevalence of work related asthma (WRA) -which includes occupational asthma (OA) specifically caused by occupational sensitisers or irritants, and work-exacerbated asthma (WEA), in which pre-existing asthma is made worse by work- has not been well defined, due in part to variable definitions, diagnostic criteria, and work settings, as well as incomplete surveillance data.

This population-based cross sectional survey from Italy aimed to assess the impact of occupational exposure on the occurrence, recrudescence and worsening of asthma, and to identify unrecognised cases of WRA in a general asthma population sample of 893 asthmatic subjects (15-46 yrs. old). Subjects were classified in different categories of occupational risk exposure (No, Low or High) according to an Italian standard classification. 41% of subjects worked in industries and in job titles at risk for exposure to airway irritants and/or sensitisers, and 48.6% reported an occupational exposure to gases, dusts and fumes. More males than females worked in industries at higher risk. Prevalence of WEA and OA was higher in subjects who worked at higher risk exposure. Subjects with WEA and OA had inferior asthma control, which was associated to a higher functional impairment and level of asthma treatment. Risk of WEA was significantly associated with female gender, older age, and self-reported exposure, while risk of OA was associated to job title with higher exposure risk to occupational asthmogens.

This study population had a high prevalence of WRA (especially WEA) and the data support the role of occupational exposure in determining poor asthma control.

Antenatal Determinants of Bronchopulmonary Dysplasia and Late Respiratory Disease in Preterm Infants

Morrow LA, Wagner BD, Ingram DA *et al*; *Am J Respir Crit Care Med* Vol 196, Iss 3, pp 364–374, Aug 1, 2017. DOI: 10.1164/rccm.201612-2414OC

Despite improvements in perinatal care, preterm children remain at high risk for mortality and significant respiratory morbidities owing to the development of bronchopulmonary dysplasia (BPD). Antenatal factors that contribute to the development of BPD and late respiratory problems during infancy are incompletely understood. This prospective, longitudinal study aimed to identify antenatal risk factors associated with increased risk for BPD and respiratory disease during early childhood after preterm birth.

Data were prospectively collected on 587 preterm infants with gestational age less than 34 weeks and birth weights between 500 and 1,250 g. Follow-up continued until the children were 2 years old.

After adjusting for covariates, maternal smoking prior to preterm birth increased the odds of having an infant with BPD by twofold (P = 0.02). Maternal smoking was associated with prolonged respiratory support in the neonatal intensive care unit. Preexisting hypertension, lower gestational age and birth weight were associated with BPD.

Preterm infants who were exposed to maternal smoking had higher rates of late respiratory disease during childhood. 22% of infants diag-

nosed with BPD and 34% of preterm infants without BPD had no clinical signs of late respiratory disease during early childhood.

These findings suggest that in addition to the BPD diagnosis at 36 weeks, other factors modulate late respiratory outcomes during childhood. Measures to reduce maternal smoking will not only lower the risk for preterm birth but also will improve late respiratory morbidities after preterm birth.

A prospective, observational cohort study of the seasonal dynamics of airway pathogens in the aetiology of exacerbations in COPD Thorax

Wilkinson TMA, Aris E, Bourne S *et al.*
Thorax 2017;72:919–927. doi:10.1136/thoraxjnl-2016-209023

Acute exacerbations of COPD (AECOPD) are highly seasonal in incidence. This seasonality may be due the increased incidence of viral infections. Bacterial pathogens are commonly identified in the lower airway of patients, both in the stable state and during acute exacerbations, with significant changes in prevalence of airway bacteria during AECOPD. Understanding the interaction between chronic bacterial airway infection and seasonal exposure to viruses may provide important insights into the mechanisms of exacerbation and point to potential therapies that prevent rather than treat events.

The Acute Exacerbation and Respiratory InfectionS in COPD (AERIS) study assessed the contribution of changes in the COPD airway microbiome to the incidence of AECOPD in a cohort of 127 patients with COPD aged 40–85 years. Patients underwent sputum sampling monthly and at exacerbation for detection of bacteria and viruses over 1 year.

The mean exacerbation rate per patient-year was 3.04 (95% CI 2.63 to 3.50). At stable state, the most prevalent bacterial species identified were non-typeable Haemophilus influenzae (NTHi), M.catarrhalis and S. pneumoniae, consistent with other studies. The prevalence of NTHi and M. catarrhalis increased at exacerbation. When NTHi was detected, the increased risk of exacerbation was greater in high season than low season. Bacterial and viral co-infection was more frequent at exacerbation (24.9%) than stable state (8.6%). A significant interaction was detected between NTHi and human rhinovirus (HRV) presence and AECOPD risk.

Results suggest that the seasonal burden of AECOPD is driven partly by the effect of acute HRV infection on a background of NTHi infection.

Cardiovascular and neuropsychiatric risks of varenicline and bupropion in smokers with chronic obstructive pulmonary disease Thorax

Kotz D, Viechtbauer W, Simpson CR *et al.*
Thorax 2017;72:905–911. doi:10.1136/thoraxjnl-2017-210067

Although there is now good evidence about the safety of varenicline and bupropion in the general smoking population, it is important to assess specifically whether these drugs are associated with serious adverse events in disease subgroups, particularly in smokers with COPD who are already, by virtue of their diagnosis, at increased risk of cardiovascular and neuropsychiatric events.

This retrospective cohort study, used data from 14,350 patients with COPD included in the QResearch database, which holds data from 753 National Health Service general practices across England, to investigate whether varenicline and bupropion are associated with serious adverse cardiovascular and neuropsychiatric events in smokers with COPD.

COPD patient who received smoking cessation therapy [nicotine replacement therapy (NRT; N=10 426; reference group), bupropion (N=350) or varenicline (N=3574)] were followed up for 6 months to compare incident cardiovascular and neuropsychiatric events. Cox proportional hazards regression models were used to assess the association between exposure group and these events, adjusted for all measured potential confounders.

Neither bupropion nor varenicline showed an increased risk of any cardiovascular or neuropsychiatric event compared with NRT. Indeed varenicline use was associated with a reduced risk of heart failure (HR=0.56, 95% CI 0.34 to 0.92) and depression (HR=0.73, 95% CI 0.61 to 0.86). Modelling the effects of any potential unmeasured confounders found that these would only lead to an increased risk associated with varenicline use under unlikely assumptions.

In smokers with COPD, varenicline and bupropion are unlikely to be associated with increased risk of serious adverse neuropsychiatric or cardiovascular events compared with NRT.

Effect of budesonide/formoterol pressurized metered-dose inhaler on exacerbations versus formoterol in chronic obstructive pulmonary disease: The 6-month, randomized RISE (Revealing the Impact of Symbicort in reducing Exacerbations in COPD) study

Ferguson GT , Tashkin DP, Skärby T *et al*;
http://dx.doi.org/10.1016/j.rmed.2017.09.002

While previous studies have demonstrated reductions of 20%-35% in the rate of COPD exacerbations with budesonide/formoterol pressurized metered-dose inhaler (pMDI) compared with formoterol dry powder inhaler (DPI) alone, these studies were conducted before US Food and Drug Administration guidance advising that predefined COPD symptoms be documented when defining an exacerbation for clinical trials. In those studies, exacerbations were defined as significant events (ie, requiring treatment with oral corticosteroids and/or hospitalization) due to worsening of COPD symptoms, based on investigator judgment (not predefined by protocol).

This randomized, double-blind, double-dummy, parallel-group, multicenter study (Revealing the Impact of Symbicort in reducing Exacerbations in COPD) evaluated the effect of budesonide/formoterol 160/4.5µg 2 inhalations twice daily (BID) pMDI versus formoterol DPI 4.5 µg 2 inhalations BID on reducing COPD exacerbations as defined by US Food and Drug Administration guidance.

1219 patients aged ≥ 40 years with moderate-to-very-severe COPD and a history of ≥ 1 COPD exacerbation received budesonide/formoterol pMDI BID) during a 4-week run-in. Patients were then randomized 1:1 to receive budesonide/formoterol pMDI (n=606) or formoterol (n =613) for 26 weeks. Exacerbations were identified using predefined criteria for symptom worsening and treatment with systemic corticosteroids and/or antibiotics and/or hospitalization. The primary endpoint was annual rate of exacerbations.

Budesonide/formoterol pMDI use resulted in a 24% reduction in annual rate of exacerbations and a significant risk reduction for time to first exacerbation compared to formoterol alone. No increase in

pneumonia was observed with budesonide/formoterol; safety data were consistent with its established profile.

Effectiveness of fluticasone furoate plus vilanterol on asthma control in clinical practice: an open-label, parallel group,randomised controlled trial

THE LANCET

Woodcock A, Vestbo J, Bakerly ND *et al* ;
Lancet September 10, 2017
http://dx.doi.org/10.1016/S0140-6736(17)32397-8

Efficacy randomised controlled trials (RCTs) have limited relevance to everyday clinical practice, and there has been a call for comparative effectiveness studies to be done in more representative patients in routine care settings.

This open-label, randomised, controlled, two-arm effectiveness trial evaluated the effectiveness and safety of initiating the once-daily inhaled combination of either 100 µg or 200 µg fluticasone furoate and 25 µg vilanterol (n=2114) compared with continuation of maintenance therapy (usual care,n=2119) in a large, real-world population of adult patients with a general practitioner's diagnosis of symptomatic asthma. The primary endpoint was the percentage of patients at week 24 with either an ACT score of ≥ 20 or an increase in the ACT score from baseline of ≥3 (responders). This endpoint was analysed in the primary effectiveness analysis population: all patients who had an ACT score < 20 at the second visit (randomisation).

At week 24, the odds of being a responder were higher for patients who initiated treatment with fluticasone furoate/ vilanterol (977 [71%] of 1373) than for those on usual care (784 [56%] of 1399); odds ratio [OR] 2.00 [95% CI 1.70–2.34], p<0.0001). The mean ACT score increased by 4.4 points in patients initiated with fluticasone furoate/ vilanterol, compared with 2.8 points in the usual care group (difference 1.6 [95% CI 1.3–2.0], p<0.0001). There was no difference in other serious adverse events between the groups.

Patients in general practice with symptomatic asthma had improved asthma control from the introduction of once-daily combination treatment of fluticasone furoate/vilanterol compared with usual care without having any additional risk of serious adverse events.

Impact of low-dose CT screening on smoking cessation among high-risk participants in the UK Lung Cancer Screening Trial

Thorax

Brain K, Carter B, Lifford KJ *et al.*
Thorax 2017;72:912–918. doi:10.1136/thoraxjnl-2016-209690

Trials have been undertaken to ascertain the effectiveness of low-dose CT screening for the earlier detection of lung cancer in high-risk groups, including smokers. The impact of CT lung screening on smoking cessation and abstinence raises concerns that taking part in lung screening may offer a 'licence to smoke', especially for smokers who receive favourable screening results.

The current study builds upon previous UK Lung Cancer Screening (UKLS) Pilot Trial reports by examining the behavioural effects of trial participation and modifying variables on smoking cessation at short-term and long-term follow-up.

4055 high-risk individuals aged 50–75 years who completed baseline questionnaires were randomised to CT screening (intervention) or usual care (no screening control). Smoking habit was determined at baseline using self-report. 1546 were baseline smokers (759 intervention, 787 control). Smoking cessation rates were 8% (control) versus 14% (intervention) 2 weeks after baseline scan results or control assignment (T1) and 21% (control) versus 24%(intervention) up to 2 years after recruitment (T2). Intention to treat analyses indicated that the odds of quitting among screened participants were significantly higher at T1 (adjusted OR (aOR) 2.38, 95% CI 1.56 to 3.64, p<0.001) and T2 (aOR 1.60, 95% CI 1.17 to 2.18, p=0.003) compared with control. Intervention participants who needed additional clinical investigation were more likely to quit in the longer term compared with the control group and those receiving a negative result.

Integrating CT screening with evidence-based smoking cessation interventions could prompt quitting in motivated high-risk smokers.

Contributions of a hand-held fan to self-management of chronic breathlessness

EUROPEAN RESPIRATORY *journal*

Luckett T, Phillips J, Johnson MJ *et al.*
Eur Respir J 2017; 50: 1700262
https://doi.org/10.1183/13993003.00262-2017

While chronic breathlessness cannot be cured, it can be managed with non-pharmacological and pharmacological therapies aimed at modulating the perception of breathlessness and the person's response to it.

A hand-held fan has been recommended for managing breathlessness ("breathlessness crises") by the American Thoracic Society. Hypothesised, but only partially understood, mechanisms are likely to be multifactorial and concern stimulation of facial temperature receptors and modulation of central perception of breathlessness. Studies evaluating the fan to date have yielded promising results but suggest that nuances in the nature of benefit and administration of the fan require further exploration.

This secondary multimethod analysis was conducted on interview data collected in three clinical trials to provide an in-depth exploration of the benefits of use of the fan as perceived by patients and carers. Two researchers independently coded level of benefit qualitatively reported by each patient. Univariate and multivariate statistics were used to explore perceived benefit as a factor of sex, age and diagnosis.

133 patients responses were analysed. Two-thirds were diagnosed with non-malignant conditions. 18% perceived no or uncertain benefit, 72.0% perceived some benefit and 10.0% perceived very substantial benefit. Multivariate analysis was inconclusive. Benefit was described in terms of shorter recovery time, especially after activity. 7.5% patients said the fan reduced their need for home oxygen or inhaled β-agonist medications. Dislike of the cooling sensation and embarrassment in public were negative features highlighted by a few patients.

