Issue 15
AUTUMN 2018

Primary Care Respiratory **UPDATE**




www.pcrs-uk.org/pcru

PRIMARY CARE RESPIRATORY SOCIETY UK
PCRS UK

HIGHLIGHTS …

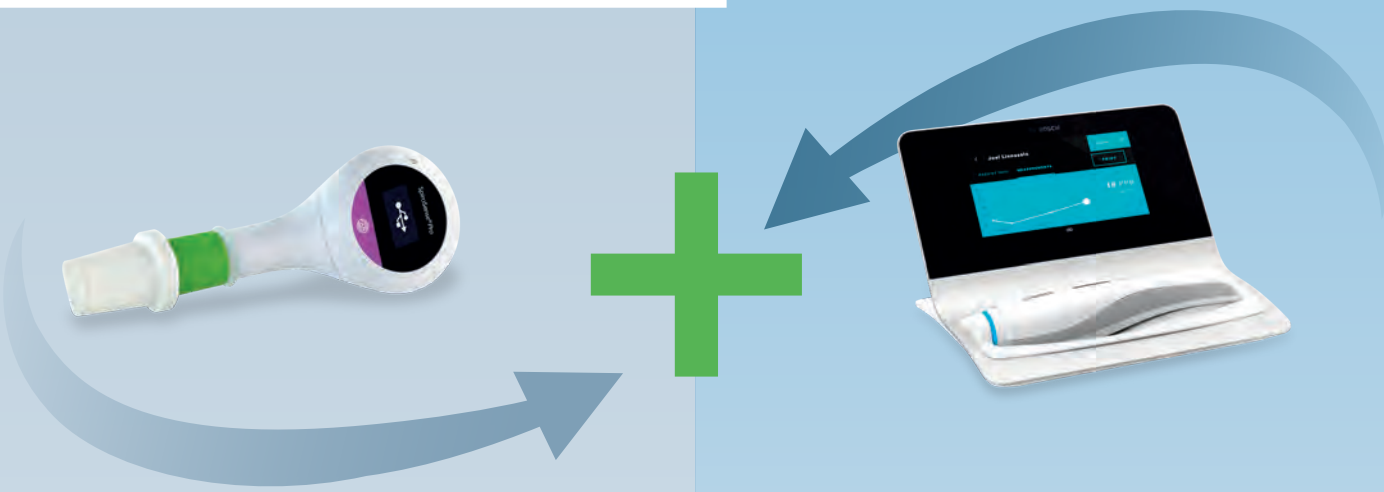
Treatable and untreatable traits

Equity and equality

Influenza vaccination: truths and myths

WORKING TOGETHER

FOR STATE-OF-THE-ART ASTHMA AND COPD DIAGNOSIS



SpiroSense®*Pro*

For initial diagnosis, the innovative SpiroSense *Pro* spirometer is ideal for busy clinics:

- Automatic self-calibration ensures data quality
- High measurement accuracy, even at low flow rates[1]
- Software animation assists correct breathing technique[2]

For more information visit:
www.pari.com/spirometry

Vivatmo *pro*

Measuring FeNO levels with Vivatmo *pro* can also support asthma diagnosis and monitoring:

- Intuitive and maintenance-free
- Cost-effective, quality care, closer to home
- Software animation assists correct breathing technique

For more information visit:
www.pari.com/feno

The latest NICE Asthma Diagnosis & Monitoring Guideline[3] and BTS/SIGN Asthma Guideline[4] recommend the use of FeNO and spirometry in the asthma diagnostic pathway, when diagnosis is unclear.

Visit the PARI stand at the PCRS exhibition in September, or contact:
Tel: 01932 341122, email: infouk@pari.eu

[1] Friedrich P. (2014), College for Applied Sciences, Faculty of Electrical Engineering, Kempten, Internal Report
[2] Dormeyer C. et al (2014), Allergologie, 37(4), 1613
[3] NICE Guideline Asthma (2017): diagnosis, monitoring and chronic asthma management
[4] SIGN 153: British Guideline on the management of asthma (2016)

PARI Medical Ltd, The Old Sorting Office, Rosemount Avenue, West Byfleet, Surrey KT14 6LB

113D0865

Primary Care Respiratory **UPDATE**

The *Primary Care Respiratory Update* is published quarterly and distributed to members of the Primary Care Respiratory Society UK.

www.pcrs-uk.org/pcru

Editorial Office and Publishers

Primary Care Respiratory Society UK
Miria House,
1683B High Street,
Knowle, B93 0LL
Tel: +44 (0)1675 477600
Fax: +44 (0)1361 331811
Email: sales@pcrs-uk.org

Advertising and sales

Primary Care Respiratory Society UK
Miria House,
1683B High Street,
Knowle, B93 0LL
Tel: +44 (0)1675 477600
Fax: +44 (0)1361 331811
Email: sales@pcrs-uk.org

Supplements and reprints

From time to time PCRS-UK publishes supplements to the regular journal, which are subject to review by the editorial board.

PCRS-UK also offers licencing opportunities for bulk reproduction of this journal.

For further information, contact:
Primary Care Respiratory Society UK
Miria House,
1683B High Street,
Knowle, B93 0LL
Tel: +44 (0)1675 477600
Fax: +44 (0)1361 331811
Email: sales@pcrs-uk.org

Printed in the UK by Caric Print Ltd, Bournemouth, Dorset in association with Stephens & George Magazines Ltd. Printed on acid-free paper

Competing interests are declared to PCRS-UK and this information is kept on file.

The Primary Care Respiratory Society UK is a registered charity (Charity No: 1098117) and a company limited by guarantee registered in England (Company No: 4298947). VAT Registration Number: 866 1543 09. Registered offices: PCRS-UK, Miria House, 1683B High Street, Knowle, B93 0LL.
Telephone: +44 (0)1675 477600 Facsimile: +44 (0)121 336 1914
Email: info@pcrs-uk.org Website: http://www.pcrs-uk.org

The Primary Care Respiratory Society UK is grateful to its corporate supporters including AstraZeneca UK Ltd, Boehringer Ingelheim Ltd, Chiesi Ltd, Johnson & Johnson Ltd, Napp Pharmaceuticals, Novartis UK and Pfizer Ltd. for their financial support which supports the core activities of the Charity and allows PCRS-UK to make its services either freely available or at greatly reduced rates to its members. See http://www.pcrs-uk.org/sites/pcrs-uk.org/files/files/PI_funding.pdf for PCRS-UK statement on pharmaceutical funding.

VITALOGRAPH MARKET LEADING SPIROMETERS

Featuring the Latest Global Lung Initiative (GLI) Predicted Equations

Vitalograph micro™
The ultimate low cost, high performance spirometer

Vitalograph Pneumotrac™
The ideal PC-based spirometer for general healthcare and occupational health

Vitalograph ALPHA™ Series
Desktop spirometers for use with or without PC

GLI Predicted Equations

- Latest spirometry guidelines recommend new GLI predicted values
- Update or replacement of older devices without GLI values is recommended
- Better coverage for all age groups from childhood through to adulthood
- Improved accuracy of diagnosis

Receive a **10% DISCOUNT** on the Vitalograph® Spirometers shown above ***AND*** a **FREE BOX** (75) of Vitalograph Eco BVF™ Bacterial Viral Filters for orders placed by 30th November 2018

For further information, a quotation or a no obligation demonstration, please contact us, quoting reference **V118**

Tel: 01280 827110 **e-mail**: sales@vitalograph.co.uk
www.vitalograph.co.uk

Vitalograph®
Your cardio-respiratory partner

PRINT REF: 56043_1 CE 0086

CONTENTS

Primary Care Respiratory **UPDATE**




SPECIAL FEATURES

REGULAR FEATURES

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

Fostair® NEXThaler lets your patients know they've taken their medication[1,2]

- The audible 'click' reassures patients that the dose has been taken[1,2]
- The dose counter only counts successful individual inhalations, so each dose registered equals a dose taken[1,2]

FOSTAIR® NEXThaler
IT'S GOOD TO KNOW

Visit **www.ChiesiRespiratory.co.uk/goodtoknow** to find out more

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 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 (FEV1 <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 as needed in response to asthma symptoms: 1 inhalation twice daily plus 1 additional inhalation as needed 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 as needed). 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 twice daily. Fostair pMDI and NEXThaler 200/6: 2 inhalations twice daily. 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 twice daily. 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, ischaemic 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). 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 there is 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 is 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 and more rarely, a range of psychological or behavioural effects including psychomotor hyperactivity, sleep disorders, anxiety, depression and aggression. Consider referral of patients reporting blurred vision or visual disturbances to an ophthalmologist as causes may include cataract, glaucoma or rare diseases such as central serous chorioretinopathy. 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, blurred vision. (Refer to SPC for full list of side effects). **Legal category:** POM **Packs and price:** £29.32 1x120 actuations **Marketing authorisation (MA) No(s):** 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:** Apr 2018. 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) or PV.UK@Chiesi.com.

References: 1. Fostair® NEXThaler 100/6 Patient Information Leaflet. Chiesi Limited. **2.** Fostair® NEXThaler 200/6 Patient Information Leaflet. Chiesi Limited.

CHNEX20180633. Apr 18.

Editor's Round-Up

Dr Iain Small, *Editor Primary Care Respiratory Update*

Well the summer is slowly fading amidst a plethora of memories – football almost came home, Novak DID come back, there were hosepipe bans in the wettest region of England and Carnoustie bit back. Amidst the glorious weather it was tempting to think of ourselves as living on an island paradise (like the participants in 'that programme'), but in reality our country is no utopia, and we face challenges of equity and equality within the patient populations we support, wherever we work.

In this issue of *Primary Care Respiratory Update* (a BREXIT-free zone), I am pleased to focus on these two topics that add another dimension to the clinical quandaries we face with our patients every day. Whether the challenge is geography, ethnicity, poverty, drug dependency or those 'untreatable traits' raised by Stephen Gaduzo *et al* (and highlighted in the case of Gerald in our case history section), I have no doubt that you, like me, have faced problems that seem insurmountable, or require a solution that extends way beyond those of a traditional medical model.

When considering deprivation, I am grateful to Daryl Freeman and Roy Robertson for presenting two starkly different reflections on their life's work, and to Gail Miles for highlighting the truths, myths and 'must dos' of influenza immunisations.

You might also be fired with post-holiday enthusiasm by the examples of delivering excellence locally in this edition, the review of improved Scottish respiratory prescribing discussed in Bronwen Thompson's policy section, or the experience of those who have gone through the PCRS clinical leadership programme.

Finally, feel free to dip into Journal Watch – a faithful team of experts have cherry picked what they believe are the best topical research papers from around the world. My two 'editor's choices' cover the symptom impact of e-cigarettes and a simple way of identifying high SABA use patients with asthma.

I look forward to seeing many of you at this year's conference and hearing your feedback on *Primary Care Respiratory Update*.

WINTER MEETING 2018

Wednesday 5th to Friday 7th December • QEII Centre, London, UK

British Thoracic Society

Book now for the UK's premier respiratory annual conference. Participate in a wide variety of symposia and abstract sessions, featuring speakers from around the UK, Europe, USA, Canada and Australia. Network with delegates from multi-professional clinical and scientific backgrounds from around the world.

Major symposia will include:

- Pleural infection: re-thinking the old paradigm
- Joint BTS/BALR symposium (part 1) – Game of 'omes: winter is coming?
- Occupational lung disease update: new causes of 'old' conditions
- Current controversies in COPD
- Current controversies in cystic fibrosis: can we improve outcomes?
- Joint BTS/BALR symposium (part 2) – Game of 'omes: winter is here?
- Joint BTS/BPRS symposium – Transition of children with complex disease to adult care: views from all angles
- BTS/BALR/BLF Early Career Investigator Awards symposium
- Mesothelioma and malignant pleural effusion: now and the future
- Joint BTS/BPRS symposium – When the going gets tough: challenging diagnoses
- Bronchiectasis: what questions do your patients want you to answer?
- Exercise and the lungs
- Pulmonary rehabilitation
- Plenary scientific symposium
- Macrolides: panacea or Pandora's Box?
- Highlights from *JAMA* and *Thorax*
- Pulmonary vascular disease
- The future of TB: the changing role of the respiratory physician over the next five years
- Biomarkers in respiratory disease
- Obstructive sleep apnoea: beyond CPAP treatment
- Interstitial lung disease: current thinking and future directions
- Critical care
- Lung cancer
- From bugs to Mabs in asthma

Also prestigious Guest Lectures:

- The BTS Scientific Lecture – Professor Brigid Hogan (USA)
- The BTS Keynote Lecture – Professor Moira Whyte (UK)
- The BTS Clinical Lecture – Professor Dame Sally Davies (UK) (to be confirmed)

Plus BTS Journal Clubs on COPD, Interventional Procedures in Radiology and Sarcoid.