This analysis provides additional evidence to support the routine use of hand-held fans to patients with chronic breathlessness.

Mortality, survival and incidence rates in the ITALUNG randomised lung cancer screening trial

Thorax

Paci E, Puliti D, Pegna AL *et al.*
Thorax 2017;72:825–831. doi:10.1136/thoraxjnl-2016-209825

Screening for lung cancer with low-dose CT (LDCT) in the National Lung Screening Trial (NLST) reduced lung cancer mortality by 20%, and LDCT screening is currently recommended for high-risk subjects in the

USA. Conversely, public health guidelines in Europe do not recommend screening for lung cancer since the evidence of its benefits and harms has not been considered sufficient.

The ITALUNG lung cancer screening trial was launched in 2004,with the aim of contributing to the European evaluation of the efficacy of LDCT screening for reducing lung cancer -specific and overall mortality and an assessment of the benefit-to-harm ratio.

Subjects aged 55–69 years, smokers or ex-smokers (at least 20 pack-years in the last 10 years), were randomised to receive annual LDCT screening for 4 years (n=1613) or to usual care (n=1593). All participants were followed up for vital status and cause of death and lung cancer incidence.

67 lung cancer cases were diagnosed in the active group and 71 in the control group (rate ratio (RR)=0.93; 95% CI 0.67 to 1.30). A greater proportion of stage I lung cancer was observed in the active group (36% vs 11%, p<0.001). Non-significant reductions of 17% for overall mortality and 30% for lung cancer-specific mortality were estimated.

Despite lacking of statistical significance, these outcomes suggest that LDCT screening could reduce lung cancer and overall mortality. The comparison of the number of lung cancer cases diagnosed in the two groups does not show over diagnosis after an adequate follow-up period.

SECOND OPINION

Your respiratory questions answered...

Question:

What can the practice do to prepare for the National register for spirometry, and can we get certified as a practice?

Answer:

Impressive that you are thinking about and planning this now - you will be in a good position for when the National register for spirometry is fully up and running in April 2021. The register is, in fact, already in place for those that have been certified as competent within the last 3 years. What is new is the recommendation for all healthcare workers involved in spirometry to join the register from April 2021. From that date, anyone performing or interpreting spirometry in England should be on the National register, having been assessed and certified as competent.

So that is key point Number 1:
The National register for spirometry is a register of individuals, not of practices.

However, it is important that practices plan for how they will ensure that their patients are able to access spirometry from a practitioner on the National register.
So here is what a practice can do – starting now – to be preparing for the National register.

1. Check whether any practice staff performing and/or interpreting spirometry are already on the National register. Ask them – they should know. You can also check on the ARTP website as this information is in the public domain unless they have requested their name is not shown under data protection rules. Each individual remains on the register for a period of 3 years after which they need to undertake a short re-certification process to remain active.
2. If they are – great – they just need to ensure that they maintain their certification, and must be re-certified every three years.
3. If they are not – there are several options:
    a. If they have let their registration lapse, they need to contact ARTP about re-certification.
    b. They can undertake training before applying to the ARTP to have their competence assessed, and certified and then join the National register. Training can be undertaken with any provider of training – there are no longer ARTP accredited centres of training – so you can select a method of training that is suitable for you. The ARTP accredited training is changing to a blended model that is made up of a half day face to face training, then supported e-learning. Assessment of competence is the same for all routes and is undertaken by the ARTP.
    c. If they are very experienced but have never been trained, they can apply to the ARTP to be assessed under the Experienced Practitioner Scheme.
    d. You can discuss with your GP federation or locality group or CCG whether there are any plans to look at providing spirometry within a 'diagnostic hub' – in which case it is not necessary for every practice to have staff certified as competent in spirometry. A diagnostic hub will be a service to which several practices can refer their patients. It is a locality level decision how diagnostic spirometry is provided.
4. If you do not have any staff in the practice performing or interpreting spirometry, you can consider getting staff trained up, or talk to locality groups as in 3d above.

So key point Number 2 is:
A practice can start preparing NOW for the introduction of the National register for spirometry.

Note that the National register only covers Quality assured diagnostic spirometry for adults. Practices can continue to use spirometry for monitoring patients without needing its staff to be on the National register. However their level of competency should still be considered and it is the responsibility of the practice to ensure that all staff undertaking this are competent to do so, as well as the individual healthcare professional.

It is worth saying that joining the National register is not mandatory, but it is the most straightforward way for an individual to demonstrate that they have been assessed as competent. CQC has already indicated that it will be asking about whether practice staff performing and interpreting diagnostic spirometry are on the National register when it inspects practices. And it is also possible that CCGs may require practices to report on whether individuals are certified.

Check out the ARTP website for full information on certification and recertification, the National Register, options for training, and arrangements for assessment of competence. http://www.artp.org.uk/

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Making exercise for breathless people work

Alex Woodward
Respiratory Physiotherapist

Introduction

The significant benefits of regular exercise in improving people's health has led to exercise becoming a key treatment for a wide variety of health conditions. This is particularly the case in people with chronic respiratory conditions and chronic heart failure (HF) with rehabilitation for both these patient groups being an integral part of their care.

There is ample high quality research which shows pulmonary rehabilitation (PR) and HF rehabilitation (HFR) programs produce significant improvements in exercise capacity and health related quality of life (HRQoL) for both chronic respiratory and HF patients whilst also reducing hospital admissions. Both pulmonary and HF rehabilitation programs are recommended in current national and international guidelines and should be a key part of the management of a patient's condition.

Background to integrated "breathlessness rehabilitation"

People with chronic respiratory conditions, in particular chronic obstructive pulmonary disease (COPD), and people with HF often suffer from and present with very similar symptoms. Exertional breathlessness, general fatigue and specific lower limb fatigue are common symptoms in both diseases. Both COPD and HF patients often become less physically active to avoid experiencing these symptoms leading to physical deconditioning and a further worsening of their symptoms. This reduction in activity and worsening of symptoms can then lead to a loss of confidence, depression, increasing anxiety and social isolation. Whilst pharmacological treatments may help to relieve these symptoms the ideal treatment for these patients is exercise and attending a rehabilitation program.

People with COPD and heart failure suffer from breathlessness, general fatigue and specific lower limb fatigue leading to physical deconditioning, loss of confidence, depression, increasing anxiety and social isolation

There are also secondary systemic manifestations in both COPD and HF which contribute to exercise limitation and poor prognosis namely skeletal muscle dysfunction. There is a reduction in muscle mass, strength and endurance in both diseases contributing to exercise intolerance. However, these skeletal muscle changes are partially reversible with exercise training again emphasising the importance that both COPD and HF patients should attend a rehabilitation program.

Traditionally HF patients have attended cardiac rehabilitation (CR) programs but these services can have more of a bias towards younger, fitter non-symptomatic post-MI and post-cardiac surgery patients rather than the older, chronically breathless HF patient. Therefore, due to the above similarities in symptoms between COPD and HF patients, HF patients may be more suited to the PR model of rehabilitation.

Only a small proportion of heart failure patients actually attend cardiac rehabilitation and currently in the England, Wales and Northern Ireland <5% of patients who undergo cardiac rehabilitation had a primary diagnosis of HF. [1]

A study has shown that combining PR and HFR into one program is effective in improving exercise capacity and HRQoL in a hospital and research setting.[2] In this study both COPD and HF patients followed a traditional PR program (7-week, twice weekly 2-hour sessions of cardiovascular and strengthening exercises and education) with COPD and HF patients exercising together in one group. Both patient groups achieved similar improvements in exercise capacity and HRQoL as each other and similar to what has been previously reported in the literature for disease specific programs.

This study highlights and confirms that it is feasible and effective to integrate COPD and HF patients into one rehabilitation program using the PR model as a basis for it.

How and why the integrated pulmonary and heart failure rehabilitation service was developed

An expansion of the community HF specialist nursing service led to an increased demand for patients requiring HF rehabilitation. There was

previously no community HFR provision locally and HF patients had to attend the hospital based cardiac rehabilitation service run by the acute trust. This created an opportunity to develop a business case and approach local commissioners about potentially commissioning community HFR as part of the well-established community PR service to develop an integrated community PR and HFR service.

The business case developed included a review of the evidence of the effectiveness of both PR and HFR and the clinical evidence behind integrating the two. It also included how an integrated program could be more cost-effective and achieve economies of scale as approximately 20% of patients have both COPD and HF [3] so may get referred to and attend both a PR program and a HFR program. It also highlighted how integrating HF patients into the existing community PR service may help to increase capacity within the local cardiac rehabilitation service. The final part of the business plan highlighted the impact PR and HFR has on reducing hospital admissions in the patients who attend the programs.

Following the presentation of this business case to commissioners it was agreed a 12-month pilot of integrated community PR and HFR would be commissioned to investigate whether it was feasible, effective and safe. The long term prospects of this service would then be reviewed after the completion of the pilot period.

Integrated rehabilitation service design

Prior to commencing the 12-month pilot all staff in the community PR team received training from the community HF nurse specialists on the general management of HF patients. All of the staff (a combination of physiotherapists and physiotherapy technical instructors) were experienced in delivering community based PR and managing severely breathless patients during exercise but identified specific learning needs in the pharmacological management of HF and what to look out for and monitor when a patient is experiencing an acute decompensation of HF.

The integrated PR and HFR service was based on and run in accordance with local protocols for the community PR programs. The inclusion criteria for the service was a confirmed diagnosis of COPD and a MRC Dyspnoea score ≥ 2 or a confirmed diagnosis of heart failure and a NYHA Score ≥ 2. The exclusion criteria was any unstable cardiovascular condition and any co-morbidity which would limit a patient's ability to exercise.

Inclusion criteria for the service

- **Confirmed diagnosis of COPD**
- **MRC Dyspnoea score ≥ 2**

OR

- **Confirmed diagnosis of heart falure**
- **NYHA score ≥ 2**

Five integrated rehabilitation programs were delivered during the 12-month pilot in three different geographical locations. These five programs were run as 10-week block programs with a 3-week period of initial assessments followed by the 6-week class and then 2-weeks of discharge assessments.

All patients accepted on to the integrated rehabilitation program attended for an initial assessment to review their medical history, medications and impact their symptoms have on their daily life. Patients then completed the Incremental Shuttle Walk Test (ISWT) and Endurance Shuttle Walk Test (ESWT) which were carried out in a standardised manner.[4] Patients also completed a quality of life questionnaire either the Chronic Respiratory Questionnaire (CRQ) or the Chronic Heart Questionnaire (CHQ) and then also the PHQ9 and the GAD7 Questionnaires.

Following this assessment patients undertook a 6-week community based integrated rehabilitation program of twice weekly 2-hour sessions made up of 1-hour of exercise followed by a 1-hour educational session. During this program patients underwent a supervised exercise program of walking (at an individually tailored speed calculated at 85% peak O2 consumption from their ISWT result), exercise bike cycling and upper and lower limb strengthening exercises using free weights. During the exercise class there was no ECG monitoring or continuous telemetry of the HF patients. Alongside the two supervised exercise sessions patients were expected to complete a daily unsupervised walk at home at their calculated walking speed and also complete one further session of strength training at home. Both COPD and HF patients exercised together as one group and were supervised by the same staff using a staff to patient ratio of 1:8.

The education sessions delivered are detailed in Table 1. The patients had generic and combined group education sessions for the majority of the sessions but separated into two groups for the medications and managing flare-ups sessions. The education sessions were predominantly delivered by physiotherapists but a specialist COPD or HF nurse delivered the medications and managing flare-ups sessions with a dietician delivering the diet and cardio-respiratory conditions session.

Table 1 - Education sessions delivered on the integrated rehabilitation programs

Disease education	Energy conservation
Benefits of exercise	Diet and cardio-respiratory conditions
Managing breathlessness	How the heart and lungs work
Medications	Managing flare-ups
Chest clearance	Rehabilitation - What next?
Managing anxiety and relaxation	Quiz and Q & A session

The integrated rehabilitation programs were held in a variety of community venues including community centres, leisure centres and church halls.

After completing the 6-week program patients attended for a discharge assessment to repeat the previously documented outcome measures and to create an action plan to continue with their exercise.

Integrated rehabilitation service outcomes

Overall 79 patients (42 COPD; 37 HF) were recruited to five integrated rehabilitation programs across the 12-month pilot. 63 patients completed the program with the drop outs mainly due to acute exacerbations of COPD or decompensation of HF and which were split equally between COPD and HF patients. No adverse events occurred in any of the integrated rehabilitation programs during the 12-months pilot.

There were significant improvements in both ISWT distance ($p < 0.001$) and ESWT time ($p < 0.001$) from initial assessment to completion of the integrated rehabilitation program. There were also significant improvements in HRQoL ($p < 0.001$) and significant reductions in anxiety and depression ($p < 0.05$) in patients who completed the program when compared to their baseline scores. The improvements for both exercise capacity and HRQoL were similar for patients with COPD and HF. The improvements seen were comparable to the results produced by disease specific rehabilitation programs.

Patient satisfaction and feedback for the integrated rehabilitation service was very high with no concerns or disadvantages reported from patients about attending a mixed disease rehabilitation program rather than a disease specific one.

Patients had no negative comments on the combined, generic education sessions but did appreciate the separate medication session.

These clinical results and the patient feedback were then fed back to the commissioners following the completion of the 12-month pilot.

The integrated PR and HFR service has now become a fully commissioned service in the community and the programs are ongoing.

Conclusion

This 12-month pilot integrated PR and HFR service has shown it is feasible and safe to deliver it in the community and that integrated programs can be as effective and achieve similar improvements in exercise capacity and HRQoL as disease specific ones. It highlights integrating COPD and HF patients into a joint rehabilitation program does not have a detrimental impact on the potential outcomes and benefits patients can achieve with attending a rehabilitation program.

Learning Points

- Early engagement with commissioners was key to making this integrated rehabilitation service a success - Go and identify your local commissioner(s) who manages or leads on respiratory and/or heart failure community services. Arrange a meeting with them to discuss rehabilitation and use this opportunity to make them aware of the significant benefits PR and HFR bring about not only for patients but also for the local health economy.
- Utilise your local HF specialist nursing team whether this be community or secondary care based. They were essential in helping to develop the educational component of this service and they will often have experience of working in HFR programs. Again early engagement with the HF specialist nursing team was crucial in this services success as they were the largest referrers to the service.
- Existing community PR teams have the skills and experience of managing, often severely, chronically breathless patients during exercise sessions so incorporating other long term conditions where breathless is a major symptoms into rehabilitation programs is feasible and safe but do identify any training needs your team may have and arrange appropriate training.
- Network locally with other PR providers to share best practice and ideas on integrating PR and HFR. If you are having difficulties establishing integrated PR and HFR they may have a solution for the problem/barrier you need to overcome and vice versa.
- Visit and work closely with GP practices to promote your rehabilitation services and help them identify which patients would be suitable for rehabilitation.

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PCRS-UK Respiratory Clinical Leadership Programme 10th anniversary

The PCRS-UK Respiratory Clinical Leadership Programme is celebrating its 10th anniversay. To mark this milestone we are highlighting how some of the programme's alumni are using the skills they have learned to improve patient care.

Debbie Roots, respiratory nurse specialist lead of a hospital based team, says key skills she has learned are how to engage with stakeholders and develop a business case. Debbie has gone on to put forward business cases to develop respiratory teams and services including setting up pulmonary rehabilitation classes.

She has also taken on more challenging leadership roles including promotion to nurse consultant, becoming a member of the London Respiratory Network and co-chair of the London Oxygen Network. 'I wouldn't have had the courage to take on these roles without the support of the Respiratory Clinical Leaders Programme. I am now able to lead confidently and continue to work nationally and locally to develop respiratory services. Being part of the programme has been invaluable in developing both my skills and confidence,' she says.

Deirdre Siddaway, respiratory nurse specialist and GP practice respiratory lead, has learned how to influence people, manage conflict and plan a project. These skills, combined with support and advice from workshop leaders, equipped her to make the case for her CCG to commission a six month pilot between primary and secondary care to improve patient care, reduce outpatient waiting times and prescribing costs. 'I had been trying to engage commissioners for some time to raise the profile of the management of respiratory patients. The workshops helped me to target the right people, find the levers to encourage them to listen and to engage those who were influential,' she says.

Ruth Thomas, community respiratory nurse team leader has improved care in her area by putting forward business cases for increasing pulmonary rehabilitation services, improving COPD exacerbation care and updating COPD and bronchiectasis self-management plans. 'All of this has been made possible by the skills I learned and the support I received from the programme,' she says.

Carla Astles began her career as a practice nurse and is now working as a respiratory nurse specialist nurse educator for Southampton's integrated COPD team and as a trainee advanced nurse practitioner in general practice. She is also a Wessex CLAHRC (Collaboration for Leadership in Applied Health Research and Care) nurse involved in developing a service for improving respiratory care within a primary care setting by undertaking, applying and implementing world-class applied research for patient and population benefit.

Carla says the workshop taught her about the concept of doing 'the work before the work' when developing a project. She had previously adopted the attitude of 'just get on with it and see if it works'. She learned that while this may be appropriate for a smaller scale initiative it makes evaluating a project or a change in practice challenging and could reduce the potential for upscaling or sharing practice. 'Much of the work I have done in the last few years requires forward planning and evaluation which I felt better equipped to manage after attending the workshop. The skills I learned also boosted my confidence as a contributing member of a working group looking at service development,' she says.

A commissoner and respiratory clinical lead for her CCG, GP, *Dr Adedayo Kuku*, joined the programme because she was keen to develop and improve both her professional and leadership skills.

'Each session I have attended has been very inspiring and empowering. The workshops have equipped me with the tools I need to turn most of my great ideas into reality. They improved my project management skills and my professional self confidence. I have learned to be clear about the aims and scope of a new project, how to involve key players and

Nurses inspired to aim high

Melissa Canavan and her colleague ***Sarah Anderson*** were inspired to set up a social enterprise in Leeds after attending the Respiratory Clinical Leaders programme.

First they launched the Leeds Respiratory Network in 2013 to provide educational meetings for local healthcare professionals, followed by their social enterprise in 2015. This year they achieved their aspiration of securing a contract with a collaboration of GP practices for their social enterprise to standardise respiratory care and improve outcomes.

The leadership workshops gave Melissa and Sarah the confidence to pitch for funds and business support from two local community foundations, contract a solicitor and an accountant and open a bank account. They also learned how to liaise with commissioners and pitch a business case.

From working as a practice nurse Melissa has gone on to work as a hospital respiratory specialist nurse, present at the Primary Care Respiratory Academy and lead sessions at the annual Affiliated Group Leaders meeting. Earlier this year she was invited by NHS England to talk about her social enterprise at the national GP Forward View conference.

'The Respiratory Clinical Leaders Programme has given me new skills such as understanding how to use data, make a case for change, engage stakeholders and why it is important to have a mission and values. The workshops made me realise that there are opportunities out there and that you can influence the system and improve patient care. If it wasn't for PCRS-UK none of this would have happened,' she says.

stakeholders to effect change and how to share my plan with them and communicate more effectively using learned negotiating skills.

'I now feel able to manage difficult situations and people in my role as clinical lead of a new practice. The programme has taught me how to be reflective and how to understand the perspective and interests of others and has given me an insight into my leadership style and how to use it more effectively.'

Dr Steve Holmes, GP trainer, clinical commissioner, researcher and practice respiratory lead, who teaches in the workshops says: 'Leadership and communication skills are underrated. The more I understand and practise these skills the better I get. I have been able to improve patient care by learning and listening to others and helping to change systems.'

Clare Cook, physiotherapist and co-lead of the programme, says the leadership skills she has learned have helped her too as clinical lead for respiratory services at Bristol Community Health, to develop and expand services at the social enterprise. She says: 'The time spent away at the Respiratory Clinical Leaders meetings has helped me reflect on my goals as a team leader and learn from peers across the country in similar positions. This has boosted my confidence and understanding of the respiratory community and has enabled me to be a more rounded professional and in turn deliver better patient care.

'The workshops have introduced me to project management in a practical and useful format, giving me templates and processes for planning projects and service development in the work place. They have also helped me to improve on skills such as reading academic literature understanding national policies and better understand the structure of health services. It is great to attend such high quality training which is free for members of PCRS-UK.

'The diversity of practitioners who come to the meetings means I always learn something new and feel enriched by spending time with people who are all striving to make steps to progress services for respiratory patients.'

Dr Stephen Gaduzo, co-lead of the programme, says: 'The programme is about enhancing your natural leadership expertise and nurturing the skills that you may not even realise you have, so you can improve care for more than the individual patient sat in front of you.

Stephen, who went to the first workshop in 2007, says the programme gave him the confidence to present at meetings, become part of the North West Respiratory team and eventually PCRS-UK Chair. 'I would say to anyone who is, or maybe (even reluctantly), a respiratory lead of any description or magnitude, come along. It's free, due to a big investment in you by PCRS-UK. It's fun, supportive, and who knows where it might lead.'

A doctor inspired to lead an integrated team with patients at the centre

Dr Helen Ward, consultant respiratory physician, New Cross Hospital, found the support of the Clinical Respiratory Leaders Programme invaluable when, six months into her promotion to consultant, she took over as lead of a new respiratory action network in Wolverhampton.

This initiative had been set up by her predecessor, Dr Lee Dowson, to integrate services and move respiratory care closer to home. It has been taken in new directions under Helen's leadership.

The RAINBOW group (Respiratory Action Network for the benefit of Wolverhampton) pulls together all the respiratory leads from primary, community and secondary care and a CCG representative for regular meetings to discuss respiratory matters.

Developments include:

- Multidisciplinary team meetings held every fortnight to discuss patients with chronic respiratory conditions.
- Respiratory hospital outpatient treatment clinics to prevent admissions. These clinics provide a single point of access for patients with any respiratory problem who a healthcare professional is concerned about and may need admission to hospital.
- Respiratory in-reach into the Acute Medical Unit where a consultant is available seven days a week to provide a specialist opinion for patients with acute respiratory problems. A nurse completes discharge bundles and coordinates early supported discharge for respiratory patients.
- Rapid intervention team, a senior community nursing team available seven days a week to assess, do observations and prescribe, providing crucial support to help keep unwell patients at home.
- Helen ran joint community clinics for a while in GP practices to engage with practitioners and boost practice nurse respiratory skills.
- She now does a monthly joint palliative/respiratory clinic at the local hospice with one of the palliative care consultants with patients with end stage respiratory disease.

Since setting up these services, hospital admissions, readmissions and length of stay have been reduced for COPD patients. Joint working across primary and secondary care has resulted in shared learning.

Helen explains that the key to the success of this initiative has been the importance of good communication. Each sector now appreciates and understands each other's workload and pressures and are able to share frustrations and ideas for solving problems. 'You have to be politically sensitive and aware of the bigger picture when working across healthcare sectors like this. Communication is probably the most important aspect of working together, it is about building relationships and building trust. If you build trust, people will come and talk to you. If people don't communicate with each other then integrated working is never going to happen. This is the way forward - everybody working together with the patient in the centre.'

Helen says the Respiratory Clinical Leaders Programme equipped her with the skills and confidence to make things happen. 'The workshops teach you how to develop yourself as leader in that they give you the tools for internal reflection, how to lead people, how to work as a team and how to deal with challenging people. You also learn practical skills on topics such as developing a business case and understanding your target audience.

'Crucially the programme gives you networking opportunities to meet others who are going through similar experiences. Communication is key. It's about giving people support who haven't got much confidence and to say - you can do it. The programme provides people you can go to if you are unsure about what you are doing or want reassurance.

'I've grown in confidence as I've gone along. What has helped me is being able to identify a group of primary care leaders that I can go to who think that what I'm doing is right and who give me support. The Respiratory Clinical Leaders Programme has opened up another group of people that I can rely on for a GP or primary care perspective or reassurance,' she says.

Respiratory leadership development programme

Bringing about change in practice: secrets for a successful project

How long have you been trying to get a project underway? Whether the project is bringing about a change in your practice, to support your own professional development or to encourage service improvement across a locality - and no matter how big or small the project is or what your level of experience is - this workshop, is for you!

8th-9th June 2018
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Exclusive workshop for PCRS-UK members, visit

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Primary Care Respiratory Society UK wishes to acknowledge the support of Boehringer Ingelheim Ltd, Napp Pharmaceuticals Ltd and Pfizer Ltd in the provision of an educational grant towards this meeting. Sponsors have no input into the content of this programme

Inspiring best practice in respiratory care

Surviving and thriving in challenging times: Annual Affiliated Group Leaders meeting

Fran Robinson PCRS-UK Communications Consultant reports on the recent PCRS-UK Affiliated Group Leaders Meeting held on 28th September 2017

Managing stress and looking after both yourself and your local group was the theme of the Affiliated Group Leaders Workshop held at the Telford International Centre in September.

'The NHS is changing, it's a really stressful place to work, the line between work and home has become blurred and life in general is fast paced. So it is time we all stopped, reflected and acted on what is going on with our lives and took some time out for ourselves in this world that is driving us all to distraction. Sometimes it is important to just breathe and be,' said Carol Stonham, Primary Care Respiratory Nurse, Gloucestershire CCG and PCRS-UK Vice Chair, introducing the workshop.

The event covered:

- How to plan for the success and longevity of your group
- Reasons to be cheerful: an optimistic vision of primary care for the future
- Mindfulness: learning how to relax

Planning for the success and longevity of your group

Mel Canavan, a respiratory nurse specialist and co-founder of the Leeds Respiratory Network, explained how she had set up an education committee to share the workload and responsibility of running her group.

She and her colleague, Sarah Anderson, who she co-founded the Leeds Respiratory Network with, first sent out an email to everyone in the group inviting anyone who was interested in helping to form an education committee to come to a meeting.

A small group of nurses turned up. 'They all felt quite sheepish when they first attended and in turn we were honest with them saying this is the first time we have done anything like this but let's give it a try. And that is how it started,' said Melissa.

Now the group meets two or three times a year and over a meal they plan the agenda for their meetings. 'When we first met we were all a bit shy and nervous but coming to the meetings and working together and sharing ideas to make a success of the network, we have all now bonded as a group and become friends. It has worked because we are a group of like-minded people passionate about improving respiratory care.

'The role is voluntary but everybody has gained in confidence and have all negotiated pay rises or moved on to new jobs. I have really enjoyed nurturing people on the committee. We are now friends for life and there are plenty of people who are now investing in securing the long term future of the network,' said Melissa.