Full programme including spoken and poster sessions available in September.

For further details and to book your place, visit our website at: **www.brit-thoracic.org.uk**

Early bird discounts for bookings received before 8th October 2018.

Please see our website: **brit-thoracic.org.uk**

Better lung health for all

Chair's Perspective

Noel Baxter, *PCRS-UK Executive Chair*

I really want to stop smoking, stop puffing but it's just everywhere you know, I'd have to move house, move area to get away from it but all my family are here and without them I would just get more depressed. If I can get back to the gym I think that will help, I feel better about myself then. I really need to get this back and knee sorted first though. Is there anything we can do to speed it up?

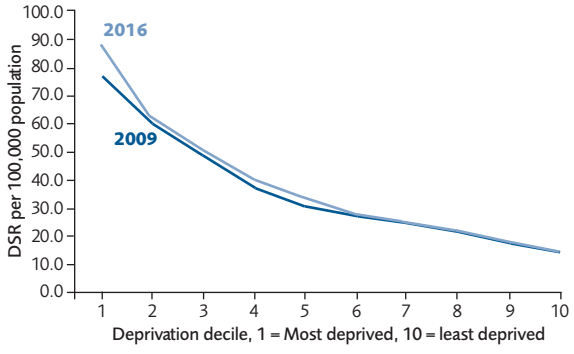
How does this snapshot of a consultation make you feel? I know you will have been in a similar situation yourself and the way we respond to those feelings and thoughts is key to making the right treatment choices for this young woman. Options flood into your mind – where do I start? Should I write a letter saying this is urgent and try and push her up the waiting list, treat tobacco dependency especially as she may be pre-op depending on the musculoskeletal opinion, refer her to psychology to help her cope with the wait, talk about the free gym and swim options, have the conversation about how long she has been using opiates now for her knee or maybe discussions about second-hand smoke and how she can reduce harm for those around her? Shawna's mum is living with life changing COPD and she is only in her late 50s. Her daughter was in A&E last week; this summer has been great so far, football and weather, but the air quality on their estate next to a major road into the city centre has been poor and daily high pollen counts are taking its toll.

I am particularly happy to see this issue of *PCRU* focus on equity and equality and consider some of the ways that we can help this group of people where complexity starts off very early in life.

The graph shown in this article is beginning to cause some concern and thankfully some discussions in the hierarchy of the NHS. It contains public sector information licensed under the Open Government Licence v3.0 (https://data.england.nhs.uk/dataset/nhsof-1-2-under-75-mortality-rate-from-respiratory-disease/resource/1bfefbc0-f124-4c4f-bd72-6a1e954d6165?inner_span=True). Poor respiratory outcomes are now a key driver to the worsening health equity gap in people from lower

Under 75 mortality rate from respiratory disease

The mortality rate from respiratory disease rose among residents in decile 1 by 9.3 per cent from 80.6 per 100,000 in 2015 to 88.1 per 100,000 in 2016. Rate rose between 2015 and 2016 in all deciles except for decile 2 which remained the same and deciles 6 and 9 where rates fell slightly



- Since the data series began in 2009, the mortality rate for residents in decile 1 has increased by 14.3 per cent, from 77.1 per 100,000 in 2009 to 88.1 per 100,000 in 2016. This is a statistically signficant increase.
- In decile 10, the mortality rate has decreased by 5.2 per cent, from 15.3 per 100,000 in 2009 to 14.5 per 100,000 in 2016, suggesting that the inequalities gap is widening. This decrease is statistically significant.

socioeconomic groups. It seems it's not just us enthusiasts who realise how important respiratory care is in driving inequitable outcomes.

We also know from some very complex but important and timely analysis of NHS data in Glasgow in 2015 (https://www.gla.ac.uk/media/media_ 443695_en.pdf) that the financial austerity in recent years has exacerbated the Inverse Care Law, a model defined by a Welsh GP in 1971 in *The Lancet* (goo.gl/YSiq4U).

Essentially, and somewhat colloquially, the 'worried well middle classes' are receiving more unnecessary or low-value elective or planned care and the less well-off who are less adept at getting help receive their care later in the course of the illness trajectory and more likely in an emergency situation. The analysis by public health consultants in Glasgow found that the inequity impact has been seen in all areas of health analysed except for respiratory and spinal orthopaedics. For these two areas, their conclusion was that the need for care to deal with the problems that occur are more likely to represent a genuine need for intervention.

Shawna gets complicated respiratory infections each winter, is dependent on tobacco and other smoked substances and now has an opiate dependency. She is at risk of COPD in the future, maybe near future. Is she a priority for you, your organisation and the system you work in? These data suggest she should be.

So how are we responding to this challenge in our CCGs, STPs, Health Boards? Are we focusing on respiratory disease improvement because this is what will drive more equitable health outcomes? Why not ask? If not, we should be holding a mirror to this issue for our colleagues in the system who have been mandated by their population to deliver on this.

Stephen Gaduzo in this edition talks about treatable traits and at some point in the future we may have to look back at Shawna's eosinophil counts and decide which inhaler is best. But wouldn't it be better if right now we started on the apparently 'untreatable traits' described by Stephen. The Mission Programme that we hear about is exemplary in that it is genuinely looking at different care delivery that is co-creative, based in communities and responding to the real issues where people live. It is clear from Daryl Freeman and Val Gerrard's work with rural communities that there are certain population traits that require careful inclusion in any service design or transformation.

How can we support Shawna to take more ownership of her own, her mum's and her daughter's health care? What supportive self-management can we put in place? We can all do something – it might be something as simple as just writing down what has been discussed, what goals have been agreed so that she feels supported and that there is something to go and achieve. Our PCRS member colleagues write with knowledge and experience in this edition to give us further ideas about what we can do ourselves.

Small 'do-able' steps for us and small steps for Shawna and a move in the right direction.

HELPING YOU TO UNWRAP THEIR POSSIBILITIES

You can support your COPD patients' nutrition by choosing Fortisip Compact Protein and help them get back to cooking up a storm

Nutritional Support - integral to the continuum of care

NUTRICIA Fortisip Compact Protein

Date of preparation: August 2017

Medical complexity: treatable and untreatable traits – challenging health care to move onwards

Stephen Gaduzo, Steve Holmes, June Roberts, Iain Small

"Clinicians must see and hear each patient in the fullness of his or her humanity in order to minimise fear, to locate hope (however limited), to explain symptoms and diagnoses in language that makes sense to the particular patient, to witness courage and endurance, and to accompany suffering. No biomedical evidence helps with any of this, so a rift runs through every consultation."[1]

In their paradigm shifting paper on treatable traits,[2] Alvar Agusti and colleagues describe the endotypes and phenotypes of patients with respiratory disease, mapping out variables such as genetic, radiological, pathophysiological and psychological profiles that affect the way an individual's condition may present, progress and respond to treatment. They make a compelling case for 'Precision Medicine', where each clinical decision is informed by the individual characteristics of the patients themselves, as well as the weight of research and clinical evidence, as applied to the thousands of patients in clinical trials, or as is extrapolated using meta-analyses.

It is tempting to see this approach as being able to solve the dilemma between 'population' and 'person' targeted health care, but as Iona Heath describes,[3] it misses a whole other facet of the person engaging with their disease: their humanity.

In primary care, of course, we have an established and broader way of thinking about 'Personalised Care'. The three-legged stool of physical, psychological and social is fundamental, particularly when one leg is ignored and the stool is no longer stable.[4] Although it is easy to recognise the physical (certainly from one organ that has pathology), intercalating different organ pathologies can be challenging – a situation we commonly see in people with both cardiac and respiratory problems. Well-being remains a complex mix of the physical, psychological and social domains of our lives.[5]

But do we really apply these principles in our everyday work? Can we broaden the concept of treatable traits beyond those of the human organism facing us in our clinic to consider the human being, their likes and loves, habits and foibles, the multiple medical conditions they may have, and the unique way in which they choose to manage their health or illnesses. Who our patients are – their personality and character, the environment that surrounds and challenges them – will influence how they react to the changes in their fortunes brought about by illness. Furthermore, the symptoms and limitations of their illness not only affect them as individuals, but also their family, workmates and friends. This complex ecosystem has the potential to exaggerate or relieve these very symptoms and (perhaps) influence the course of their disease. Broadening this further, our own knowledge of the patient, their family and home environment, together with how we communicate and document this knowledge for colleagues, added to our own attitudes to issues such as religion, philosophy and life priorities result in a daunting holistic mix.

We are rightly encouraged to use techniques like cognitive behavioural therapy,[6] motivational interviewing[7] and other consultation models[8] designed to support shared decision making[9–11] – however, in reality it is likely that the clinician will encounter not only treatable traits but also some untreatable traits lying in wait to trip them up.

Of course, these traits may be unrecognised by both the clinician and patient; at times they may be known to the patient but not the clinician; and even when recognised, their importance, degree of permanence and relevance may vary. Working together, there are opportunities for the clinician and patient to determine the impact of these untreatable traits.

Consider a teenage girl with asthma. A standard way of approaching this clinical problem would involve history taking, examination and application of evidence-based clinical guidelines as part of shared decision making.[12] In doing so, we may well practice our own version of 'Precision Medicine' by identifying the genetic features of her atopy, her own individual triggers and, for example, her responsiveness to leukotriene receptor antagonist therapy. As a part of this work, we have found at least some of her treatable traits. So far, so good, but what about all the other variables that contribute to her wellbeing?

How does the child feel about having asthma? How does this condition change her behaviour? The decisions she makes now such as concordance, smoking, exercise and diet may influence her prognosis decades into the future and contribute to the likelihood of her developing 'co' or 'multi'-morbidities. Her own and her parents' attitude towards (and understanding of) asthma also need to be explored, expanded and perhaps corrected.[13] Also, the influences of peer group, social media and teen culture add further pressures to her unasked-for situation. Environmental issues such as pollution, smoke exposure and perhaps mould sensitivity (due to poor housing) directly influence the course of her condition but may not be possible to address.

Add to this the potential for lack of understanding or anxiety about asthma at school, in social clubs and extended family and what started as a two-dimensional clinical problem of which inhaled corticosteroid to choose now has a complex matrix of variables that need identifying and challenging and may, for the clinician at the coal face, feel like untreatable and overwhelming traits. The tendency for us to become didactic and "tell people what to do" easily flows from this situation, although the impact on health gains is less certain.[14]

We know that factors such as the patient's understanding of their condition, their relationship with their healthcare team and their confidence that their treatment can change their life for the better are key to successful self-management,[15] but faced with time pressures and targets, we often find it impossible to deliver to this agenda. Recognising our own capacity as an adjunct (or barrier) to treatment may fundamentally change the way we practice and influence clinical outcomes for patients – another untreatable variable.

In an ageing community where those with multiple long-term conditions are becoming increasing prevalent,[16] this conundrum becomes even more complex. The older man with COPD, ischaemic heart disease, osteoarthritis and diverticulosis can be described, as we have just done, by his pathology. He can also be described by his socioeconomic status, his previous role in society (a retired miner), his religion, his choice of football team, or even just as Grandad. Each of his diseases impacts on each role, and each role on his lifestyle. Of course, his lifestyle will influence his current symptoms and future risk,[17] completing a cycle of ever-decreasing diameter, limiting hope, ambition and ultimately survival. Add to this the challenges of his psychological status – he might be depressed, sad, or low. How does this affect the way in which we manage his care and are his symptoms normal or pathological?