How an education committee can support your local group

- **Committee members will share ideas and jointly steer the professional development of the group**
- **The committee will share the workload**
- **It will lead to succession planning and the long term survival of the group**
- **Members can celebrate successes**
- **And support each other if the going gets tough**

Carol says: *'If you say to somebody, can you come and help me run the group, please, because I can't do it all on my own? – that isn't a very appealing idea. But if you say, I really want set up an education committee and I need the help and advice of bright and interesting people around me - that sounds like a much more attractive proposition and is likely to help you to recruit your volunteers.'*

Other tips for ensuring the survival of your group:

- Issue reminders to encourage people turn up.
- Make the meeting relevant to the audience, give it a snappy title and tell people what they will learn
- If people fail to turn up email them and explain that although the meeting was 'free' their meal cost X amount, paid for by the sponsors, and that they have taken the places of other people who wanted to come.
- Explain to non-attenders that if they don't come it could result in the group not getting any sponsors in the future
- Charge a deposit which will be returned when people turn up
- Email people after the session with a brief list of bullet points about what they missed, to entice them to come to the next meeting

- Consider the value of a multidisciplinary group
- Set up a closed Facebook or messaging group, such as What's App, to communicate with members
- Send regular emails with news about respiratory developments to create a sense of community

Reasons to be cheerful

PCRS-UK Chair Noel Baxter said although the NHS environment was currently relatively hostile there were still many reasons to be optimistic and cheerful about the future.

'*It's very easy in general practice or community care to be around very negative conversations all the time. But if you keep going, keep edging forward and improving a bit further, as Mel has done in setting up the Leeds Respiratory Network, you will get there in the end.*'

Noel said that when he sat on interview panels he was always really interested to find out from candidates what got them up in the morning.

He said one of the things that motivated him was being part of a team and realising how valuable supporting the team was: '*It is so important to make your team feel positive because then you will want to come back and work with them every day.*'

Other reasons for getting up contributed by group leads at the meeting ranged from 'working in an environment where we all talk to each other'; 'doing a small thing in a great way'; 'seeing that lightbulb moment when you are teaching someone'; 'making a breakthrough with somebody such as helping them to stop smoking' and 'realising that what you say as a clinician to a patient can have a positive impact'.

Noel went on to say that he could think of many reasons to be optimistic about the future. The development of Accountable Care Systems was likely to improve care as health and local authority finances were pooled. This, for example, would remove the argument about who was going to treat tobacco dependency. 'What we are going to do is say, what is the highest value intervention for this population that has got this particular need, and then there's a real opportunity we might talk together with secondary care or public health about what should be doing.'

Another example might be - instead of primary care having to fight for extra pulmonary rehabilitation services, commissioners would be talking to hospital doctors about the best way to deliver required outcomes for the population. 'This could be an opportunity for us to communicate better. With larger scale organisations there could be new opportunities for primary care generalists to improve respiratory care for a whole population.'

Noel went on to give a recent example of an uplifting session when in Southwark practice learning time event had changed from a didactic style to one where they started looking at doing things differently.

'*We discussed how we could do a care plan after a patient has had a holistic health assessment and then we brought some actors in. The really wonderful thing for me was to see a fantastic new generation of young GPs, qualified in the last five years, working on being creative.*

'A year ago the room was full of negative comments with people saying we can't do this and we can't do that and over time with the right positive attitude we've ended up retaining amazing people on a journey trying to improve things and enjoying their jobs.

'I can see a way forward where not just GPs but all of us in the community can do some more productive work with our patients,' he said.

Mindfulness: learning to relax

The meeting ended with a session by Sally Whitely, an ex-army nurse and now a personal developmental coach, on recognising and managing stress in the workplace.

She discussed relaxation techniques and mindfulness, which she said involved making people take control of their breathing and think about where they are in the present.

'So many of us never stop but just go from task to task. We need to be more aware of what is going on around us, all the positive things such as a tree, kids laughing – the things that lift you up and make you feel good. Unless you stop, you don't remember things. Take a break and you will be more productive,' she said.

Melissa Canavan described how mindfulness has helped her to tackle her nerves and stress, particularly when she was working in a failing practice.

Carol Stonham said she found practising three minutes of mindfulness first thing in the morning really beneficial. There were a number of apps that people could use to help them learn the technique.

A shared affiliated group project

As a community of PCRS-UK Affiliated Groups it was agreed that there was an appetite for shared project work between the groups.

The initial project will focus on the new PCRS-UK Fit to Care publication which summarises the key knowledge skills and training required by healthcare professionals caring for people with respiratory disease in a primary or community care setting, at three clearly defined levels of practice (standard, advanced and expert).

The publication was discussed during the meeting and its place both in negotiating funding for individuals planning CPD during appraisal, and at a larger scale when commissioning workforce education.

The shared project will involve each affiliated group discussing Fit to Care with their members, helping them to assess their levels of respiratory practice as defined by Fit to Care. Each member will be asked to reflect on and report back to the group how their knowledge and education compare to levels of practice defined by the publication. If there is an educational gap, members will be asked whether there is a plan in place to address this and if they are unable to do so, what barriers are hindering them. This will be captured in a standardised survey.

Once all surveys are returned a collated report will be produced highlighting the level of practice, knowledge and education that members have in local areas and the barriers they face in accessing further training. It will reflect the multidisciplinary nature of the group memberhips.

The Affiliated Group Leads are keen, if this project goes well, to embark on other joint projects.

Selection of Best Practice Abstracts Submitted to the Primary Care Respiratory Conference 2017

Abstract No: BP1.
Title: An audit into the completeness of latent tuberculosis screening in the gastroenterology department, prior to patients starting anti-TNF-α therapy
Author(s): Shuaib Meghji
Institution(s): University of Southampton

Background: Patients with severe Inflammatory Bowel Disease (IBD), are prescribed anti-TNF-α agents, if clinical need necessitates, whose immunosuppressive action can potentially reactivate latent tuberculosis infections (LTBI). Meticulous pre anti-TNF-α LTBI screening and management in accordance with the British Thoracic Society's (BTS) guidelines is imperative for patient safety and public health.
Objective : A retrospective clinical audit was performed to evaluate the performance of University Hospital Southampton's gastroenterology department in screening for LTBI in patients with IBD. The performance of LTBI screening was compared to the BTS standards.
Method: The audit population was obtained using the gastroenterology department's biologics database. Inclusion criteria included patients who started their first anti-TNF-α agent between 01/01/2006 to 04/11/2016. Exclusion criteria included deceased patients and patients screened by alternative departments/trusts. Extent of LTBI screening was assessed using hospital record systems: EDocs, EQuest, ECamis and Spectra PACS. If evidence of screening was not located, then this was considered as a failure to meet standard. Following statistical analysis, comparisons were made with BTS standards.
Results: Of the 471 patients audited, 51.2% were females and 48.8% males. 75.2% CD patients and 24.8% UC patients. 231 patients' (49%) LTBI screening was insufficient. 157 patients (33.3%) lacked an adequate TB history and 94 patients (20%) failed to have a chest radiograph (CXR) within 3 months of therapy commencement. Additionally, 85 patients (18.3%) failed to have an IGRA performed. 15 patients (3.2%) were diagnosed with LTBI, whilst 1 case of TB reactivation, occurred once immunosuppressive therapy had commenced.
Conclusion: The completeness of LTBI screening in the audited group was suboptimal with deficits in TB history performance, CXR, TST and IGRAs. One case of active miliary TB occurred as a result of inadequate screening. In light of this, recommendations to address deficits and ultimately improve screening were proposed.
Conflicts of Interest:- N/A
Funding:- This Audit was completed as a module as part of the Medicine A100 course at the University of Southampton; funding was not required.

Abstract No: BP10.
Title:A Quality Improvement Stratgey to Reduce Admissions and Readmissions for patients with COPD
Author(s): Karen Fern on behalf of the Stockport COPD team
Institution(s):

Background: Admissions to Stockport NHS Foundation Trust related to acute exacerbation of COPD (AECOPD) were rising (SFT data 2000-2014). 30 day readmission rates have also risen both nationally and locally (BTS, 2016)
Objectives: Stockport Respiratory Assessment and Treatment Alliance (STRATA) is a strategy to reduce admissions, and readmissions for COPD. The model allows patients to step up and down support based on changing levels of need.
Project Plan: A business case for 2 WTE COPD Nurses was approved to support delivery of the following;

1. Admission avoidance . Patients at high risk of admission across 10 GP practices were identified and reviewed by the COPD Nurse . Treatment was optimised and self-management education provided . Patients and GP's were given contact details to step up support if they became unwell.
2. Reducing readmissions: A patient tracker was developed to enhance communication between hospital Respiratory Nurses and the Community COPD team. All patients discharged following AECOPD are stepped down to the community team for contact within 72 hours. Recovery is monitored and self-management education provided. Patients are stepped down to GP or remain on the caseload if they have on-going needs. They can be stepped up to chest clinic if required.
3. Frequent admitters: Patients with 3 or more admissions due to COPD in a 6 month period are identified and reviewed in a virtual ward round. Actions are shared with key professionals to promote standardised care.

Outcomes: Admission data so far shows reduced admissions and reduced 30 day (same cause) readmissions for COPD. The number of frequent admitters is also reducing.
Recommendations: STRATA could be expanded to cover other respiratory conditions. Further practices are to be included in the next phase of admission avoidance
References:; Royal College of Physicians, National COPD Audit report (2016)
Conflicts of Interest:- nil
Funding:- nil

Abstract No: BP11.
Title: The basic clinical principles of long term oxygen use by adults in the home – The development of an innovative accredited eLearning package.
Author(s): Jo Hobbs - Service Lead and Clinical Manager
Iris Tamburri - Respiratory Advisor
Amanda Whiffin - Clinical, Sales and Marketing Director
Institution(s): Dolby Vivisol

Introduction and Background: Dolby Vivisol are a large home oxygen supply company with an English base (Gatwick) and a Scottish base (Stirling). We provide a service to the National Health Service in the South East and South Central regions of England and to the whole of

Scotland. Recognising that there is a lack of suitable learning tools for clinicians assessing and reviewing patients for home oxygen therapy we developed an eLearning package, accredited by the University of Brighton, for use by external clinicians and in house Dolby Vivisol staff.
Overall Aim: To educate NHS and internal staff, increase knowledge and standardise practice in the field of home oxygen therapy.
Objectives: To provide an accredited online educational resource for external NHS clinicians new to the role of home oxygen assessment and review and to provide an accredited online educational resource for internal Dolby Vivisol staff.
Methods: An educational programme was written using up to date evidence based guidelines and research. The material was presented as short units and recorded via video and uploaded onto a specifically designed eLearning platform. An assessment was designed for each unit and uploaded onto the system so that participants completing the training could be competency assessed at the end of each unit.
Results: We launched the new eLearning Programme in May2017. Initial feedback, from experts in the field, suggests that it will be a useful resource.
Conclusions: The new eLearning programme provides a useful resource for clinicians new to the field of home oxygen assessment and review and for Internal Dolby Vivisol Staff.
Conflicts of Interest:- Nil
Funding:- Dolby Vivisol and NHS

Abstract No: BP13.
Title: When more is less: Cost savings associated with new inhaler products in a community based respiratory clinic
Author(s): Andrew Hardy, Sarah Cowdell, Trish Griffiths
Institution(s): Locala Community Respiratory Services

Methods: A number of new inhaled therapies have become available for COPD in the last few years. We have audited inhaler usage for COPD in a community based respiratory clinic in April 2013-14, April 2015-2016 and April 2017-May 2017. We base inhaler prescribing on the GOLD guidance. Costs have been calculated based on pricing in the British National Formulary in June 2016.
Results : GOLD staging in 2015-16 was as follows: GOLD A 3%, GOLD B 13%, GOLD C 7%, GOLD D 77%. Mean patient age was 69 years, mean FEV1 44%, mean CAT score 22, mean self-reported exacerbation rate 2.68 per annum. In each audit period approximately 60% of patients had a change in medication following clinic review.
The overall cost of inhaled medications following clinic review was £775.73 in 2013-14, £603.38 in 2015-16 and £583.53 in 2017. This represents a cost saving of £192.20 (25%) per patient per year. The biggest cost saving was in the reduction of use of LABA-ICS combination inhalers. The use of LABA-ICS decreased from 76% in 2013-14 to 61% in 2015-16, and is 63% in April-May 2017 suggested a sustained change in practice. The proportion of patients on seretide fell from 66% to 15% to 6%. The use of dual-bronchodilator therapy, either as single agents or in a combination inhaler, increased from 16% to 30% to 34%.
Summary: The availability of novel, cheaper inhaled therapies for COPD and pro-active medicines management has resulted in significant cost savings in this patient group.
Conflicts of Interest:- None declared
Funding:- None

Abstract No: BP14.
Title: "Real World" use of azithromycin for managing COPD exacerbations in a community based respiratory service
Author(s): Andrew Hardy, Sarah Cowdell, Trish Griffiths
Institution(s): Locala Community Respiratory Services

Background: Previous studies in COPD have shown that long term azithromycin can reduce exacerbation severity and frequency. We audited our own experience of using azithromycin and compared to published outcome data.
Methods: Patients attending clinic between April 2014 and 2016 who were using long term azithromycin were included in the audit. We compared demographic information and outcome data in this patient group to published outcome data for a period of 1 year after commencing azithromycin. The local protocol uses 250mg azithromycin three times per week. Monitoring of bloods, ECG and counselling regarding potential side effects is carried out according to a locally agreed protocol.
Results: Of 180 individual patients with COPD, 21 received azithromycin (12%). Mean patient age 71 years, mean FEV1 47%, mean CAT 21. 1 patient (5%) was a current smoker. Mean self reported exacerbation frequency was 7.0 exacerbations per year, and 86% had >3 exacerbations per year. 29% had QTc >450ms at baseline. 95% were on LABA/ICS + LAMA triple therapy, 86% on carbocisteine, 48% on theophyllines.
At 1 year self reported exacerbation frequency fell to 2.8 per year, with 22% having >3 exacerbations. There was no change in hospital admissions or CAT scores. 4 patients (20%) stopped treatment within 12 months- 2 because of no clinical benefit and 2 due to GI side effects. 2 patients (10%) died during the study period- 1 due to a COPD exacerbation and 1 due to an unrelated surgical problem.
Summary: The patient group and outcomes were similar to published trials. There was a reduction in exacerbation frequency but no change in hospitalisations or quality of life scores. The data suggested azithromycin is used late in the treatment pathway as most patients were already on triple inhaled therapy plus carbocysteine and theophyllines prior to starting long term antibiotics.
Conflicts of Interest:- None
Funding:- None

Abstract No: BP15.
Title: Asthma Matters; The introduction of Exhaled Nitrous Oxide (FeNO) to maximise asthma management in primary care
Author(s): Pamela Astley
Institution(s):

Background: The impact of asthma can have significant consequences for the National Health Service, society and more significantly, those with an asthma diagnosis, in terms of cost, missed days at work and quality of life (BTS/SIGN, 2013). In order to reduce the impact of asthma, healthcare staff are required to ensure care is effective and innovative (NHS Improvements, 2016). To meet with the asthma agenda, set by the NICE, (2014) this project looks at the impact of introducing Fractional Exhaled Nitrous Oxide monitoring (FeNO) into routine asthma reviews.
Aim: The Aim is to improve the management of patients with asthma, who have a significant FeNO reading through the introduction exhaled nitrous oxide monitoring.
Method: With Key stakeholder support, were informed of the study

and the potential benefits of introducing FeNO monitoring. Staff were trained in the use of the machine and the interpretation of the results. Documentation was developed to support the integration of the activity.
Evaluation: Ongoing support and review was integral to the project's success and is noted by NHS Improvement (2016) to be important in sustaining change. Evaluation involved analysing patient's initial FeNO levels against a further reading to identify any changes in FeNO levels alongside, if the patient's asthma symptoms have altered.
Conclusion: It is anticipated that the introduction of the FeNO monitoring in routine asthma reviews will have a positive impact on asthma management and the burden of asthma on the health service.
References: National Institute of Clinical Excellence, (2014). Measuring fractional exhaled nitric oxide concentration in asthma: NIOX MINO, NIOX VERO and NO breath. Retrieved from : https://www.nice.org.uk/Guidance/DG12
NHS Improvement, (2016). Implementing the Forward View. Retrieved from: https://www.gov.uk/government/publications/implementing-the-forward-view-supporting-providers-to-deliver
British Thoracic Society & Scottish Intercollegiate Guidelines Network, (2013). British guideline on the management of asthma – Asthma priorities: influencing the Agenda. Retrieved from: https://www.asthma.org.uk/globalassets/campaigns/healthcare-improvement-scotland_asthma-priorities.pdf
Conflicts of Interest:- none
Funding:- Dr Wilkinson & Partners, Manor House Surgery, Glossop Derbyshire

Abstract No: BP16.
Title: Made you look: using graphics for Quality Improvement in the COPD primary care audit
Author(s): Holzhauer-Barrie J, McMillan V, Baxter N, Saleem Khan M
Institution(s): Royal College of Physicians, London

Aims and context: The National COPD Audit Programme conducted a primary care audit in Wales, involving extraction of Read-coded data from GP systems. The audit covered January 2014-March 2015, and captured over 48,000 records from 280 practices. Audit data were used to recreate the COPD value pyramid to understand the extent to which the cohort received value-based care.
Methods: The COPD value pyramid provides estimates of cost per quality adjusted life year (QALY) gained for evidence-based COPD interventions. The highest value intervention (flu vaccination at £1000/QALY) is depicted at the pyramid's base, whilst the lowest value (telehealth at £92000/QALY) is at its apex. Other interventions are also included (from highest to lowest value): quit smoking therapy (QST), pulmonary rehabilitation, LAMA, LABA and triple therapy. The pyramid aims to provide a guide for how value for patients and the healthcare system can be optimised.
A bespoke Welsh version of the pyramid was created using audit data. This involved calculating the number of people, out of the relevant denominator (i.e. the audited population, or subset thereof) who received each intervention. Time periods presented varied according to indicator; for example, to capture the relapsing nature of tobacco addiction, QST prescriptions in the last year were used.
Results: The system providing value-based COPD healthcare will have a graphic output resembling the COPD value pyramid. The output for Wales, however, did not configure a pyramid: for example, 37.5% of people were prescribed expensive, low-value triple therapy, and only 10.8% were prescribed QST.
Presenting the data in this way has made the audit findings more digestible and impactful than a simple table of numbers.
Conclusion: The results suggest an overuse of costly and potentially unnecessary interventions, coupled with underutilisation of high-value interventions. This represents considerable expense to the NHS, and may also indicate inappropriate, or unsafe, patient care. The pyramid also demonstrates the value and power of innovative data display methods.
Conflicts of Interest:- None.
Funding:-

Abstract No: BP17.
Title: DART Respiratory Disease Programme for Darlington 'A catalyst for change'
Author(s): Adams CM, Penney B
Institution(s):

We embarked on a two-year project in collaboration with the Academic Health Science Network North East in 2015. The landscape of health care is changing rapidly in a climate where the burden of chronic disease and the pursuit of value in healthcare provision challenges all involved in healthcare to explore new ways of working. For a long time practices have been working in silos on disease specific targets generated by QOF. In Darlington Respiratory Team (DART) we have been able to come together to develop pathways of care and through specific objectives, have been able to improve outcomes.
Evidence - Spirometry audit demonstrated only 38% accuracy/quality. Significant variation in in management of patients presenting with breathlessness symptoms to GP or Nurse.
Setting – 11 GP Practices. Total population of patients approx. 120,000
Issues prior
Variation in confidence/competence of Nurses in Respiratory management; Poor referral rates for Pulmonary rehabilitation; Lack of smoking cessation service access; Variation in management of COPD exacerbations/rescue pack; Variation in respiratory prescribing habits
Methodology: Respiratory Nurse support for each Practice – 3 visits per practice per year. Development of a competency framework to assess all Practice Nurses/HCAs in Spirometry including quality assurance processes; Development of inhaler competency framework and assessment of all Practice Nurse leads, who then adopt a 'Champion role' within their practice and share best practice with colleagues in context of local guidelines for inhaler prescribing; Development of standardised Asthma and COPD templates for all practices to use; Development of Breathlessness pathway; Re-instate use of 'COPD exacerbation' template/pathway; Design and implementation of audits for practices using 'Pointsplus' software tool.
Findings: Improvement in quality of Spirometry; Improved referral rates into Pulmonary rehabilitation; Improved provision of 'Self management' for patients; Pathways for exacerbating patients improved.
Conclusion: Several positive outcomes achieved, more work is needed to ensure continued engagement.
Conflicts of Interest:- GSK (Pointsplus software provision)
Funding:- Academic Health Science Network (North East)
Darlington CCG

Abstract No: BP18.
Title:Prudent Respiratory Prescribing – A Collaborative Strategy for Change
Author(s): Dr Sally Lewis
Institution(s): Medicines Management Pharmacist Aneurin Bevan University Health Board / Practice Pharmacist Oakfield St Surgery Ystrad Mynach

Across Wales and within Aneurin Bevan University Health Board (ABUHB) there is variation in respiratory prescribing that cannot be fully explained by prevalence, deprivation and smoking rates. Also, high spend and greater use of high dose inhaled corticosteroids (ICS) does not equate to better patient outcomes (1). Access to Pulmonary Rehabilitation which is well evidenced to improve quality of life and reduce hospital admissions is also not equitable for all.
In 14/15 ABUHB spent £17.2 million on respiratory prescriptions and had the highest prescribing rate of high dose ICS in Wales. Previous primary care audits had identified prescribing was not always in line with recommendations i.e. high doses not stepped down in asthma, lack of prescriber awareness of ICS potency and COPD patients with milder disease prescribed triple therapy with high dose ICS.
A collaborative of primary and secondary care doctors, nurses and pharmacists worked together to devise a strategy to encourage good practice in respiratory disease management with a view to rebalancing investment of resources to improve patient outcomes. The strategy has 3 main themes: Medicines optimisation to generate cost savings for reinvestment; Local treatment pathways for COPD and Asthma (including ICS dose comparison charts); Education for healthcare professionals. In addition, a respiratory nurse specialist was employed to work in primary care and advanced inhaler technique training was funded for trainers in each locality cluster to deliver a sustained training programme for other healthcare professionals.
In the last two years, we have reduced respiratory prescribing spend by £1.4 million (8%), high dose ICS prescribing has reduced from 40% to 23% of all ICS and there has been a successful business case to reinvest some of the savings in expanding the pulmonary rehabilitation service. The key to our success has been multidisciplinary working.
1. All Wales Medicines Strategy Group. Respiratory Prescribing Analysis with Cluster Level Comparators. February 2015.
Conflicts of Interest:- None
Funding:- None

Abstract No: BP19.
Title: Field Walking Tests in Pulmonary Rehabilitation: A retrospective review to compare VO2 peak improvements between the 6 minute walking test and incremental shuttle walk test to determine the most relevant field walking test for community pulmonary rehabil
Author(s): Kevin Greaves
Institution(s):

Design: Retrospective analysis of data and research
Objective: To evaluate and compare improvements in VO2 peak obtained from both 6-minute walking test (6MWT) and incremental shuttle walking tests (ISWT) to assess the level at which VO2 peak improvement correlates to minimal clinically important difference (MCID). From the data and research available, a recommendation will be made as to which is the most appropriate field exercise test for a pulmonary rehabilitation (PR) programme in a community setting.
Methodology: The results of 148 COPD patients collected over a 4 month period were reviewed following their pulmonary rehabilitation programme (PR). 56 patients (29 males / 27 females) with a mean (± SD) age of 73 ± 8.5 years completed the 6MWT and 92 patients (59 males, 33 females) with a mean (± SD) age of 70 ± 8.1 completed the ISWT. Mean VO2 peak was calculated for each and the average improvements recorded. Literature was reviewed to determine factors that affect the outcomes from each field walking test.
Results: Data obtained has shown that minimal important difference (MID) in walking distance for both tests, occurs when an improvement in peak VO2 >1.2 (ml/min/kg) is achieved. Furthermore, achieving a peak VO2 >2.1 (ml/min/kg) yields highly significant improvement in distance walked for both field walking tests.
Conclusion: This study has clearly identified 6 factors that influence field walking tests and has concluded that the six-minute walk test is the most appropriate field walking test for use in a community setting. The lack of significant research on the modified 6MWT adopted locally requires further study in order to establish the validity and reliability of a shorter track length.
Conflicts of Interest:- None
Funding:- None

Abstract No: BP2.
Title: Does applying, PDSA cycles improve reported patients' outcomes in a federated model of primary care for COPD patients?
Author(s): Louise Lomas
Institution(s): PCRS

Objective: Could we improve reported COPD patient care outcomes using PDSA (Plan, Do, Study, Act) cycles with a federated group of GP (general practice) surgeries.
Design: A 2-year longitudinal study using 4 PDSA cycles, data collection every 6 month.
Setting: A semi-rural area of Northumberland, utilizing a federated group of 13 GP practices. The COPD patient population was 1,263 giving a local prevalence of 1.7% compared to national prevalence of 1.9%
Participants: All COPD patients included in the study, no gender differentiation, age limit or exclusion based on palliative care or exception from QOF (quality outcome framework) indicators.
Intervention: A targeted approach to patient management in line with NICE (National Institute of Clinical Excellence) guidelines for COPD, providing management above QOF. The targets were: -

- Data collection - to establish correct coding of indicators for prescribing and diagnosis.
- Treatment to NICE guidelines.
- Use of COPD Assessment Test (CAT).
- Use of MRC dyspnea scale.
- Monitoring of Unscheduled hospital admissions (secondary outcome)

Results: A 15% improvement in COPD patient care to NICE guidance. A 51% improvement in coded exacerbation rates, 56% improvement in use of CAT scores, 13% improvement in MRC scores recorded and a 4% improvement in diagnosis. Unscheduled admission data indicated a reduced admission rate but not statistically significant.
Conclusion: A federated model of primary care can deliver quality improvement on a population basis. The improvement in CAT score recording and exacerbation rates enabled a targeted approach to those patients most at risk of frequent exacerbation and hospital admissions.
Conflicts of Interest:- None
Funding:- None - completed as part of a MSc

Abstract No: BP20.
Title: Sharing evidence of how Community Pharmacist interventions can improve COPD management
Author(s): Attar-Zadeh D, Guirguis A, Heading C, Shah S, Shah U, Bancroft S
Institution(s): LNWLPF of the Royal Pharmaceutical Society, Pinner, UK.