It could be argued that we have been unconsciously encouraged to ignore this interaction by the application of evidence-based medicine through the Quality and Outcomes Framework. For laudable reasons we have set to work focusing on applying NICE to his COPD and his heart disease, as well as adhering to local guidelines on prescribing and referral pathways. We have withdrawn his non-steroidal anti-inflammatory drug following on from meta-analysis of their impact on estimated glomerular filtration rate and cardiovascular risk,[18] and sent him off to the direct access colonoscopy clinic just in case he has more than diverticulosis.

When we consider his lot, we can see that he does indeed have treatable clinical traits – his tobacco dependence, breathlessness, osteoarthrosis, angina and diverticular disease – some of which may have individual phenotypes of their own.

He may also have social problems including mobility, manual dexterity, housing, family challenges, money concerns, for which help may be required.

Psychologically, he may need referral for counselling or specialist help, but even if not, he is likely to have significant levels of anxiety, low mood and panic induced by pain or breathlessness as well as concerns linked to his ideas, concerns and expectations of his disease, its treatment and his life in general.

Getting 'under his skin', we may be able to identify traits that support empowerment or change, or traits that restrain this process to the point where it seems impossible to achieve. Some of these will be recognised by our patient and some (with the correct training) by ourselves, giving us an opportunity to facilitate change. This needs to be done as part of a collaborative process, involving patients in a shared management plan.

Improving these 'softer' outcomes may have a greater influence on his prognosis than the usual measurable ones used in traditional medical research.

These are the elements of his situation that are more likely to have the greatest impact on him and healthcare providers, thus putting the greatest strain on every aspect of society (as it meets and engages with him), and these lie far removed from the medical model of the past hundred years.

Faced with these apparently insurmountable problems, it is not surprising that our patient steps back from active involvement in his condition, divests responsibility onto others, becomes a passenger in his own journey and finds himself as another 'winter crisis' statistic. Of course this transfer of locus of control onto clinicians is exactly the model from which we have been trying for a generation to escape, and leaves the clinician feeling overwhelmed, tempted to see the patient as untreatable.

Transforming this doomsday scenario isn't easy but should be the foundation of our model for care moving forwards if we are to face the challenge of our national demography. Models such as the 'House of

Care'[19] offer solutions, but demand dedication and determination if they are going to succeed. They require a shift away from a model of data collection and treating the result to working collaboratively with our patients to get the best outcome for them. Most importantly, any such initiative that doesn't start with the patient, that isn't developed in collaboration with patients and doesn't acknowledge that true autonomy might mean ignoring the evidence runs the risk of replicating the mistakes of the past. Connected collaborative and truly integrated care means that it doesn't matter what door the patient uses to enter his 'house of care' for, as they say in 'Stockport Together', there is no wrong door.

As we begin to change our way of doing things, it is vital that we treat our patient as a person, a respected individual who has values, beliefs and concerns. It is better to support strengths and accept some weaknesses, agreeing how to move care forward for our patient – not for our databases.

For change we must. The inexorable conveyor belt of multiple comorbid people will not stop for us to catch breath. At the same time, the aspirations of guideline writers, commissioners, professional regulators and even patient/disease interest groups should not tempt us into a disease-orientated medical model.

Remembering what matters to our patients and what really makes a difference to their care, whilst at the same time acknowledging the treatable AND the untreatable is our task – a task for which we are uniquely qualified, if not always supported. A challenge for the future.

References

1. Heath I. How medicine has exploited rationality at the expense of humanity: an essay by Iona Heath. *BMJ* 2016;**355**:i5705. https://doi.org/10.1136/bmj.i5705
2. Agusti A, Bel E, Thomas M, *et al.* Treatable traits: toward precision medicine of chronic airway diseases. *Eur Respir J* 2016;**47**:410–19. https://doi.org/10.1183/13993003.01359-2015
3. Heath I. How medicine has exploited rationality at the expense of humanity: an essay by Iona Heath. BMJ 2016;355:i5075. https://www.bmj.com/content/355/bmj.i5705.full
4. Working Party of the Royal College of General Practitioners. The Triaxial Model of the Consultation. London: RCGP, 1972.
5. Stokes-Lampad H. Social prescribing and the current NHS landscape. 2017. https://www.kingsfund.org.uk/audio-video/helen-stokes-lampard-social-prescribing
6. Blane D, Williams C, Morrison J, Wilson A, Mercer S. Cognitive behavioural therapy: why primary care should have it all. *Br J Gen Pract* 2013;**63**:103–4. https://doi.org/10.3399/bjgp13X663235
7. Rubak S, Sandbæk A, Lauritzen T, Christensen B. Motivational interviewing: a systematic review and meta-analysis. *Br J Gen Pract* 2005;**55**:305–12.
8. Silverman JK, Draper J. Skills for Communicating with Patients. Oxford: Radcliffe Medical Press, 1988.
9. Charles C, Gafni A, Whelan T. Shared decision-making in the medical encounter: What does it mean? (or it takes at least two to tango). *Soc Sci Med* 1997;**44**:681–92.
10. Elwyn G, Edwards A, Kinnersley P. Shared decision-making in primary care: the neglected second half of the consultation. *Br J Gen Pract* 1999;**49**:477–82.
11. Wilson SR, Strub P, Buist AS, *et al.* Shared treatment decision making improves adherence and outcomes in poorly controlled asthma. *Am J Respir Crit Care Med* 2010;**181**:566–77. https://doi.org/10.1164/rccm.200906-0907OC
12. British Thoracic Society/Scottish Intercollegiate Guideline Network. British Guideline on the Management of Asthma. 2016. http://www.sign.ac.uk/assets/sign153.pdf (accessed Dec 2017)
13. Matthys J, Elwyn G, Van Nuland M, *et al.* 2009. Patients' ideas, concerns, and expectations (ICE) in general practice: impact on prescribing. *Br J Gen Pract* 2009;**59**:29–36. https://doi.org/10.3399/bjgp09X394833
14. Holmes S, Scullion J. Improving Asthma Care: Effective communication – effective care (an educational resource). Liverpool: PCRS/REUK, 2013.
15. Taylor SJC, Pinnock H. Supported self-management for respiratory conditions in primary care. PCRU 2017;4(3):11–15.
16. Barnett K, Mercer SW, Norbury M, *et al.* Epidemiology of multimorbidity and implications for health care, research, and medical education: a cross-sectional study. *Lancet* 2012;**380**:37–43. https://doi.org/10.1016/S0140-6736(12)60240-2
17. Bateman ED, Reddel HK, Eriksson G, *et al.* Overall asthma control: the relationship between current control and future risk. *J Allergy Clin Immunol* 2010;**125**:600-8, 608.e1-608.e6. https://doi.org/10.1016/j.jaci.2009.11.033
18. Zhang X, Donnan PT, Bell S, Guthrie B. Non-steroidal anti-inflammatory drug induced acute kidney injury in the community dwelling general population and people with chronic kidney disease: systematic review and meta-analysis. *BMC Nephrol* 2017;**18**:256. https://doi.org/10.1186/s12882-017-0673-8
19. NHS England. House of Care – a framework for long term condition care. https://www.england.nhs.uk/ourwork/ltc-op-eolc/ltc-eolc/house-of-care.

3 minutes to better inhaler technique!

A new, definitive series of short videos from Asthma UK in collaboration with the UK Inhaler Group.

Created for patients with conditions including asthma, COPD and cystic fibrosis.

Help your patients:

- Get their inhaler technique right between appointments
- Manage their symptoms better
- Need fewer emergency appointments

Show them to your patients

www.asthma.org/inhalervideos

Created by Asthma UK in collaboration with the UK Inhaler Group and respiratory patients.

The challenges of delivering respiratory care to a rural, coastal, deprived population

Improving primary and community care respiratory services in deprived rural areas comes with its own unique challenges. This is the experience of PCRS-UK East of England lead and GP, Dr Daryl Freeman, who is Associate Clinical Director of Norfolk Community Health and Care NHS Trust. She is currently working with local CCGs to improve out-of-hospital care in a largely rural environment and, in another role as Chair of Norfolk and Waveney Sustainability and Transformation Partnership (STP) Respiratory Working Group, she is working on a plan for a new community respiratory service that would support general practice.

The challenges

The impact of rural poverty and deprivation on respiratory patients

More than half the population of Norfolk is designated as living in a rural area and a high proportion of residents live in the 20 most deprived areas. These are the more sparsely populated and coastal areas, where there is poor access to public transport and services such as broadband and mobile telephony. In addition, there are low educational achievement and wage levels and high rates of unemployment. The county's population is much older than the rest of the country and projected to increase at a greater rate than the rest of England.

These factors impact on respiratory health. People living in these areas often have chaotic lives, struggle to keep appointments or to come in for regular check-ups and generally don't engage with health services. Daryl says: "Educational attainment in our rural deprived areas is often very poor so there is an ongoing cycle of lack of aspiration and a negative outlook towards health. If you can't see a way out of your low status you are not going to have the will or ability to access stop smoking support or to improve your diet."

A lack of public transport services in rural areas can make accessing hospital for specialised diagnostic services or secondary care expensive and difficult for some patients.

On a brighter note, access to pulmonary rehabilitation (PR) is relatively easy to deliver to a rural population because it can be provided in any large local public room. Daryl says: "Norfolk has shown it can be done with no patient further than 20 minutes away from a PR class. This has been achieved by using gyms, local halls and, as the PR lead states, 'anywhere that will have us'."

Solutions

A new community respiratory service

The STP is keen to keep people out of hospital and for primary and community care to be delivered locally in an integrated way and for care to be standardised across Norfolk & Waveney.

But Daryl says it is difficult to design a 'one size fits all' respiratory service. "What might work in Norwich, which is relatively affluent, isn't going to work in somewhere like Great Yarmouth. Because DNA rates in socially deprived areas are much greater than in affluent areas, you have to look at different ways of delivering care perhaps by taking mobile clinics to the patient. We need to think in more imaginative ways of delivering care to those patients who find accessing it very difficult."

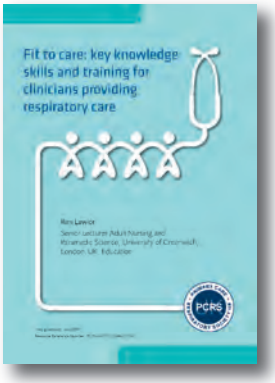
Daryl says the solution is for a greater focus on providing integrated care and support for primary care in deprived areas.

Do a skills audit to improve education

The new community respiratory service that Daryl is proposing to the STP would be an extension of a practice-based respiratory service that she designed and delivered while working in a previous role as respiratory lead for North Norfolk CCG. Working with advanced respiratory nurse specialist and PCRS-UK Executive Committee member Val Gerrard, they went in to practices and worked alongside primary care teams to improve their respiratory skills and help them identify and manage respiratory patients who needed more support. This improved care and resulted in a significant reduction in emergency respiratory admissions.

Daryl and Val found that the skills of practice nurses were variable, particularly in spirometry interpretation. Diagnoses were being missed and some patients were not being managed in line with guidance.

Daryl says a starting point for improving education should be to conduct a skills audit using the PCRS-UK Fit to Care document (https://www.pcrs-uk.org/fit-care) which sets out the training practitioners need for the level of care they are providing. This has been performed by the STP working group and has confirmed concerns about the training level of primary care clinicians undertaking respiratory clinics.



However, in Norfolk it can be difficult for nurses in the more rural areas to access training. Most evening courses are based in Norwich in order to attract the most people. But nurses working in rural areas are unlikely to travel for an hour or more to attend these courses after a busy day.

Daryl says there is a need to deliver more education programmes locally in the rural areas. Val and Daryl currently have three local PCRS affiliated groups in Norfolk that deliver education CCG-wide rather than in Norwich, and she says they have been experimenting with delivering education to three or four practices at a time with a good uptake.

PCRS-UK Affiliated Groups

A lifeline to support healthcare professionals to come together locally, network, learn, share best practice and have some fun and camaraderie.

Affiliation offers:

- Free membership for the group lead
- Help getting started and with resources and buddy support
- Opportunity to promote your local group and its activities to members in your area
- Suggestions for discussion topics and learning materials
- E-news and an annual event for leaders to support professional development

Find out more at www.pcrs-uk.org/lga

She is hoping that linking a skills audit and improved education to a reduction in admission rates will make a powerful case for more funding for education of the primary care workforce.