Context: High value interventions can be provided by community pharmacists to potentially improve outcomes for patients with COPD. The more people who appreciate this, the wider such improvements can be achieved.
Problem: Some patients have a poor understanding of their condition and may not be managing in the best possible way.
Methodology: In February and March 2015, clinical and demographic data were collected from consenting patients receiving medicines prescribed for COPD, by community pharmacists in NW London. Interventions were made where appropriate.
Strategy: The collected data would allow appropriate interventions in the pharmacy and provide an overview of care patterns followed by these patients. This information could be shared to further improve outcomes on a larger scale.
Measurements: Patients were asked questions from a semi-structured questionnaire. Information was collected and action taken to provide inhaler training, guidance and referral, where appropriate.
Changes: Of 135 patients, 56% received inhaler training, 65% were offered Medicines Use Reviews, 17% patients received guidance regarding rescue packs, 28% patients were referred to GPs and 82% smokers were referred to stop smoking services. Areas of clinical concern identified included poor inhaler technique, poor familiarity with pulmonary rehabilitation services, higher than expected ICS use and medication or other issues requiring referral to GPs.
Key findings have been used to prepare a printable infographic for sharing with health professionals at professional meetings and exhibitions.
Lessons: The study identified a gap in education and treatment of COPD across NW London and the potential for pharmacists to improve outcomes for respiratory patients. Preparation of the infographic will allow wide dissemination of this key message.
Messages: The ability of Community Pharmacists to improve care of COPD patients and potentially reduce hospital admissions, should be widely appreciated.
Conflicts of Interest:- The infographic was developed and produced by Johnson & Johnson Limited.
Funding:- None

Abstract No: BP21.
Title: Audit on the prescribing of inhaled short-acting beta2 agonists in the treatment of asthma: many patients overuse this medication
Author(s): Kotecha A
Institution(s):

Background: An inhaled short-acting beta2 agonist (SABA) should be prescribed as a short term reliever therapy for patients with symptomatic asthma. Mortality can occur in mild asthma when SABA are used excessively without inhaled corticosteroids.
Aims: This audit aims to assess whether the current BTS / SIGN British guideline on using inhaled SABA in asthma treatment is being followed at Northway Medical Practice. This states that good control of asthma is correlated to patients requiring little or no usage of SABA.
Methods: The practice's electronic patient record was searched for patients who were prescribed more than seven SABA inhalers in the past year, to generate a sample of the highest risk patients. Information collected for each patient included their age, sex, the number of SABA inhalers prescribed to them in the last 12 months, and the phase of asthma management they are on.
Results: 35 patients met the audit inclusion criteria. As the number of SABA inhalers prescribed to a patient in the last 12 months increased, the number of patients generally decreased. Apart from one anomalous result, no patients were on the first phase of asthma management. All patients who were prescribed 13 or more SABA inhalers in the last 12 months were on phase 4 of asthma management. None of the patients who were prescribed 8, 9, 10 or 12 SABA inhalers in the last 12 months were placed on phase 4 of the asthma management plan.
Conclusion: Possible reasons for the findings include patient non-adherence to treatment regimens resulting in increased reliance on reliever inhalers, and patients requesting numerous SABA inhalers so that they can have multiple stores of this medication to keep in different locations. The healthcare team should be encouraged to ensure patients have correct knowledge of what good asthma control and inhaler technique entails.
Conflicts of Interest:- None
Funding:- Not applicable

Abstract No: BP22.
Title: Post-exacerbation pulmonary rehab; the challenges of putting guidelines into practice
Author(s): Moth, L., Hogg, L., & Osman, L.
Institution(s): Guys and St. Thomas' NHS Foundation Trust

Outline of Context: Post-exacerbation pulmonary rehabilitation (PEPR) delivered within four-weeks of hospital discharge following an acute exacerbation of chronic obstructive pulmonary disease (AECOPD) is recommended (Bolton et al 2013). PEPR reduces hospital admissions and improves mortality and health related quality of life (Puhan et al 2011), low-uptake and high rates of ineligibility are reported, though reasons for this are poorly understood (Jones et al 2014). An audit was undertaken to inform local quality improvement.
Method: A three-week, prospective audit for patients admitted to St. Thomas' Hospital with an AECOPD was conducted in March 2017. Data included numbers of referrals to PEPR, uptake, and reasons for ineligibility.
Results: Fifty-two patients (mean age 70, FEV1 percent predicted 46%, 58% male) were hospitalised with AECOPD. Twenty-one (40%) were suitable for referral to PEPR, 15 (71%) declined. Twenty-eight patients were ineligible for PEPR and PEPR was not discussed with three patients.
Reasons for ineligibility for PEPR included; poor mobility (n=15(54%)), already enrolled/recently completed (n=5(18%)), psychosocial (n=3(11%)), cardiac instability (n=1(4%)), awaiting investigations (n=2(7%)), palliative (n=2(7%)).
Six (29%) patients were referred for PEPR, three declined, but accepted referral via non-fast track (FT) PR; three were assessed via FT for PEPR. Of the latter, two attended a PR-program; one was inappropriate due to cardiac instability. Of the three patients referred via non-FT, one died, one was ineligible due to cardiac instability and one did not attend assessment.
Conclusions/Analysis of Cause:Despite evidence for PEPR effective-

ness, clinical application is challenging. Similar to other reports, <30% of those eligible for PEPR were assessed (Jones et al 2014). This was due to patients declining PEPR, and a high rate of ineligibility (60%). The most frequent cause of ineligibility was poor mobility. Understanding why patients decline PEPR and addressing the inequity of access to those with poor mobility should be prioritised.
Conflicts of Interest:- None
Funding:- No specific funding. Service evaluation.

Abstract No: BP23.
Title: Is integrated pulmonary and heart failure rehabilitation effective and safe in primary care?
Author(s): Woodward A, Doe G, Clarke D, Ghosh S
Institution(s): Leicestershire Partnership NHS Trust

Background: Integrated pulmonary rehabilitation (PR) and heart failure rehabilitation (HFR) programs have been shown to be effective in a research and hospital setting (Evans, 2010) but little is known whether combining the two diseases into one rehabilitation program is safe and effective in primary care.
Method: A 12-month pilot of community based integrated PR and HFR programmes was established in Leicestershire for patients with either a confirmed diagnosis of COPD and a MRC score of ≥3 or a confirmed diagnosis of heart failure and a NYHA of ≥2.
79 patients (50 male, mean age 71, age range 51-87) were recruited. The integrated rehabilitation programme was set up in accordance current national guidance with twice weekly exercise and education sessions for 6-weeks. Patients were assessed at baseline and completion of the programme using the incremental shuttle walk test, endurance shuttle walk test, the Chronic Respiratory Questionnaire or Chronic Heart Questionnaire, GAD7 questionnaire and PHQ9 questionnaire.
Results: 63 patients completed the integrated programs with outcomes as below.

	Mean – Pre (SD)	Mean – Post (SD)	Mean Diff	p value
ISWT (m)	245 (145)	301 (147)	56	p < 0.001
ESWT (s)	221 (141)	597 (390)	376	p < 0.001
Dyspnoea	2.9 (1.2)	3.7 (1.4)	0.8	p < 0.001
Fatigue	3.8 (1.3)	4.4 (1.4)	0.6	p < 0.001
Emotion	4.9 (1.3)	5.4 (1.3)	0.5	p < 0.01
Mastery	4.7 (1.5)	5.5 (1.3)	0.8	p < 0.001
GAD7	4.2 (4.6)	3.4 (4.3)	- 0.8	p < 0.05
PHQ9	5.5 (4.8)	4.2 (4.7)	- 1.3	p < 0.05

There were no adverse events reported during any of the programs.
Conclusion: This pilot programme has demonstrated that the delivery of integrated PR and HFR within a community setting is safe and effective and delivers comparable outcomes to previously reported disease specific programmes.
Conflicts of Interest:- None
Funding:- None

Abstract No: BP24.
Title: Good practices investigating bronchial asthma as psychosomatic disease
Author(s): Stamatopoulou E1, Stamatopoulou A, Christodouli Brinia A., Tsiliaç D., Giannakopoulos D., Kontodimopoulos N.
Institution(s): M.Sc. National School of Public Health, General Hospital KAT, M.Sc. Piraeus University of Applied Sciences, Athens, Greece.

Aim: The highlighting good practices for investigating bronchial asthma as psychosomatic disease.
Methods: Investigation method is secondary as it draws data from, relevant to the theme, world literature. The reasoning process followed by the development of the matter is the productive process which governs the assessment of asthma symptoms and psychosomatic diseases.
Results: The Global Initiative for Asthma (GINA) shows that the psychosocial problems are the causing factors of asthma control failure. Around 250,000 people lose their lives every year. It is a chronic inflammation of the respiratory airways causing bronchial constriction transient caused dyspnea. The incidence of psychiatric diseases in patients with asthma are not fully researched. To date little information is available about the extent of the problem and the factors associated with psychogenic asthma. Psychosomatic problems are risky factors for the worsening of asthma, even though the symptoms of asthma is well controlled. The psychological stress affects the appearance of bronchial asthma. Cases (50%) of patients with asthma has been diagnosed in one of the following diseases: irritable bowel syndrome, dermatitis, depression, end panic disorder. The intense stress and emotions identified as factors cause asthma exacerbations in 33 cases. Psychosocial factors are interrelated among: (a) Stress and asthma, (b) Emotion and asthma symptoms, (c) Problems related to the character and the patient's behavior, (d) problems of daily living and quality of life, and (e) problems related to family relations and the history of life.
Conclusions: The common symptoms of asthma and the above mentioned psychosomatic diseases combined with the separate effect of stress, which caused by strong feelings, can cause exacerbations. The above confirms that asthma may be considered as psychosomatic disease. Early detection of symptoms and appropriate psychotherapeutic intervention can improve the symptoms of asthma with a positive effect on the course of the disease.
Conflicts of Interest:- NO
Funding:- Nothing

Abstract No: BP25.
Title: Enhancing understanding of asthma in children and young people through online learning
Author(s): Marsh V, Brown J, Neal J, Koistinen-Harris J, Douglas K
Institution(s): Education for Health

Background: Asthma is the most common medical condition and frequent cause of morbidity in children and young people (C&YP). School absence, activity avoidance and feeling different are issues repeatedly highlighted by C&YP with asthma . Asthma deaths in the UK are amongst the highest in Western Europe and often occur outside of hospital . C&YP spend much of their time away from their parents/carers, with adults who may be lay people with little understanding of asthma[4].
Strategy for change: To help people who work with C&YP to improve their knowledge and understanding of asthma, we developed a free online educational resource – 'Supporting Children's Health (SCH)'. This charitable initiative, by Education for Health in partnership with the George Coller Memorial Fund, involved a stakeholder group including C&YP, parents, teachers and school nurses. The online resource helps users to:

- Understand how asthma affects a child's quality of life
- Recognise the triggers that may affect a child's asthma
- Understand how medicines work and how different inhalers are used
- Recognise signs that a child may be developing an asthma attack
- Know how to help a child who is having an asthma attack

Evaluation: Since its launch in 2015, 8500 users from a variety of backgrounds have registered with the site. User feedback to date is overwhelmingly positive, with 100% regarding the site as easy to use and 95% reporting increased confidence in supporting C&YP with asthma. "Thank you so much, the module is brilliant. I thought I was clued up, as I have a husband and 2 children with asthma, but honestly I learnt a lot."
Aspiration: With growth continuing at >50 new users per day and an update planned, SCH aspires to be nationally recognised as the 'go-to' educational resource for the basics of asthma in C&YP.
Conflicts of Interest:- None
Funding:- Online resource funded jointly by Education for Health and the George Coller Memorial Fund

Abstract No: BP27.
Title: Using eLearning to promote correct inhaler use by respiratory patients: the UKIG Inhaler Standards website
Author(s): Fletcher M, Marsh V, Brown J, Smith J, Koistinen-Harris J, Neal J, Scullion J
Institution(s): Education for Health, UK Inhaler Group

Background: The correct use of inhaler devices is crucial in the management of good basic care [1]. Many patients are unable to use their inhalers correctly [2] leading to sub-optimal use and effect. Many HCPs also lack the necessary knowledge and skills to support patients [3]. As a result, in January 2017 UKIG launched a set of standards and competencies for healthcare practitioners [4] to enable them to work with patients to optimise technique and maximise the benefit of the medication.
What is the problem? To enable change these standards need to be implemented across the NHS, but there are many reasons, including lack of awareness, why HCPs do not always follow guidelines [5]. Education has a key role to play in facilitating the application of an agreed set of principles into clinical practice, but time constraints can hinder this approach.
Strategy for change: In order to raise awareness of the importance of accurate inhaler technique amongst HCPs and promote the use of the UKIG standards nationally, Education for Health in collaboration with UKIG launched a free-to-access interactive educational website on World Asthma Day 2017 (https://ukiginhalerstandards.educationforhealth.org). The twelve standards were presented as individual, interactive micro-learning activities with a responsive design to facilitate access from mobile devices.
Google analytics showed that in the first 6 weeks, 1,601 users engaged in 2,317 sessions with a total of 13825 page views. Analysis of the network origin of the sessions demonstrated a good engagement of healthcare staff at work. Almost a third of site accesses came from mobile devices.
Conclusion: Early data indicate a strong interest in the interactive version of the UKIG standards for inhaler technique. The responsive website design and use of micro-learning promote easier engagement with the UKIG standards for busy HCPs.
Conflicts of Interest:- None
Funding:- Website development funded by UK Inhaler Group