Making community hospitals work in the 21st century

One part of Daryl's job for the Community Trust is to oversee Norfolk's six community hospitals. She is hoping to extend the role of these hospitals to provide an expanded service to the community for respiratory and other chronic conditions, providing care closer to home.

"I want to have a service where patients aren't just admitted and discharged but discharged with outreach follow-up. Maybe in the fullness of time we will have a team based at the community hospital then, if a patient does become poorly, we can go out and assess and support them at home."

"I would like community hospitals to deliver more local care both pre and post admission, whether it's respiratory, cardiac etc. I believe their potential, certainly in Norfolk, is underutilised."

"CCGs have been closing community hospitals because they say they're not cost-effective. One of the challenges I have is to find ways of using them differently to stop them being closed. If we carry on doing the same old thing they will be under threat. We need to roll back the clock and make them more part of the community, and certainly in some parts of the country that's being achieved."

Daryl is optimistic about the future but recognises that she is going to have to really argue her case for change. "The only way I can do that is to demonstrate there is potential to reduce admission rates for respiratory conditions because that's the only place (admission avoidance) where there is new money".

"Norfolk Community Heath and Care is considering altering the way the community hospitals work. We have taken on four new members of staff for the wards (all advanced nurse practitioners) and including me there are two new associate clinical directors. We all want to see the wards start to take more patients directly from primary care, community matrons and directly from the ambulance trust."

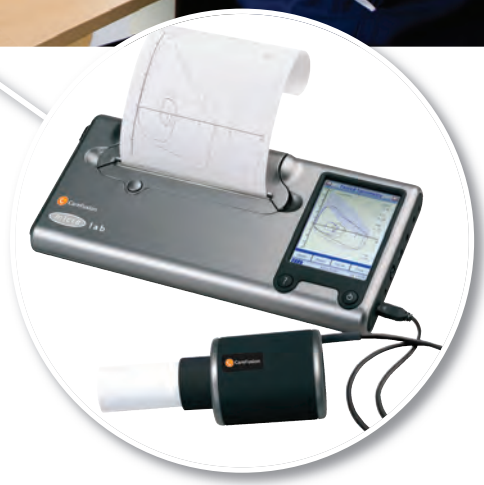
"The CCGs, the ward staff and the STP boards are keen this goes ahead. We do, however, face some obstacles from secondary care who have provided consultant cover for the wards for the past four years. We are sure that, in line with the STP ethos of us all working to provide care for patients closer to home, we can come to an agreement which continues to provide excellent care for patients in units within their community."

Any member who wishes to discuss these issues further with Daryl can contact her via the members' directory https://www.pcrs-uk.org/directory or email us at info@pcrs-uk.org and we will facilitate contact.

Micro Medical

CareFusion®

The GOLD STANDARD in Spirometry



- Technical support and advice for practitioners completing their ARTP/BTS accreditation
- Conforms with 'A Guide to Performing Quality Assured Diagnostic Spirometry'
- GLI (Global Lung Initiative) predicted values, automatic interpretation and reproducibility guidance
- FREE software updates
- Software exports results directly to SystmOne and EMIS

Williams Medical

Exclusive Partner

For Preferential Prices and more information...

Call 01685 846666 or go to wms.co.uk/micromedical

PCRS-UK National Respiratory Conference

BUILDING CONFIDENCE IN A CHANGING WORLD

28-29th September 2018 Telford International Centre

The MUST ATTEND conference for all professionals involved in respiratory care in a primary or community care setting

Registration from £150

Renowned for being embedded in day-to-day clinical practice and its welcoming, reinvigorating, friendly atmosphere

- ✓ **Clinical symposia** - focused on getting the fundamentals of care right and looking at tackling some of the most common pitfalls in respiratory care
- ✓ **Service development sessions** - featuring innovative case studies and focusing on inspiring sustainable change – plus a best practice poster display
- ✓ Cutting edge, academic **research presentations**, run in conjunction with *npj Primary Care Respiratory Medicine*
- ✓ Thought-provoking, entertaining keynote plenaries - including case-based **Grand Round** session and a **Room 101 Respiratory Special** designed to banish some of the audience's 'pet hates' and the least valuable activities in respiratory
- ✓ **Interactive, practical workshops** run in conjunction with Education for Health, offering an opportunity to enhance key consultation and clinical respiratory skills

Conference partners

asthma UK

British Lung Foundation

education for health

The Primary Care Respiratory Society UK are grateful to the following conference sponsors: AstraZeneca UK Limited, Boehringer Ingelheim Ltd, Chiesi Ltd, Napp Pharmaceuticals, Novartis Pharmaceuticals UK Ltd and Pfizer Ltd

For more information visit https://pcrs-uk.org/annual-conference

Challenges of working in an inner city practice: illegal drug use and respiratory illness

Dr Roy Robertson is a Professor of Addiction Medicine at the Usher Institute of Population Health Sciences and Informatics at the University of Edinburgh. He has spent much of his career on the frontline of Edinburgh's heroin problem working as a GP on the Muirhouse estate.

Along with cardiovascular disease and musculoskeletal problems, respiratory illness accounts for a large number of the consultations in general practice and, as a chronic disease, obstructive airways disease is a large percentage of illness worldwide.[1] While much of the cause of lung disease is due to smoking cigarettes, an additional, largely unquantified, candidate for progressive damage is inhalation of smoke and high temperature fumes from drugs such as cannabis, cocaine and heroin. The pyrogenic effect and the irritant tissue toxicity are often inseparable from the effect of tobacco as they often coexist, but there is undoubtedly an independent factor attributed to the drug use leading to adverse effects on respiratory function. At least one study has identified the increased risk of cannabis smoking compared with tobacco, estimating that smoking a cannabis 'joint' does 2.5–5 times the damage to lung function compared with one tobacco cigarette.[2]

Individual drugs such as cocaine sometimes have distinct pathological patterns and 'crack lung' seems to be an identifiable entity, whereas the pulmonary effects of other drugs are less specific in their manifestations of respiratory damage causing outflow obstruction and emphysema changes similar to other causes of lung damage. Acute effects of cannabis include increased wheeze and cough, but evidence for longer term damage is confounded by the additional effect of smoking. Several studies have failed to identify a close link with heavy cannabis and lung disease, although a New Zealand case–control study of lung cancer in 79 adults under the age of 55 years and 324 community controls found a dose–response relation between frequency of cannabis use and lung cancer risk.[3]

The reality, in general practice, is of complex multimorbidity in individuals with several risk factors. Smoking cigarettes with or without cannabis, inhaling heroin or cocaine fumes and existing in poor living conditions are likely to characterise much of the lung pathology in inner city practice.[4–7] Trying to tease out individual effects is inevitably difficult, but not impossible, and for the purpose of interventions sometimes less relevant than recognising all risk factors as targets for preventative therapy.[8] Many people who use drugs do so in combination, adding to the complex presentations affecting several systems.

The use of cocaine in injectable form or the smoking of crack cocaine is often associated with heroin use leading to increased risk of complications. Stimulant use alongside heroin leads to increased use and multiple daily injecting, increasing the risk of bloodborne virus transmission and other infections and generally more chaotic drug use, increased crime and psychosocial problems.

'Crack lung' refers to an acute pulmonary syndrome that occurs following crack or freebase cocaine use and is characterised by chest pain, fever, shortness of breath and sometimes haemoptysis and respiratory failure. Onset may be within 2 days of cocaine use and there is usually a benefit from administration of steroids. X-ray changes are variable and are described as ground glass opacities, consolidation or 'crazy paving' pattern. Pneumothorax and pneumomediastinum have been described.

As well as the well-known nasal septal damage caused by nasal inhalation of cocaine, tracheal stenosis and damage to the tongue epiglottis and sinuses can occur.

Among the conclusions must be that there is strong evidence for the damage caused to the respiratory system by smoking drugs such as heroin, cannabis and cocaine. Short-term effects may well be dose-related, causing acute episodes of lung damage or cumulative over many years of inhalation.[9] Interactions with other drugs complicate the clarity of making a distinct diagnosis or linking cause and effect. Specific risks are identifiable as, for example, in the potential interactions of some selective serotonin reuptake inhibitors and cocaine.[10]

Interventions are often in the form of psychosocial treatments, and referral to specific agencies such as Narcotics Anonymous (http://ukna.org/) and Cocaine Anonymous (https://cocaineanonymous.org.uk/) are useful. Occasionally, acute crises can be only treated in hospital.

In general, there is a paucity of research on the lung effects of drugs such as cocaine, heroin and cannabis.

Several issues should be considered when confronted with the possibility of respiratory complications of drug use:

- Consider the toxic respiratory effects in any person using drugs by inhalation
- Several different drugs are often used interchangeably and different modalities may be present
- Behavioural problems and unexplained respiratory symptoms may be explained by cryptic drug use
- Respiratory effects of drug inhalation may be acute, requiring immediate interventions, or chronic and cumulative needing longer term behavioural treatment options
- Cocaine use is increasing in the UK, as are the number of deaths each year attributable to its ingestion
- Cigarette smoking is a relapsing condition often requiring multiple repeated interventions
- Unexplained acute breathlessness, haemoptysis or pulmonary oedema in a younger person with no history of asthma, allergy or sign of pulmonary embolus

How can primary care workers identify at-risk patients and where can they can go for support?

- The smell of tobacco or cannabis smoke and its residue on clothes or in the home you visit is a clinical sign. See the NCSCT Secondhand Smoke (SHS) film that shows how you might raise this. http://elearning.ncsct.co.uk/shs_vba-stage_1
- A young person <45 with COPD is unusual. You may need to consider more than tobacco treatment interventions. Is it just tobacco that you smoke?
- Evidence for treating cannabis with tobacco dependency is limited. Treat the tobacco dependency according to NICE guidance. There is some evidence that cognitive behavioural therapy is helpful for the cannabis part of the dependency. There is no evidence that stop smoking drugs have an impact on cannabis dependency.
- Speak with your local mental health teams to see if dual (Mental Illness and Substance Misuse) clinics are available for you to refer your patient.

This, as has already been stated, is due to the confounding effect of tobacco or multiple drug use and the difficulty of quantifying drug intake and symptoms over time. There is an important absence of longitudinal studies.

Inner city practice in the UK faces some distinct problems. Some of these are practical and impact on organisation and management as much as creating demands on clinical values. Homelessness, disengagement, defaulted appointments and multiple complex family and social conditions and financial constraints all place pressure on services requiring support and liaison with social work, advocacy agencies and a wide variety of third sector organisations. Many inherently non-medical situations lead to premature degenerative illness and morbidity, increasing the consultation rate on a younger age range than in more economically supported areas. Add into this toxic mix drugs and alcohol dependency and the morbidity and mortality rate escalates rapidly.[11,12]

The complexity of many situations is hard to quantify clearly and proposed solutions and interventions have to take into account intergenerational damage, social inequalities and harms caused by constantly changing behaviours. Governments and institutions such as the health, social care and educational organisations seem, at times, powerless to prevent problems and consequently manage by treating the symptoms of dysfunction in a sector of the population. Firefighting in Accident and Emergency departments and, increasingly, in front-line schools and primary care departments has become a familiar feature.

Primary care and general practice has a history of innovation and experimentation. Ambitious targets to improve the estate of general practice are an essential part of future planning. Without adequate infrastructure, building suitable establishments to deliver the diverse requirements in communities, progress is impossible. Liaison and co-location of health and social care has been shown to help, and sharing responsibilities across statutory and third sector is undoubtedly the aspiration for the next phase.

For people using drugs and having problems with alcohol this diverse culture of care and interventions is essential. National policy has been shown to respond to crises as they arise, and predicting the next wave of drug problems is notoriously difficult.[13,14] Adequate capacity and flexibility is the only way to manage the inevitability of new, unexpected, challenges.

References

1. Mathers CD, Lopez AD, Murray CJL. The burden of disease and mortality by condition: data, methods, and results for 2001. In: Lopez AD, Mathers CD, Ezzati M, *et al*, eds. *Global Burden of Disease and Risk Factors*. Washington: The International Bank for Reconstruction and Development/The World Bank. 2006, Chapter 3. Co-published by Oxford University Press, New York. https://www.ncbi.nlm.nih.gov/books/NBK11808/
2. Aldington S, Williams M, Nowitz M, *et al*. Effects of cannabis on pulmonary structure, function and symptoms. *Thorax* 2007;**62**:1058–63. https://doi.org/10.1136/thx.2006.077081
3. Aldington S, Harwood M, Cox B, *et al*. Cannabis use and risk of lung cancer: a case-control study. *Eur Respir J* 2008;**31**:280–6. https://doi.org/10.1183/09031936.00065707
4. Tashkin DP, Khalsa ME, Gorelick D, *et al*. Pulmonary status of habitual cocaine smokers. *Am Rev Respir Dis* 1992;**145**:92–100. https://doi.org/10.1164/ajrccm/145.1.92
5. Benson MK, Bentley AM. Lung disease induced by drug addiction. *Thorax* 1995;**50**:1125–7. https://doi.org/10.1136/thx.50.11.1125.
6. Hassanally K, Asaria M. Homeless mortality data from East London. *London Journal of Primary Care* 2018. https://dor.org/10.1080/17571472.2018.1458443
7. Royal College of Physicians of London. *Homelessness and ill health*. Report of a Working Party of the Royal College of Physicians. London: Royal College of Physicians, 1994.
8. Macleod J, Robertson R, Copeland L, McKenzie J, Elton R, Reid P. Cannabis, tobacco smoking, and lung function: a cross-sectional observational study in a general practice population. *Br J Gen Pract* 2015;**65**:e89–e95. https://doi.org/10.3399/bjgp15X683521
9. Taylor R, Fergusson D, Milne B, *et al*. A longitudinal study of the effects of tobacco and cannabis exposure on lung function in young adults. *Addiction* 2002;**97**:1055–61.
10. MHRA Drug Safety Update, Volume 9, Issue 12, July 2016. www.gov.uk/drug-safetyupdate/citalopram-suspected-drug-interaction-with-cocaine-prescribers-should-considerenquiring-about-illicit-drug-use
11. Minton J, Shaw R, Green MA, *et al*. Visualising and quantifying 'excess deaths' in Scotland compared with the rest of the UK and the rest of Western Europe. *J Epidemiol Community Health* 2017;**71**:461–7. https://doi.org/10.1136/jech-2016-207379
12. Gov.uk. Reducing opioid-related deaths in the UK. Report from the Advisory Council on the Misuse of Drugs, December 2016. https://www.gov.uk/government/publications/reducing-opioid-related-deaths-in-the-uk
13. Kalk NJ, Robertson JR, Kidd B, *et al*. Treatment and intervention for opiate dependence in the United Kingdom: lessons from triumph and failure. *Eur J Criminal Policy Res* 2018;**24**:183–200. https://doi.org/10.1007/s10610-017-9364-z
14. Department of Health Independent Expert Working Group. *Drug misuse and dependence: UK guidelines on clinical management*. London: Department of Health, 2017. https://www.gov.uk/government/publications/drug-misuse-and-dependence-uk-guidelines-on-clinical-management

LESS TO TAKE. MORE TO TAKE IN.

The only COPD Triple Therapy delivered in a single daily inhalation.[1]
Improvement in quality of life vs. ICS/LABA.[2]

TRELEGY ELLIPTA
fluticasone furoate/umeclidinium/vilanterol

A combination of ICS/LAMA/LABA (FF/UMEC/VI) administered through a single daily inhalation from the Ellipta inhaler, which is easy to use[1–4]

Trelegy Ellipta FF/UMEC/VI 92/55/22 mcg is indicated for maintenance treatment in adult patients with moderate-to-severe COPD who are not adequately treated by a combination of an ICS and a LABA.[1]

COPD, chronic obstructive pulmonary disease; FF, fluticasone furoate; ICS, inhaled corticosteroids; LABA, long-acting β_2-agonist; LAMA, long-acting muscarinic antagonist; OD, once-daily; UMEC, umeclidinium, VI, vilanterol.

References: 1. Trelegy Ellipta SmPC. **2.** Lipson DA *et al.* Am J Respir Crit Care Med 2017; 196:438–446. **3.** Svedsater H *et al.* BMC Pulm Med 2013; 13:72–86. **4.** van der Palen J *et al.* NPJ Prim Care Respir Med 2016; 26:16079.

Trelegy ▼ Ellipta (fluticasone furoate/umeclidinium/vilanterol [as trifenatate])

Prescribing information

Please consult the full Summary of Product Characteristics (SmPC) before prescribing. **Trelegy Ellipta (fluticasone furoate/umeclidinium/vilanterol [as trifenatate]) inhalation powder.** Each single inhalation of fluticasone furoate (FF) 100 micrograms (mcg), umeclidinium (UMEC) 62.5 micrograms and vilanterol (VI) 25 mcg provides a delivered dose of 92 mcg FF, 55 mcg UMEC and 22 mcg VI. **Indications:** Maintenance treatment in adult patients with moderate to severe COPD who are not adequately treated by a combination of an inhaled corticosteroid (ICS) and a long-acting β_2-agonist (LABA). **Dosage and administration**: One inhalation once daily. **Contraindications:** Hypersensitivity to the active substances or to any of the excipients (lactose monohydrate & magnesium stearate). **Precautions**: Paradoxical bronchospasm, unstable or life-threatening cardiovascular disease or heart rhythm abnormalities, convulsive disorders or thyrotoxicosis, pulmonary tuberculosis or patients with chronic or untreated infections, narrow-angle glaucoma, urinary retention, hypokalaemia, patients predisposed to low levels of serum potassium, diabetes mellitus. In patients with moderate to severe hepatic impairment patients should be monitored for systemic corticosteroid-related adverse reactions. Eye symptoms such as blurred vision may be due to underlying serious conditions such as cataract, glaucoma or central serous chorioretinopathy (CSCR); consider referral to ophthalmologist. Increased incidence of pneumonia has been observed in patients with COPD receiving inhaled corticosteroids. Risk factors for pneumonia include: current smokers, older age, patients with a low body mass index and severe COPD. Patients with rare hereditary problems of galactose intolerance, the Lapp lactase deficiency or glucose-galactose malabsorption should not take Trelegy. Acute symptoms: Not for acute symptoms, use short-acting inhaled bronchodilator. Warn patients to seek medical advice if short-acting inhaled bronchodilator use increases. Therapy should not be abruptly stopped without physician supervision due to risk of symptom recurrence. Systemic effects: Systemic effects of ICSs may occur, particularly at high doses for long periods, but much less likely than with oral corticosteroids. **Interactions with other medicinal products**: Caution should be exercised during concurrent use of non-selective and selective beta-blockers and when co-administering with strong CYP3A4 inhibitors (e.g. ketoconazole, ritonavir, cobicistat-containing products), hypokalaemic treatments or non-potassium-sparing diuretics. Co-administration with other long-acting muscarinic antagonists or long acting β_2-adrenergic agonists has not been studied and is not recommended. **Pregnancy and breast-feeding**: Experience limited. Balance risks against benefits. **Side effects**: Common (≥1/100 to <1/10): pneumonia, upper respiratory tract infection, pharyngitis, rhinitis, influenza, nasopharyngitis, headache, cough, arthralgia, back pain. Other important side effects include: Uncommon (≥1/1,000 to <1/100) supraventricular tachyarrhythmia, tachycardia, atrial fibrillation; Not known (cannot be estimated from the available data) vision blurred; See SmPC for other adverse reactions. **Legal category**: POM. **Presentation and Basic NHS cost:** Trelegy Ellipta 92/55/22 mcg - £44.50. 1 inhaler x 30 doses. **Marketing authorisation (MA) nos. 92/55/22 mcg 1x30 doses [EU/1/17/1236/02]; MA holder**: GSK Trading Services Ltd., Currabinny, Co. Cork Ireland. **Last date of revision:** November 2017. UK/TLY/0031/17. Trademarks are owned by or licensed to the GSK group of companies. 2017 GSK group of companies or its licensor Trelegy Ellipta was developed in collaboration with Innoviva Inc.

Adverse events should be reported. Reporting forms and information can be found at **www.mhra.gov.uk/yellowcard** or search for MHRA Yellowcard in the Google Play or Apple App Store. Adverse events should also be reported to GlaxoSmithKline on **0800 221 441.**

Discover more at www.trelegy.co.uk

A full list of adverse reactions for Trelegy Ellipta can be found in the Summary of Product Characteristics.

Trelegy Ellipta was developed in collaboration with INNOVIVA

Zinc code: UK/TLY/0035/17K | **Date of preparation:** August 2018

ONLY ANORO▼

(umeclidinium/vilanterol)

HAS POSITIVE HEAD-TO-HEAD EFFICACY DATA VS. ANOTHER ONCE-DAILY LAMA/LABA*[1]

ANORO▼ELLIPTA
umeclidinium/vilanterol

Anoro Ellipta (55/22mcg) is indicated as a maintenance bronchodilator treatment to relieve symptoms in adult patients with COPD[2]

***Anoro Ellipta showed superiority on the primary endpoint of trough FEV_1 compared to Spiolto in the ITT population (n = 236; $p<0.001$). Anoro and Spiolto had a similar safety profile. This was an 8-week, randomised, open-label, two-period crossover study.[1]**

Anoro®▼Ellipta® (umeclidinium bromide/vilanterol [as trifenatate])

Prescribing information

Please consult the full Summary of Product Characteristics (SmPC) before prescribing. **Anoro® 55/22mcg (umeclidinium bromide / vilanterol [as trifenatate]) inhalation powder.** Each single inhalation provides a delivered dose (the dose leaving the mouthpiece) of 55 micrograms umeclidinium (equivalent to 65 micrograms of umeclidinium bromide) and 22 micrograms of vilanterol (as trifenatate). **Indications**: Anoro is indicated as a maintenance bronchodilator treatment to relieve symptoms in adult patients with chronic obstructive pulmonary disease (COPD). **Dosage and administration**: Inhalation only. One inhalation once daily of Anoro. **Contraindications**: Hypersensitivity to the active substances or to any of the excipients (lactose monohydrate and magnesium stearate). **Precautions**: Anoro should not be used in patients with asthma. Treatment with Anoro should be discontinued in the event of paradoxical bronchospasm and alternative therapy initiated if necessary. Cardiovascular effects may be seen after the administration of muscarinic receptor antagonists and sympathomimetics therefore Anoro should be used with caution in patients with severe cardiovascular disease. Anoro should be used with caution in patients with urinary retention, narrow angle glaucoma, convulsive disorders, thyrotoxicosis, hypokalaemia, hyperglycaemia and severe hepatic impairment. No dosage adjustment is required in renal or mild to moderate hepatic impairment. **Acute symptoms:** Anoro is not indicated for acute episodes of bronchospasm. Warn patients to seek medical advice if short-acting inhaled bronchodilator use increases, a re-evaluation of the patient and of the COPD treatment regimen should be undertaken. **Interactions with other medicinal products**: Avoid ß-blockers. Caution is advised when co-administering with strong CYP3A4 inhibitors (e.g. ketoconazole, clarithromycin, itraconazole, ritonavir, telithromycin). Anoro should not be used in conjunction with other long-acting ß2-adrenergic agonists or medicinal products containing long-acting muscarinic antagonists. Caution is advised with concomitant use with methylxanthine derivatives, steroids or non-potassium-sparing diuretics as it may potentiate possible hypokalaemic effect of ß2-adrenergic agonists. Fertility, pregnancy, and breast-feeding: No available data. Balance risks against benefits. **Side effects**: *Common (≥1/100 to <1/10):* urinary tract infection, sinusitis, nasopharyngitis, pharyngitis, upper respiratory tract infection, headache, cough, oropharyngeal pain, constipation and dry mouth. *Other important side effects include: Uncommon (≥1/1,000 to <1/100)* atrial fibrillation, supraventricular tachycardia, rhythm idioventricular, tachycardia, supraventricular extrasystoles, palpitations, and hypersensitivity reactions including rash. *Rare (≥1/10,000 to <1/1,000)* anaphylaxis, angioedema, and urticaria. Glaucoma, vision blurred, intraocular pressure increased and paradoxical bronchospasm. See SmPC for other adverse reactions. **Legal category**: POM. **Presentation and Basic NHS cost**: Anoro® Ellipta®. 1 inhaler x 30 doses. Anoro® Ellipta® 55/22mcg - £32.50. **Marketing authorisation (MA) no. 55/22mcg 1x30 doses [EU/1/14/898/002]; MA holder:** Glaxo Group Ltd, 980 Great West Road, Brentford, Middlesex TW8 9GS, UK. **Last date of revision:** Jan 2017. UK/UCV/0095/15(2)a. Anoro® and Ellipta® are registered trademarks of the GlaxoSmithKline group of companies. All rights reserved. Anoro® was developed in collaboration with Innoviva Inc.