Abstract No: BP28.
Title: Referral to a Community based Asthma Liaison Nurse
Author(s): Miles G, Price K, Ward T
Institution(s): BreathingSpace, Rotherham NHS Foundation Trust, Rotherham, South Yorkshire,

An Asthma Liaison Nurse (ALN) post was introduced in March 2015 in response to the National Review of Asthma Deaths (NRAD 2014), to follow up patients admitted to hospital and review difficult asthmatics in primary care. The postholder is located in BreathingSpace (nurse led community facility).
Issues: The NRAD report recommends patients admitted to hospital be reviewed in primary care within 48hours of discharge and by a specialist within 1 month.
Objective: Are the correct patients are being referred to the ALN, and the NRAD guidance achieved?
Method: Audit of Asthma admissions to RDGH June 2015- May 2016 and June 2016 – May 2017, referral rates and time to being seen by ALN.
Results

Date:	June 2015-May 2016	June 2016 – May 2017
Admissions (No.)	205 (180 patients)	183 (167 patients)
Age	Av. 46yrs (18-95)	Av. 45yrs (18-89)
Not Asthma Diagnosis	14	5
Known to ALN	Y 29 (15%)	Y 37 (21%)
	N 162 (85%)	N 141 (79%)
Referred to ALN	Y 66 (35%)	Y 58 (33%)
	N 125 (65%)	N 120 (67%)
Time to being seen	n= 66	n= 58
	<2days: 11 (19%)	<2 days 19 (29%)
	3-7days: 19 (33%)	3-7 days 21 (32%)
	<1 month: 24 (41%)	<1month 22 (33%)
	>1 month: 4 (7%)	> 1 month 4 (6%)
Deaths	5 (77-86yrs)	3 (81-85yrs)

Discussion: Only a small proportion of admitted patients are referred to the ALN. This has not changed over 2 years despite efforts to simplify the referral process. When patients ARE referred, most are see within a month. The 8 Asthma deaths were in patients over the age of 70, none had seen the ALN.
We need to examine clinical outcomes of patients seen and consider our referral process and engagement with clinical staff at the hospital and in General Practice to ensure we are reaching this vulnerable group.
Conflicts of Interest:- None
Funding:- None

Abstract No: BP29.
Title: Using a virtual ward MDT as a platform to discuss COPD patients who have been identified as having frequent admissions to hospital promotes a collaborative and coordinated approach between the COPD Specialist Nurse based in the community and the hospital
Author(s): Kathryn Williams, COPD Specialist Nurse, Stockport, UK
Institution(s): Stockport NHS Foundation Trust

Outline: The number of admissions to Stockport NHS FT related to acute exacerbations of COPD has continued to rise (SFT data 2000-2014). The 30 day readmission rates for the same cause have also continued to rise both nationally and locally (Royal College of Physicians 2017). Since COPD is predicted to become the third leading cause of death worldwide by 2020 (GOLD 2017), a strategy for admission profiling was commenced in order to identify these patients.
Analysis and strategy for change: Patients with three or more admissions due to COPDin a 6 month period were identified and reported via the patient tracker. This is assessed monthly by the COPD Specialist Nurse based in the community and used to provide an holistic patient

assessment about these specific patients with complex needs and collate appropriate information ready for the monthly virtual MDT. This information would be shared in chest clinic with the Respiratory Consultant and Respiratory Specialist Nurse. This allows for more joined up care bringing the community and hospital together to provide a collaborative approach in addressing causes and produce an individual optimised management plan for action.

Measurement of Improvement: The admission data so far has shown a reduction in admissions and readmissions for COPD since this strategy was implemented during 2015. This is collated quarterly for statistics, however, the evidence is visible each month, since there are no further admission dates for most of these identified patients and less newly identified patients being highlighted.

Effectiveness and lessons learned: Complex patient information sharing is more coordinated, efficient and produces optimal and effective management plans. However, this depth of holistic assessment requires more time and a level of experience necessary to provide relevant and appropriate information to be used during the Virtual ward MDT.

A pathway was also commenced to communicate the initial process with the Gp's, as well as any ongoing information from the virtual ward MDT.

Conflicts of Interest:- None

Funding:-

Abstract No: BP31.

Title: Dance Easy – potential for dance to improve wellbeing of people who are breathless

Author(s): Siân Williams, Holly Townes

Institution(s):

Context: Access to physical interventions to reduce breathlessness is limited. Dance has positive outcomes for people with dementia and Parkinson's disease. Its feasibility and impact for breathless people is unknown. This proof of concept study aimed to deliver and evaluate a dance intervention.

Strategy: Three phase intervention delivered by a trained dance teacher working with a respiratory physiotherapist:

1. Anecdote circles 3 about 'going dancing' at two Breathe Easy (BE) meetings generated stories about joy in dance: learning, dressing up, socialising and the dance.
2. BE members invited to, and participated in, five rehearsals for a group dance performance
3. Group dance performance (video) by BE members following 'open' warm up at BE meeting.

Results: 10 people with breathlessness safely participated in 5 weeks of rehearsals and performed a group dance at a BE meeting. For 8/10 (80%) this experience met or exceeded their hopes and expectations and 8/10 (80%) said they would like to continue to participate in dance sessions. All (100%) of those attending the BE performance meeting participated in the warm up.

As a result of this feedback dance classes now run weekly for this BE group.

Learning and messages:

1. Dance for people who are breathless is feasible, fun, sociable and safe when delivered by a trained teacher working with a physiotherapist
2. Dance exists in all cultures so can be adapted to context: music, dance steps and stories
3. Dance can incorporate aerobic and resistance training, as well as activity to improve balance and gait.
4. Anecdote circles are an effective way to build engagement
5. Further studies are needed to evaluate the potential of dance to impact on breathlessness.

Jones AW, Taylor A, et al doi: 10.1183/23120541.00147-2016

Connolly MK et al. Dancing towards well-being in the Third Age. Literature Review Trinity Laban 2010 http://cognitive-edge.com/resources/basic-methods/

Conflicts of Interest:- None

Funding:- Self-funded, part of an accredited Level 3 Open College Network (OCN) course Leading Dance for Older People in conjunction with Green Candle Dance Company

Abstract No: BP32.

Title: Patient utilisation of an acute COPD exacerbation hotline prior to admission

Author(s): Mak VHF, Batham O, MacPhee C.

Institution(s):

Hammersmith and Fulham Community Respiratory Integrated Care Service includes an acute exacerbation hotline for advice to support self-management, and enable triage for urgent home visits or admission. All diagnosed COPD patients known to the service are given the number and reminded to call in event of problems. The hotline is manned by an experienced respiratory practitioner from 9am-5pm, Mon-Frid.

Rationale: To examine how well the hotline is used by patients in crisis. An audit of all discharges from local acute Trust sites with a primary diagnosis of COPD in a 3 month period (Jan-Mar) over 4 years undertaken. The records of patients were examined to determine if:

1. Known to the service prior to the date of admission
2. If known, whether they contacted the hotline during the week before admission
3. If contacted, what the outcome was.

Results

	Total COPD discharges	Known to service (%)	Called service (%)	Admitted as result (%)
Jan-Mar 2014	125	94 (75)	27 (29)	8 (30)
Jan-Mar 2015	77	69 (89)	22 (32)	5 (23)
Jan-Mar 2016	120	89 (74)	16 (18)	2 (13)
Jan-Mar 2017	83	61 (73)	11 (18)	5 (45)

- Approximately a quarter of patients discharged with a primary diagnosis of COPD were not known to the service.
- In the last 2 years, fewer than 1 in 5 contacted the hotline prior to admission.
- Of those that did make contact, many were so ill, they required emergency admission.

Future actions: The utilisation of the acute exacerbation hotline was disappointingly low in admitted patients. We are undertaking a further audit to examine reasons why patients did not call before admission (e.g limited hours, rapid decline in condition, perceived lack of benefit). This will determine how we can modify the service to best support patients at times of crisis.

Conflicts of Interest:- None

Funding:- None

Abstract No: BP34.
Title: Keep Active Keep Well; behaviour change exercise programme
Author(s): Jones R, British Lung Foundation
Frith G, Sheffield Hallam University
Green A, British Lung Foundation

Introduction: The BLF recognises the challenges people with lung conditions have in initiating and maintaining exercise. Pulmonary rehabilitation (PR) sits as the corner stone of support for patients. Despite this the COPD audit identifies that a minority have access and only 40% complete PR.
Keep Active, Keep Well (KAKW) adopts a patient centred approach to address this by delivering a behaviour change intervention to support more patients to become active.
Approach: A three year pilot programme delivered at four sites in England in partnership with local CCGs, Public Health teams, GP practices, PR services' and the leisure/ sports sector.
KAKW compliments the local respiratory pathway delivering a behaviour change intervention as an alternative option to PR for patients who are MRC 1-2 or as an exit route from PR.
KAKW was developed using COM-B (Michie, Abraham & West, 2014) and uses behaviour change taxonomy in design. Motivational Interviewing was also embedded within the programme.
Evaluation: Conducted by Sheffield Hallam University (SHU) a process and outcome evaluation addresses:

- To what extent the programme is effective in supporting and sustaining individuals with COPD into physical activity opportunities (IPAQ)
- The impact on daily life and physical function (CAT), Quality of Life (EQ5D), Patient Activation (PAM) and 6 minute walk test (6MWT).
- Investigate treatment fidelity in the design, training and delivery of the KAKW programme.
- Capture experience of the patients and practitioners through qualitative interviews and case studies.

Key findings to date

1. Significantly meaningful improvements in patient 6MWT, CAT post course attendance
2. Self-reported patient improvements in activity levels post course
3. Behaviour change is a key tool to enabling long term maintenance. Patient adherence to the course is currently 75%, exercise maintenance observed at 6 months post start is 65%
4. KAKW has an expert driven, robust and theoretically underpinned treatment design resulting in high treatment fidelity at both prototype sites.

Conflicts of Interest:- None
Funding:- Sport England

Abstract No: BP4.
Title: Getting a GRIP on Respiratory care- a multi-disciplinary approach to Asthma and COPD care in Grampian
Author(s): McLaughlan K, Reilly M, Casson A, Ferguson T, Small I
Institution(s): NHS Grampian MCN

Cost effective clinical care will be a must for the modern NHS. Applying evidence based interventions is, however difficult in busy every day practice. We present a service change funded by Pharmacy budgets, addressing the needs of patients in our most challenged communities, whilst at the same time supporting clinical change and impacting on hard financial outcomes.
In Grampian, we identified that patients from a small number of practices were responsible for a combination of high drug costs and high hospital admissions/attendances for both asthma and copd.
Funding was given for a multi-disciplinary group to work across primary and secondary care to support; medicines management, discharge bundling, organised post acute review, anticipatory care, psychological intervention.
Set against non involved practices We measured reduced item costs and overall drug costs in GRIP practices, a greater reduction in admissions, improved patient and staff satisfaction and improved CAT post CBT
Lessons learned - supporting clinicians to support patients by simple interventions consistently results in hard improvements in clinical outcomes.
Lessons for others - Integrated multi-discipline work breaks down barriers and improves patient care
Conflicts of Interest:- None
Funding:- GRIP was funded directly from NHS Grampian Director of Pharmacy.

Abstract No: BP5.
Title: An audit of the effects of smoking cessation on PO2 levels in a Home Oxygen Service.
Author(s): Boardman A, Canavan M
Institution(s):

Brief outline of the context: 33.5% of patients with COPD continue to smoke (RCP,2016). The combination of smoking and LTOT can be dangerous. But the effects of stopping smoking in respiratory failure are surprisingly not known.
Analysis of the cause of the problem: Many patients when assessed for LTOT may be current smokers but may quit when told of dangers of smoking in presence of O2 along with a supportive, motivational consultation and the offer of further support.
Method: Over a 6 month period, we audited 7 smokers in a stable state who were eligible for LTOT on blood gas criteria of PO2 < 7.3. Who eventually self- reported giving up smoking on subsequent reassessment
Results: Five patients were no longer eligible for LTOT, mean pO2 at initial assessment was 6.78 and mean pO2 on second assessment was PO2 8.21. Two patients were titrated onto oxygen at the second assessment. In this time frame there were no patients who informed us they had continued to smoke.
Effects of changes: 71 % of patients who stopped smoking no longer needed LTOT. However, this was self- reported and not substantiated by CO monitoring which is a short coming of this audit.
Lessons learned: That stopping smoking is actually a potential treatment for respiratory failure.
Messages for others: Stopping smoking may avoid the need for unnecessary LTOT, saving inconvenience, cost and potential risk of oxygen with smoking. This should be emphasised as an important benefit of stopping smoking as this could be an important incentive for patients to stop smoking.
Further larger studies should be carried out with CO confirmation of cessation. If we help patients stop smoking earlier in the disease process this could avoid the need for LTOT.
Conflicts of Interest:- None
Funding:- None

Abstract No: BP6.
Title: The Impact of a Marketing Campaign on Referral Rates for Pulmonary Rehabilitation
Author(s): Austin G, Fasakin C, Stirton-Croft A, Bolas L, Bygrave L, Heaton J, Murnane D, Richardson E, Tidmarsh D
Institution(s): Hertfordshire Community NHS Trust

In spite of overwhelming evidence to support the clinical effectiveness and cost saving benefits of pulmonary rehabilitation (PR)1, referrals to the East & North Herts PR service in 2015 fell well below the 844-1255 range suggested by NICE in 20102.
Under-referral to PR is not a problem confined to Hertfordshire, but is also an issue nationally as highlighted in the 2015 British Thoracic Society national audit3 who found that there was "significant under-referral of eligible patients with COPD for PR".
What we did: In April 2015 a one year marketing campaign was run by Hertfordshire Community NHS Trust's (HCT) PR service to improve awareness, aiming to increase referrals into PR group sessions.
A variety of approaches were adopted, including displaying course information on computer and TV screens in hospitals & GP surgeries; social media activity, instigation of self-referral and a promotional video on YouTube accessible on HCT's website.
Results: Referrals for PR group sessions increased by 34% in the year March 2015-16 from 563 to 753 with a further rise of 48% to 1112 by March 2017.
Conclusions: By raising awareness of the benefits of PR, it is possible to significantly increase referrals into PR and for referrals to continue to rise beyond the one year marketing time period.
Whether there is enough momentum behind the campaign to sustain the increased number of referrals, without further marketing efforts, remains to be seen.