References: 1. Feldman GJ *et al. Adv Ther* 2017; 34:2518-2533. **2.** Anoro Ellipta SmPC.

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 GlaxoSmithKline on 0800 221 441.

Read the clinical data at **www.anoro.co.uk**

INNOVIVA

Zinc code: UK/UCV/0010/18 I Date of preparation: May 2018

Getting the Basics Right

Influenza vaccination: helping respiratory consultations

Gail Miles, Coalfields Respiratory Nurse Consultant, BreathingSpace, Rotherham, UK

Influenza infection (flu) usually manifests as a highly infectious respiratory viral infection. Most people feel unwell for a few days and then get better. However, we now understand that certain groups of people may suffer significant complications from infection, including death. Since the 1960s there has been an annual campaign to encourage patients and subsequently healthcare workers to receive annual flu vaccination. Typically, 600 deaths attributable to flu occur annually in the UK, although this has risen to over 10,000 during epidemic seasons.

Despite various public health campaigns, there is a hard core of patients and staff who do not wish to be vaccinated. So who should be vaccinated and when? What is the evidence base for vaccination? Why do we have to do it every year? Are peoples' concerns about vaccination valid? We attempt to debunk the myths here.

Is all flu the same?

There are three main types of influenza virus: A, B and C. Types A and B cause most of the disease seen in the UK, with epidemics usually related to type A flu.

What is the evidence base for vaccination?

Original guidance for influenza vaccination dates back to the early 1960s and did not undergo the rigorous evaluations seen now. More recent studies have been evaluating the different types of flu vaccine. For example, it is now known that inactivated flu vaccine is the most effective method of administration for every adult – the quadrivalent vaccine for 18–65-year-olds and the trivalent vaccine for those over the age of 65. For children it is recommended that those aged 2–9 years are vaccinated, usually with evidence for both live attenuated (recommended) and inactivated vaccines being options. In reality, most children are given the intranasal live vaccine unless immunocompromised.

Why should we do it every year?

The flu viruses, particularly type A varieties, are able to adjust their structure to invade cells and cause infection. The process, known as 'antigenic shift', essentially involves the virus manufacturing different surface proteins every year to allow it to increase infectivity. Organisations such as the World Health Organisation (WHO) monitor the different flu 'strains' and try to predict which strains are most likely to be prevalent that year – this informs which vaccines are manufactured. It is because of 'antigenic shift' that yearly vaccination is required to prevent new epidemics The recommendation for 2018–2019 is shown in the Box.

Recommended composition of influenza virus vaccines for use in the 2018-2019 northern hemisphere influenza season

22nd February 2018

It is recommended that quadrivalent vaccines for use in the 2018-2019 northern hemisphere influenza season contain the following:

- an A/Michigan/45/2015 (H1N1)pdm09-like virus;
- an A/Singapore/INFIMH-16-0019/2016 (H3N2)-like virus;
- a B/Colorado/06/2017-like virus (B/Victoria/2/87 lineage); and
- a B/Phuket/3073/2013-like virus (B/Yamagata/16/88 lineage)

It is recommended that the influenza B virus component of trivalent vaccines for use in the 2018-2019 northern hemisphere influenza season be a B/Colorado/06/2017-like virus of the B/Victoria/2/87-lineage

(Source: WHO, February 2018)

A list of the influenza vaccines available in the UK is published ahead of the influenza season in the national flu immunisation programme plan for England (https://www.gov.uk/government/collections/annual-flu-programme).

Who should get it?

(a) The 'Healthy' – the latest recommendations from Public Health England (PHE) are as follows:

In 2018/19 the following are eligible for flu vaccination:

- all children aged 2–9 years (but not 10 years or older) on 31 August 2018
- all primary school-aged children in former primary school pilot areas
- those aged 6 months to under 65 years in clinical risk groups
- pregnant women
- those aged 65 years and over
- those in long-stay residential care homes
- carers (ie, people who receive a carer's allowance or are the main carer for an elderly or disabled person whose welfare may be at risk if you fall ill)
- those in frontline health and social care

(b) Those 'at risk' (Table 1)

Which vaccine and for whom?

There is lots of choice, but PHE always advise. Well children are mostly likely to be offered vaccination within the school setting, but this is likely to vary according to localities. The following is an example from PHE guidance for children:

Eligible cohort	Vaccine available: children in clinical risk groups*	Vaccine available: children not in clinical risk groups
Six months to less than 2 years old	Offer suitable inactivated flu vaccine	Not applicable
Children aged 2 years to less than 18 years old	Offer LAIV (Fluenz Tetra®) (unless medically contraindicated)	Offer LAIV (Fluenz Tetra®)

* Children in clinical risk groups aged six month to less than nine years who have not received flu vaccine before should be offered two doses of the appropriate flu vaccine (given at least four weeks apart)

Can the flu vaccine give you the flu?

If you receive inactivated flu vaccine (all adults and the majority of children), then the answer is "No!" It is important to emphasise to patients that there are other viruses about during the flu vaccination season and these may give rise to similar symptoms, but are not full 'flu'.

For those receiving live attenuated vaccines, a mild illness (often termed 'mini-flu') in the week following vaccination may occur. In addition, people who are vaccinated can also suffer local reactions (sore/red arm).

Who cannot have the vaccine?

The two principal contraindications to flu vaccination are a previous severe allergic/anaphylactic reaction to a flu vaccine and live attenuated vaccines should not be administered to people with severe immunodeficiency. The advice is to refer to the Summary of Product Characteristics (SPC) if unsure.

It is usual to avoid vaccination in those patients with an intercurrent illness, although the BNF rates this as a 'caution' as opposed to a 'contraindication'.

What about neurological patients?

There are no cautions or contraindications to patients with stable neurological conditions but those with evolving neurological conditions, particularly poorly controlled/unstable epilepsy, are advised to receive specialist referral prior to vaccination.

Nearly all practices have a standard leaflet given to parents of all children having flu vaccination warning about febrile convulsions and advising use of paracetamol.

Severe allergic asthma?

There is no specific contraindication to flu vaccination for patients with severe allergic asthma, but every attempt should be made to undertake vaccination during a relatively 'stable' phase.

What about egg allergy?

Egg-free flu vaccines are available or alternatively it is safe to administer a flu vaccine in which the ovalbumin concentration is less than 120 ng/mL. Our advice would be to consult with or refer to your 'local' immunology service.

How can we engage with the non-converted?

Dexter and colleagues interviewed GP practices with high flu vaccination uptakes in 2012 and identified seven key strategies to improve uptake:

- Having a lead staff member for planning the flu campaign
- Producing a written report of the uptake annually (PHE now do this)
- Sending a personal invitation to all eligible patients
- Only stopping vaccination programmes when outcomes had been achieved

Table 1: Clinical risk groups who should receive the influenza immunisation

Cinical risk category	Examples (this list is not exhaustive and decisions should be based on clinical judgement)
Chronic respiratory disease	Asthma that requires continuous or repeated use of inhaled or systemic steroids or with previous exacerbations requiring hospital admission. Chronic obstructive pulmonary disease (COPD) including chronic bronchitis and emphysema; bronchiectasis, cystic fibrosis, interstitial lung fibrosis, pneumoconiosis and bronchopulmonary dysplasia (BPD). Children who have previously been admitted to hospital for lower respiratory tract disease. See precautions section on live attenuated influenza vaccine.
Chronic heart disease	Congenital heart disease, hypertension with cardiac complications, chronic heart failure, individuals requiring regular medication and/or follow-up for ischaemic heart disease.
Chronic kidney disease	Chronic kidney disease at stage 3, 4 or 5, chronic kidney failure, nephrotic syndrome, kidney transplantation.
Chronic liver disease	Cirrhosis, biliary atresia, chronic hepatitis.
Chronic neurological disease (included in the DES directions for Wales)	Stroke, transient ischaemic attack. Conditions in which respiratory function may be compromised due to neurological disease (eg, polio syndrome sufferers). Clinicians should offer immunisation, based on individual assessment, to clinically vulnerable individuals including those with cerebral palsy, learning disabilities, multiple sclerosis and related or similar conditions; or hereditary and degenerative disease of the nervous system or muscles; or severe neurological disability.
Diabetes	Type 1 diabetes, type 2 diabetes requiring insulin or oral hypoglycaemic drugs, diet-controlled diabetes.
Immunosuppression (see contraindications and precautions section on live attenuated influenza vaccine)	Immunosuppression due to disease or treatment, including patients undergoing chemotherapy leading to immunosuppression, bone marrow transplant, HIV infection at all stages, multiple myeloma or genetic disorders affecting the immune system (e.g. IRAK-4, NEMO, complement disorder). Individuals treated with or likely to be treated with systemic steroids for more than a month at a dose equivalent to prednisolone at 20 mg or more per day (any age), or for children under 20 kg, a dose of 1 mg or more per kg per day. It is difficult to define at what level of immunosuppression a patient could be considered to be at a greater risk of the serious consequences of influenza and should be offered influenza vaccination. This decision is best made on an individual basis and left to the patient's clinician. Some immunocompromised patients may have a suboptimal immunological response to the vaccine.
Asplenia or dysfunction of the spleen	This also includes conditions such as homozygous sickle cell disease and coeliac syndrome that may lead to splenic dysfunction.
Pregnant women	Pregnant women at any stage of pregnancy (first, second or third trimesters). See precautions section on live attenuated influenza vaccine.
Morbid obesity (class III obesity)*	Adults with a body mass index ≥40 kg/m^2.

*Many of this patient group will already be eligible due to complications of obesity that place them in another risk category

Table 2: Tips for increasing vaccination uptake

1. Plan early and designate a 'flu' champion	• Identify your 'at risk' groups. • Organise and plan of in-house flu vaccination to include whole team meeting prior to flu clinic days. • Ensure early identification and planning of meeting needs of more complex patients (eg, house bound, nursing homes, learning disabilities) • Plan for patients who require alternative vaccines • Ensure all members of the team are fully aware of the vaccination programme so that consistent messages are given to patients • Ensure adequate planning for emergency resuscitation • Plan for follow-up clinics
2. Publicity	• Posters – make them colourful • Send reminders to those who are eligible (written, txts, repeat prescriptions etc) • Advertise your clinics on your practice website or information screens in the waiting room, your local village newsletter or possibly local radio) • Consider clinics at times to encourage patients to attend; open clinics (no need to book), early/late appointments, Saturdays? • Wear T-shirts to increase awareness of the vaccines (often available from vaccine providers)
3. Know the facts!	• Address patient misconceptions • Give a personal recommendation that they receive the vaccination • Don't just mention during the flu season – could also discuss at an annual review, for example • Remind patients about the serious complications of getting flu
4. Flexibility and opportunism	• Make it easy for staff and patients to be vaccinated
5. Lead by example	• Get yourself done early

- Identifying a lead staff member to identify eligible patients from practice register
- Utilisation of a modified manufacturer's search programme to identify eligible patients
- Utilisation of an in-house search programme to identify eligible patients – now part of GP software

Since that time, PHE has mounted annual national publicity campaigns and each local area, usually led in England by CCGs, has adapted the national message with specific local guidance. Perhaps a more up-to-date guidance box would look something like Table 2.

Conclusions

Flu vaccines are safe and effective. Start by vaccinating yourself if you are in frontline health and social care and then move on to everyone else eligible!

Despite the change in eligibility for flu vaccinations over recent years, flu vaccines are still considered worldwide as a safe, effective and essential vaccination programme which should be promoted in every healthcare setting. Not only should we ensure that we have robust strategies to maximise all eligible patient vaccinations, but also that every healthcare professional carefully considers their responsibility to be vaccinated themselves.

Suggested reading

https://bnf.nice.org.uk/drug/influenza-vaccine.html
http://vk.ovg.ox.ac.uk/inactivated-flu-vaccine
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/635921/Inactivated_influenza_vaccine_information_for_healthcare_practitioners.pdf
https://www.gov.uk/government/publications/national-flu-immunisation-programme-plan
http://bmjopen.bmj.com/content/bmjopen/2/3/e000851.full.pdf
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/663694/Greenbook_chapter_19_Influenza_.pdf

COPD self-management

Empower your patients

and save **NHS budget**

Our new range of COPD self-management materials provide a comprehensive resource to give patients the knowledge to understand their condition and tools to manage it.

"Self-management has helped me take back control of my life."

Chris Warburton
COPD patient

"Research shows that helping patients with COPD to self-manage leads to improved quality of life and fewer admissions to hospital."

Dr Nick Hopkinson
Consultant chest physician

Order yours today at

blf.org.uk/self-management

or email us at **sales@blf.org.uk** or call **020 7688 6024**

Payment can be made by credit card, invoice or purchase order.
Payment received by credit card or purchase order will be dispatched in 7-10 working days.
If a purchase order is not provided the goods will be dispatched on receipt of full payment
All costs exclude VAT. No additional charge for delivery. Minimum 10 units per product applies on all orders.

Supported self-management case history

Looking beyond the disease

In the third in our series of snapshot case vignettes aimed at illustrating self-management opportunities Dr Iain Small brings you the case of Gerald. Three healthcare professionals have provided their feedback on the case. How would you respond?

Gerald

Gerald is a 74-year-old retired joiner with COPD, ischaemic heart disease, osteoarthritis and diverticular disease. He is a widower who lives alone on the third floor of a 1950s block in a large post-war housing development in a Scottish city. His son works off shore and his daughter emigrated to Australia in the 1980s.

Gerald has stated repeatedly that he wishes to remain in his own home until he dies and is reluctant to accept social work intervention. He has capacity.

Gerald is currently boarded out in a specialist surgical ward in the local teaching hospital near his home, having been admitted with an acute exacerbation of COPD. He has been in hospital for 6 days and has responded well to antibiotics and oral corticosteroids. He no longer requires supplementary oxygen and 2 days ago he agreed with his consultant that he can be discharged home.

This morning Gerald is breathless again. He has expressed concerns to junior medical and nursing staff that he doesn't think he will be well enough to go home, but his discharge will be going ahead as planned.

- What steps need to be taken in preparation for Gerald's discharge from hospital?
- What factors are likely to influence the likelihood of an early re-admission to hospital?
- What potential harm might Gerald face in the future?

Response

Vikki Knowles, Respiratory Clinical Lead, Surrey

Gerald clearly has many issues and the team would need to ascertain what his wishes are for the future and also Gerald's understanding of his condition. Issues to address would include whether he wished for active treatment and readmission into hospital in the future or would he prefer a palliative care approach with a ceiling of treatment which may involve referral to the hospice with the aim of avoiding admission in the future. Any decisions arising from this discussion would need to be communicated to all the HCP involved in Gerald's care so they are aware of his wishes and any advance care plans in place are documented.

Gerald would need an OT assessment prior to discharge and, although recognising Gerald's reluctance for social work intervention, arrange a discussion around consideration for a temporary package of care if it was felt to be appropriate, which can be re assessed once Gerald is home. It might also be appropriate to discuss the provision of an emergency call system in case of falls.

The respiratory team need to ensure the COPD discharge bundle[1] has been completed and Gerald has been referred to the community respiratory team. They should consider whether Gerald would be suitable to attend pulmonary rehabilitation once he

is home and discuss how this would help him and, if it was deemed appropriate, how it could be organised.

Gerald will need a home visit to be arranged immediately post discharge to assess how he is coping by the community respiratory team, possibly in conjunction with the community matron. Where such services don't exist, consideration of who else could support him should be given.

The respiratory team should liaise with community matron and frailty multi-disciplinary team (MDT) to ensure that they are aware of Gerald's imminent discharge and are aware of the support currently being organised. Locally the respiratory team attend the Community Matron's MDT virtual ward meetings and complex patients like Gerald are brought here to discuss issues as they arise and plan solutions for any issues which are identified.

A follow-up appointment may be required to assess home oxygen needs once Gerald is stable, but this can be in conjunction with community respiratory team home visits.

Finally, the respiratory team needs to ensure that the GP and practice staff have been updated on the plans in place and updated following the home visit. Locally we would update the paramedics' computerised notes system which provides access to Gerald's relevant medical history such as baseline oxygen saturations, lung function and his documented wishes should he call the emergency services following discharge.

Reference

1. https://www.brit-thoracic.org.uk/document-library/audit-and-quality-improvement/cap-and-copd-care-bundle-docs-2016/copd-discharge-care-bundle/

Response

Hetal Dhruve, Pharmacist, London

What steps need to be taken in preparation for Gerald's discharge from hospital?

Prior to discharge, inhaler technique and adherence to medication should be checked, ensuring the patient is able to use the prescribed device. A systematic review including 144 studies with a total of 54,354 people found that the frequency of 'poor' inhaler technique was high for all inhaler types, and those who are not able to use their inhalers correctly are at increased risk of poor control of their symptoms.

Self-management generally refers to the "individual's ability to manage the symptoms, treatment, physical and psychosocial consequences and lifestyle changes inherent in living with a chronic condition". Self-management interventions have been shown to improve quality of life, reduce dyspnoea and reduce respiratory-related and all-cause hospital admissions. Although the evidence for the provision of self-management plans and rescue packs is conflicting in COPD, when used appropriately they have been shown to reduce hospital admissions.

Pulmonary rehabilitation (PR) is a very well-evidenced intervention supporting self-management in COPD and is recommended in guidelines. The BTS suggests that all patients hospitalised for acute exacerbation of COPD should be offered PR to commence within 1 month of discharge. PR has been shown to improve quality of life and to significantly reduce hospital admissions with a number needed to treat of 4.

Smoking cessation is one of the most important interventions for those with COPD; if Gerald is a current smoker, smoking cessation advice should be given supported with pharmacotherapy.

What factors are likely to influence the likelihood of an early readmission to hospital?

Non-engagement in treatment can lead to an early readmission to hospital. It is therefore of upmost importance that the patient is engaged in his own care. Evidence suggests that, by supporting patients to be actively involved in their own care, treatment and support can improve both outcomes and patient experiences.

Additionally, post discharge the GP practice should ensure that Gerald is up to date with his vaccinations. Current NICE and international GOLD guidelines on management of COPD recommend the pneumococcal and an annual influenza vaccination.

Patients with COPD/IHD co-morbidity have worse outcomes than those with only COPD or IHD, with a significantly increased risk of adverse events and mortality. His treatment will need to be optimised.

Although the underlying pathology of COPD is initially confined to the lungs, many patients may also experience emotional and psychological disorders which are quite often overlooked. Studies have consistently documented strong links between COPD and depression; a meta-analysis of 16 studies showed that COPD

consistently increased the risk of depression, with an estimated 40% of patients affected by severe depressive symptoms or clinical depressions. This can lead to malnutrition, deconditioning and non-engagement of treatments, increasing the likelihood of further hospital admissions.

What potential harm might Gerald face in the future?

Gerald lives on the third floor of a 1950s block and may struggle to climb stairs if there is no lift available or it is out of order.

The disease trajectory of COPD can be difficult to predict; the dying phase may continue for many years along this trajectory or patients could die during an acute exacerbation. Gerald will need ongoing care and may need palliative care as end of life approaches. On this admission, Gerald required NIV which is a marker of someone who may require palliative care. Gerald has repeatedly vocalised he wishes to remain in his own home until he dies; this should be recognised and services and provisions put in place. The family should also be informed.

References

Sanchis J, Gich I, Pedersen S. Systematic review of errors in inhaler use: has patient technique improved over time? *Chest* 2016;**150**:394–406. https://doi.org/10.1016/j.chest.2016.03.041

Ogunbayo OJ, Russell S. Understanding the factors affecting self-management of COPD from the perspectives of healthcare practitioners: a qualitative study. *npj Prim Care Respir Med* 2017;**27**:54. https://doi.org/10.1038/s41533-017-0054-6

NHS England. Overview of potential to reduce lives lost from COPD. https://www.england.nhs.uk/wp-content/uploads/2014/02/rm-fs-6.pdf

Public Health England. Pneumococcal: the Green Book. Chapter 25. London: Public Heath England, 2013.

Walters J, Tang A, Poole NJ, *et al.* Pneumococcal vaccines for preventing pneumonia in chronic obstructive pulmonary disease. *Cochrane Database Syst Rev* 2017;(1).

NHS England. Involving people in their own care. https://www.england.nhs.uk/ourwork/patient-participation/

Hanania NA, Mullerova H, Locantore NW, *et al.* Determinants of depression in the ECLIPSE chronic obstructive pulmonary disease cohort. *Am J Respir Crit Care Med* 2011;**183**:604–11. https://doi.org/10.1164/rccm.201003-0472OC

Campo G, Pavasini R, Malagù M, *et al.* Chronic obstructive pulmonary disease and ischemic heart disease comorbidity: overview of mechanisms and clinical management. *Cardiovasc Drugs Ther* 2015;**29**:147–57. https://doi.org/10.1007/s10557-014-6569-y

Department of Health. Consultation on a Strategy for Chronic Obstructive Pulmonary Disease (COPD) in England.

Response

Deirdre Siddaway, Respiratory Nurse Specialist, Suffolk

- Embedding and promoting self-management into every contact: Gerald.
- Gerald faces many challenges on his discharge from hospital, not least the risk of readmission.

Follow-up after discharge

GOLD (2018)[1] recommend follow-up within 1 month of discharge then after a further 3 months – but Gerald may require additional support. We would need to work in partnership with him, to formulate a plan to support his aim to stay at home and prevent readmission.

Smoking cessation (if applicable)

Research has shown that the risk of acute exacerbations of COPD is reduced if the patient no longer smokes.[2] He may be more motivated to stop smoking after an acute admission. We must take every opportunity to support patients in attempts to quit. Very Brief Advice takes 30 seconds (see NCSCT for more information and NICE, 2018).[3,4]

Vaccination

Annual flu and single pneumovax will help to reduce the risk of respiratory tract infections.

Pulmonary rehabilitation (PR)

We should encourage Gerald to attend PR as soon as possible (hopefully he was referred prior to discharge). Particular benefit is gained if attending within 4 weeks of admission, which can reduce readmission and mortality[5] and increase his confidence in managing his condition and exacerbations.[6]

Optimising medication

Following GOLD (2018) will enable stratification of future risk.[7] This allows us to appropriately prescribe inhaled corticosteroids (although not everyone with COPD needs an inhaled corticosteroid, this would be appropriate for Gerald following admission). Checking inhaler technique is essential (inhaling slow and steady for pMDI/quick and deep for DPI inhalers). The UK Inhaler Group provides excellent guides for us to follow.[8] Use of tools like the COPD Assessment Test (CAT)[9] enables us to assess the impact of COPD on Gerald's life and how it changes over time.

Self-management and rescue pack

We must provide Gerald with the knowledge and ability to manage future exacerbations. Use of self-management plans and rescue pack (antibiotics and oral steroids) can enable prompt treatment of exacer-

bations. His management plan should clearly explain when these are required (increased dyspnoea, sputum volume, sputum purulence), how to take them (prednisolone may not be required with every exacerbation; GOLD 2018).[1]

Non-pharmacological management of dyspnoea

The 'Breathing Thinking Functioning Model' – the Cambridge Breathlessness Intervention Team (see PCRA video clip[10]) – gives us tools to help reduce the negative impact on George's life by addressing the vicious cycle of dyspnoea. The use of a handheld fan may also help George to manage his feelings of breathlessness.

Differential diagnosis

Coronary heart disease (frothy sputum, peripheral/pulmonary oedema, orthopnoea) or heart failure (paroxysmal nocturnal dyspnoea) could be causes of dyspnoea rather than an acute exacerbation of COPD. We know that fatigue, anxiety, depression and slow recovery from exacerbations are seen with comorbidities.[11]

Multidisciplinary team (MDT)

Gerald is reluctant to accept social work intervention. We will work with him to encourage acceptance of support (Integrated Care Team/COPD Team/Community Matron).