1. IMPRESS-improving and integrating respiratory services guide to pulmonary rehabilitation (2011) Primary Care Respiratory Society & British Thoracic Society
2. NHS England (2010/2011) East of England Commissioning Framework p29
3. Steiner M, et al. (2015) Pulmonary Rehabilitation: Time to breathe better. National Chronic Obstructive Pulmonary Disease (COPD) Audit Programme: Resources and organisation of pulmonary rehabilitation services in England and Wales 2015. London: RCP

Conflicts of Interest:- None
Funding:- In April 2015, HCT received funding from East & North Herts CCG to expand the number of pulmonary rehab places available from 389 to 750/year. The cost of marketing the service was included in the money provided to expand the service. Costs were however m

Abstract No: BP7.
Title: PAVAR goal setting improves health outcomes in a multidisciplinary community respiratory team.
Author(s): Marianne Milligan, Suzanne Marshall
Institution(s): NHS Glasgow, United Kingdom

Content: Goal setting is an essential component of rehabilitation, fundamental to patient centred practice. It is often hindered by vague non collaborative goals rarely involving the patient. The PAVAR approach allows goal setting tailored to individual chronic needs in which patients are proactive, take responsibility and are included in shared decision making. The five stages of PAVAR are Problem, Achieve, Value, Actions and Results. This project aimed to apply this approach to patients with severe Chronic Obstructive Pulmonary Disease.
Aim: Implement person centred goal setting PAVAR and determine it's effectiveness in patients with severe COPD in the domiciliary setting.
Method: Staff were trained on PAVAR framework (see Table 1) with weekly Peer Support meetings.
Patients were given own goal paperwork, set their own goals and worked to achieve this with team support. Patients scored their goal(s)attainment post intervention from 0% (no success) to 100% (complete success). Quality of life and impact of disease improvements were assessed using the COPD Assessment Test (CAT) pre and post intervention.
Results: Mean patient scored goal attainment was 82% in 234 patients who completed the pilot. CAT score decreased by a mean of 5 points, a change of 2 is clinically and statistically significant, p=0.001. There was a statistically significant association between goal attainment and CAT score.
Conclusion: This pilot suggests that PAVAR goal setting can improve impact of disease and quality of life in COPD. This was not a randomised controlled trial however and further work is required.
PAVAR: Problem - what is problem? Achieve - what specifically? Value - what is value? Actions - how to achieve? Results - score

Conflicts of Interest:- Nil
Funding:- Nil

Abstract No: BP8.
Title: FeNO Use in Primary Care Management of Asthma
Author(s): O'Hanlon E1, O'Neill C1, Noone A1, Hamilton L1, Heberger P1, Pearson N1, Travers A1, O'Neill M1, McManus TE2
Institution(s):
1 Omagh Health Centre, Omagh, Co. Tyrone, N. Ireland BT79 7BA
2 Department of Respiratory Medicine, South West Acute Hospital, Enniskillen, Co. Fer

Fractional exhaled nitric oxide (FeNO) has been proposed as a non-invasive marker of airway inflammation in asthma. FeNO levels are raised in people with uncontrolled asthma and can be lowered by effective treatment with corticosteroids.
This study was a pilot project utilising FeNO measurement as an asthma management tool in primary care. Asthma patients attending the practice nurse for annual review or as a result of being symptomatic were offered FeNO measurement.
From 125 patients tested, 39 had an elevated FeNO and were invited for follow up measurement. Where FeNO level was elevated patients were offered appropriate therapeutic intervention and patient education. Mean age of patients was 36.0 years, range 9.5 – 78.9 years. The median FeNO measurement before / after intervention and education was 72 / 45 ppb, p-value of < 0.001 [Wilcoxon Rank Sum test].
This study demonstrates that elevated FeNO levels can be reduced significantly with appropriate intervention, including patient education. Further research is required in order to understand the components contributing to the reduction in FeNO levels (behavioural v pharmacological).

Conflicts of Interest:- None
Funding:- The equipment (FeNO machine) was funded via a Medical Education and services grant by Napp Pharmaceuticals Ltd

Abstract No: BP9.
Title: Effectiveness of a community based pulmonary rehabilitation (PR) programme for patients with chronic obstructive pulmonary disease (COPD): A retrospective review
Author(s): Perryman S, Rajput S
Institution(s): HCPC and CSP

There has been little evidence on efficacy of PR after an AECOPD on readmission rates to hospital. The aim of this study was to assess whether a comprehensive care programme would decrease hospital readmissions for patients with COPD.
Methods: 700 admission episodes were identified from the hospital database with diagnosis of AECOPD in 2015. 60 patients were randomly selected, 30 who had attended PR post hospital discharge and 30 who had not. All individuals were reviewed post hospital discharge by a respiratory practitioner and were offered PR, education regarding inhaler technique and exacerbations and a follow up in a respiratory clinic 6-8 weeks' post PR. The primary outcome was hospital readmissions rate at 12 months.
Results: The baseline characteristics were similar although the non-PR group had a higher mMRC score (4.4 vs 3.3) and BORG score (1.4 vs 0.9). The PR group showed a greater improvement in 6 MWT (mean change of 43m), stress and depression score. In the group that attended PR, the average readmissions to hospital was 1.5 compared to 5.2 for the non-PR group at 12 months. There were 15 deaths in the non-PR group compared to none in the PR group.
Conclusions: A comprehensive PR programme with regular review can reduce hospital readmissions and mortality for COPD patients in the year following PR.
Conflicts of Interest:- None
Funding:- No additional funding was required, data was taken during normal practice of the respiratory team.

Abstract No: S7.
Title: Improving prescribing and medicines use in Asthma patients following The National Review of Asthma Deaths
Author(s): Jennifer Barklie, Practice Nurse, Patrick Moore, Practice Pharmacist
Institution(s): The Mount Practice Belfast

The January 2015 NI Medicines Management Newsletter Supplement 'Why Asthma Still Kills NRAD' highlighted a number of points in relation to prescribing and medicines use for asthma patients.
NRAD focused on 195 asthma deaths, making key recommendations for prescribing and medicines use.
All asthma patients prescribed more than 12 SABA reliever inhalers in the previous 12 months should be invited for urgent review, with the aim of improving their asthma through education and change of treatment if required.
An assessment of inhaler technique to ensure effectiveness should be routinely undertaken and formally documented at annual review.
Non-adherence to preventer inhaled corticosteroids is associated with increased risk of poor asthma control and should be continually monitored.
The use of combination inhalers should be encouraged. Where LABA bronchodilators are prescribed for people with asthma, they should be prescribed with an inhaled corticosteroid in a single combination inhaler.
To ensure best practise all asthma patients were identified by the practice pharmacist and called to see the practice nurse where appropriate. SABAs were removed from repeat medication lists and requests forced through the Practice Nurse.
Overuse of SABA – Audit post review demonstrated a 34.7% reduction in prescribing.
Lack of Documented Inhaler technique – As a result of face to face reviews of all SABA users the Practice can be confident that inhaler technique has been comprehensively assessed.
Non-Adherence with ICS – Importance of 'preventer' medication was reinforced at reviews, and a measure of improved adherence is a reduced requirement of SABA.
LABA not in combination with ICS – Several patients were identified, all were reviewed and are now receiving combination therapy, or where appropriate stepped-down.
A strategic collaborative approach to asthma management can produce significant improvement in patient care.
NI Formulary (2015). Why Asthma Still Kills NRAD http://niformulary.hscni.net/PrescribingNewsletters/MedicinesManagement/supplement/asthma/vol6S1/Pages/default.aspx
RCP, (2014). NRAD. https://www.rcplondon.ac.uk/projects/national-review-asthma-deaths
Conflicts of Interest:- None
Funding:-

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COPD **AirFluSal Forspiro** is indicated for the symptomatic treatment of adults with COPD, with a FEV_1 <60% predicted normal (pre-bronchodilator) and a history of repeated exacerbations and who have significant symptoms despite regular bronchodilator therapy. **Dosage and administration:** Inhalation only. Asthma: one inhalation twice a day of **AirFluSal Forspiro;** two inhalations twice a day of AirFluSal MDI 25/125 or **AirFluSal MDI** 25/250. In asthma, regularly review patients and reduce dose to lowest that maintains effective symptom control. Once control of asthma is attained treatment should be reviewed and consideration given as to whether titrate downwards the dose of inhaled corticosteroid as appropriate to maintain disease control. **AirFluSal Forspiro** is not available in any strengths lower than 50/500 and **AirFluSal MDI** is not available in any strengths lower than salmeterol 25/125 per metered dose. 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An increase in the incidence of pneumonia, including pneumonia requiring hospitalisation, has been observed in patients with COPD receiving inhaled corticosteroids. Physicians should remain vigilant for the possible development of pneumonia in patients with COPD. Risk factors for pneumonia in patients with COPD include current smoking, older age, low body mass index (BMI) and severe COPD. Paradoxical bronchospasm post-dose. *Severe unstable asthma:* Warn patients to seek medical advice if short-acting inhaled bronchodilator use increases. Consider increased inhaled/additional corticosteroid therapy. *Acute symptoms:* Not for acute symptoms. Use short-acting inhaled bronchodilator. *Systemic effects:* Systemic effects of inhaled corticosteroids may occur, particularly at high doses for prolonged periods, but much less likely than with oral corticosteroids. May include Cushing's syndrome, Cushingoid features, adrenal suppression, adrenal crisis, growth retardation in children and adolescents, decrease in bone mineral density, cataract, glaucoma and, more rarely, a range of psychological or behavioural effects including psychomotor hyperactivity, sleep disorders, anxiety, depression or aggression. Tremor, palpitations and headache, have been reported with β2 agonist treatment. In asthma, therapy should be down titrated under physician supervision to lowest effective dose and treatment should not be abruptly stopped due to risk of exacerbation. Serious asthma-related adverse events and exacerbations may occur during treatment with AirFluSal Forspiro and AirFluSal MDI. Patients should not be initiated on AirFluSal Forspiro and AirFluSal MDI during an exacerbation or if they have significantly worsening or acutely deteriorating asthma. Data from a large clinical trial suggested patients of black African or Afro-Caribbean ancestry were at increased risk of serious respiratory-related events or deaths when using salmeterol. All patients should continue treatment but seek medical advice if symptoms remain uncontrolled or worsen when initiated on AirFluSal Forspiro or using AirFluSal MDI. In COPD cessation of therapy with AirFluSal Forspiro may also be associated with decompensation and should be supervised by a physician. *Transfer from oral steroids:* Special care needed. Consider appropriate steroid therapy in stressful situations. **Drug interactions:** Avoid beta-blockers. Avoid concomitant administration of ketoconazole or other potent (e.g. itraconazole, telithromycin, ritonavir) and moderate (erythromycin) CYP3A4 inhibitors and unless benefits outweigh potential risk. β2 adrenergic blockers may weaken or antagonise the effect of salmeterol. 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Prescribers should consult the SPC in relation to other adverse reactions. **Legal category:** POM. **Presentation and Basic NHS cost:** AirFluSal Forspiro 50/500, 60 inhalations, £29.97; AirFluSal MDI 25/125, 120 inhalations, £18.50; AirFluSal MDI 25/250 120 inhalations, £29.95. **Marketing authorisation number: AirFluSal Forspiro; AirFluSal MDI 25/125; AirFluSal MDI 25/250:** PL 04416/1431; PL 04416/1475, PL 04416/1476. **Marketing authorisation holder:** Sandoz Ltd, Frimley Business Park, Frimley, Camberley, Surrey. GU16 7SR. **Last date of revision:** October 2017. UK/P/AFS/17-0029(2).

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Adverse events should also be reported to Sandoz Ltd, 01276 698020 or uk.drugsafety@sandoz.com

References: 1. AirFluSal® Forspiro® SmPC. **2.** AirFluSal® MDI 25/125 SmPC. **3.** AirFluSal® MDI 25/250 SmPC. **4.** MIMS Online (www.mims.co.uk), October 2017.
[†]Seretide®, Accuhaler® and Evohaler® are registered trademarks of the GlaxoSmithKline Group of Companies.
[‡]DPI = Dry Powder Inhaler. [‡]MDI = Pressured Metered Dose Inhaler. [§]LABA = Long-acting beta$_2$-adrenoceptor agonist.
[§]ICS = Inhaled Corticosteroid.

[†]Airflusal® Forspiro® 50/500µg vs Seretide® Accuhaler® 50/500µg.
*Airflusal® MDI 25/125µg and 25/250µg vs Seretide® Evohaler® 25/125µg and 25/250µg.

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