End of life

Gerald has said that he wishes to die at home. Working with him and other members of the MDT will be key to enabling Gerald's wishes to be achieved, especially with limited social support. For more information see papers by Dean[12] and Kocchar.[13]

We know that acute admission rates are 60–90% higher in the most deprived areas compared with more affluent areas.[14] Working with Gerald to support his self-management will help to reduce this likelihood.[15]

References

1. Global Initiative for Chronic Obstructive Lung Disease. 2018 Global Strategy for Prevention, Diagnosis and Management of COPD. 2018. http://goldcopd.org/gold-reports/
2. Au DH, Bryson CL, Chien JW, *et al*. The effects of smoking cessation on the risk of chronic obstructive pulmonary disease exacerbations. *J Gen Intern Med* 2009;**24**:457–63. https://doi.org/10.1007/s11606-009-0907-y.
3. National Centre for Smoking Cessation and Training (NCSCT). http://www.ncsct.co.uk/
4. National Institute for Health and Care Excellence (NICE). Stop smoking interventions and services. NICE Guideline 92. 2018. https://www.nice.org.uk/guidance/ng92
5. Puhan MA, Gimeno-Santos E, Scharplatz M, *et al*. Pulmonary rehabilitation following exacerbations of chronic obstructive pulmonary diseases. *Cochrane Database Syst Rev* 2011;**10**:CD005305.
6. Spruit MA, Singh SJ, Garvey C, *et al*. An official American Thoracic Society/European Respiratory Society statement: key concepts and advances in pulmonary rehabilitation. *Am Respir Crit Care Med* 2018;**188**:e13–64. https://doi.org/10.1164/rccm.201309-1634ST
7. Mac V. Treatment guidelines for COPD – going for GOLD? *Primary Care Respiratory Update* 2017;**4**(2):9–24
8. UK Inhaler Group. www.ukiginhalerstandards.educationforhealth.org/
9. COPD Assessment Test (CAT). http://www.catestonline.org/
10. Primary Care Respiratory Academy (PCRA). Drivers of Breathlessness. http://www.respiratoryacademy.co.uk/resources/driver-of-breathlessness/
11. Miravittles M, Soler-Catalena J, Calle M, Soriano JB. Treatment of COPD phenotypes: putting old evidence into clinical practice. *Eur Respir J* 2013;**41**:1252–6. https://doi.org/10.1183/09031936.00118912
12. Dean MM. End-of-life care for COPD patients. *Prim Care Respir J* 2008;**17**:46–50. https://doi.org/10.3132/pcrj.2008.00007
13. Kocchar S. COPD: Discussing end-of-life care. *Independent Nurse* 2015;**5**:2
14. British Lung Foundation. Chronic Obstructive Pulmonary Disease (COPD). 2017, London. www.blt.org.uk
15. Pinnock H. Tailoring a plan for supported self-management to the patient. Primary Care Respiratory Academy, 2015. http://www.respiratoryacademy.co.uk/wp-content/uploads/2018/05/AP1702-Clinical-Review-PDF_v3.pdf

Comments and summary from the editor

Dr Iain Small, Editor *Primary Care Respiratory Update*

I am grateful to our three responders for looking at Gerald's problems from their own perspectives. There are common themes that come through; medication review and inhaler technique, pulmonary rehabilitation, and exploring/consolidating the patient's understanding of their condition- all of which are key elements of supported self management. In addition, Vikki reminds us that a team approach extending far beyond the traditional boundaries of primary care will be needed to help Gerald to escape from the cycle of dependency and incapacity that is emerging, and is inevitably leading back to the acute ward.

Hetal reminds us to consider co-morbid conditions as a potential cause for Gerald's symptoms, whilst Deirdre's advice to explore other strategies to deal with breathlessness also encourage us to think beyond the problem in front of us.

Finally, considering the whole patient pathway regardless of where Gerald might lie on it helps us not to forget smoking cessation, differential diagnoses, and to prepare for palliative and end of life support, even before it may be needed.

WHICH ICS/LABA HELPS MORE PATIENTS IMPROVE ASTHMA CONTROL?

Prescribing information and details on adverse event reporting can be found on the next page.

RELVAR ELLIPTA
(fluticasone furoate/vilanterol)

Relvar Ellipta was superior to other ICS/LABAs (usual care) in helping more patients improve asthma control in everyday clinical practice in the Salford Lung Study.[1]

The most commonly used ICS/LABAs were: Seretide (fluticasone propionate/salmeterol), Symbicort, Fostair.[2] Data presented are from a subset of patients in the PEA population prescribed ICS/LABA at randomisation.[1]

RELVAR ELLIPTA
fluticasone furoate/vilanterol

Read the clinical data at **relvarhcp.co.uk**

PEA, primary effectiveness analysis.

References: 1. Woodcock A *et al. Lancet.* 2017;390(10109):2247–2255. 2. GSK DoF RF/FFT/0019/18.

Prescribing information

Please consult the full Summary of Product Characteristics (SmPC) before prescribing. **Relvar ▼ Ellipta (fluticasone furoate/vilanterol [as trifenatate]) inhalation powder.**

Each single inhalation of fluticasone furoate (FF) 100 micrograms (mcg) and vilanterol (VI) 25 mcg provides a delivered dose of 92 mcg FF and 22 mcg VI. Each single inhalation of FF 200 mcg and VI 25 mcg provides a delivered dose of 184 mcg of FF and 22 mcg of VI. **Indications:** Asthma: Regular treatment of asthma in patients ≥12 years where a long-acting β2-agonist (LABA) and inhaled corticosteroid (ICS) combination is appropriate; i.e. patients not adequately controlled on ICS and "as needed" short-acting inhaled β2-agonists or patients already adequately controlled on both ICS and LABA. COPD: Symptomatic treatment of adults with COPD with a FEV1<70% predicted normal (post-bronchodilator) and an exacerbation history despite regular bronchodilator therapy. **Dosage and administration:** Inhalation only. Asthma: Adults and adolescents ≥12 years: one inhalation once daily of Relvar 92/22 mcg for patients who require a low to mid dose of ICS in combination with a LABA. If patients are inadequately controlled then the dose can be increased to one inhalation once daily Relvar 184/22 mcg. Relvar 184/22 mcg can also be considered for patients who require a higher dose of ICS in combination with a LABA. Regularly review patients and reduce dose to lowest that maintains effective symptom control. COPD: one inhalation once daily of Relvar 92/22 mcg. Relvar 184/22 mcg is not indicated for patients with COPD. **Contraindications:** Hypersensitivity to the active substances or to any of the excipients (lactose monohydrate & magnesium stearate). **Precautions:** Pulmonary tuberculosis, severe cardiovascular disorders or heart rhythm abnormalities, thyrotoxicosis, uncorrected hypokalaemia, patients predisposed to low levels of serum potassium, chronic or untreated infections, diabetes mellitus, paradoxical bronchospasm. In patients with moderate to severe hepatic impairment 92/22 mcg dose should be used. Acute symptoms: Not for acute symptoms, use short-acting inhaled bronchodilator. Warn patients to seek medical advice if short-acting inhaled bronchodilator use increases. Therapy should not be abruptly stopped without physician supervision due to risk of symptom recurrence. Asthma-related adverse events and exacerbations may occur during treatment. Patients should continue treatment but seek medical advice if asthma symptoms remain uncontrolled or worsen after initiation of Relvar. Systemic effects: Systemic effects of ICSs may occur, particularly at high doses for long periods, but much less likely than with oral corticosteroids. Possible Systemic effects include: Cushing's syndrome, Cushingoid features, adrenal suppression, decrease in bone mineral density, growth retardation in children and adolescents. Eye symptoms such as blurred vision may be due to underlying serious conditions such as cataract, glaucoma or central serous chorioretinopathy (CSCR); consider referral to ophthalmologist. More rarely, a range of psychological or behavioural effects including psychomotor hyperactivity, sleep disorders, anxiety, depression or aggression (particularly in children). Increased incidence of pneumonia has been observed in patients with COPD receiving inhaled corticosteroids. Risk factors for pneumonia include: current smokers, old age, patients with a history of prior pneumonia, patients with a body mass index <25 kg/m2 and patients with a FEV1<50% predicted. If pneumonia occurs with Relvar treatment should be re-evaluated. Patients with rare hereditary problems of galactose intolerance, the Lapp lactase deficiency or glucose-galactose malabsorption should not take Relvar. **Interactions with other medicinal products:** Interaction studies have only been performed in adults. Avoid β-blockers. Caution is advised when co- administering with strong CYP3A4 inhibitors (e.g. ketoconazole, ritonavir, cobicistat-containing products). Concomitant administration of other sympathomimetic medicinal products may potentiate the adverse reactions of FF/VI. Relvar should not be used in conjunction with other long-acting β2-adrenergic agonists or medicinal products containing long-acting β2-adrenergic agonists. **Pregnancy and breast-feeding:** Experience limited. Balance risks against benefits. **Side effects:** Very Common (≥1/10): headache, nasopharyngitis. Common (≥1/100 to <1/10): candidiasis of the mouth and throat, dysphonia, pneumonia, bronchitis, upper respiratory tract infection, influenza, oropharyngeal pain, sinusitis, pharyngitis, rhinitis, cough, abdominal pain, arthralgia, back pain, fractures, pyrexia, muscle spasms. Other important side effects include: Uncommon (≥1/1,000 to <1/100); blurred vision. Rare (≥1/10,000 to <1/1,000) paradoxical bronchospasm and hypersensitivity reactions including anaphylaxis, angioedema, rash, urticaria. See SmPC for other adverse reactions. **Legal category:** POM. **Presentation and Basic NHS cost:** Relvar Ellipta. 1 inhaler x 30 doses. Relvar Ellipta 92/22 - £22.00. Relvar Ellipta 184/22 - £29.50. **Marketing authorisation (MA) nos. 92/22 mcg 1x30 doses [EU/1/13/886/002]; 184/22 mcg 1x30 doses [EU/1/13/886/005]. MA holder:** Glaxo Group Ltd, 980 Great West Road, Brentford, Middlesex TW8 9GS, UK. **Last date of revision:** January2018. UK/FFT/0227/15(4). Trademarks are the property of their respective owners. © 2018 GSK group of companies or its licensor. Relvar Ellipta was developed in collaboration with Innoviva Inc.

Adverse events should be reported. Reporting forms and information can be found at www.mhra.gov.uk/yellowcard or search for MHRA Yellowcard in the Google Play or Apple App store. Adverse events should also be reported to GlaxoSmithKline on 0800 221 441

INNOVIVA

Zinc code: UK/FFT/0054/18 I Date of preparation: June 2018

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

Focus on respiratory prescribing

As the world of respiratory prescribing gets ever more complex, various things have become available to support clinicians with working their way through the maze.

Quality prescribing for respiratory – a guide for improvement 2018–21

Scotland has issued guidance on respiratory prescribing with a focus on reducing overtreatment, reducing unwarranted variation, ensuring value for money and identifying and managing clinical risk. It also aims to support the enhanced clinical role of pharmacists. It has sections for patients with asthma and COPD and for Health Boards (which oversee resourcing), as well as clinicians.

Importantly, the publication focuses on putting patients at the centre of decision making, and that clinicians should take a collaborative approach, so the prescribing is part of a management plan that is personalised to individual patients. It recognises that good management is a partnership between clinician and patient, and that improved outcomes are achieved when they work together. The document is clear that part of the clinician's role is to actively encourage and support self-management. There is a major focus on inhaler technique as something that needs to be a priority at every review. Non-pharmacological approaches are encouraged wherever possible, either alone or together with medicines.

This publication gives comprehensive advice about how to maximise the benefit that patients derive from their treatment, which in turn will represent good value to the NHS. As well as setting out the indicators of good prescribing practice in respiratory care, it highlights some useful resources.

- My Lungs My Life is a comprehensive free website for anyone living with COPD, asthma or for parents/guardians of children with asthma. The resource is a collaboration between NHS, third sector and the University of Edinburgh and includes general information about conditions and videos demonstrating technique. http://mylungsmylife.org/
- The Don't Waste a Breath website, developed by NHS Grampian, provides information for patients on inhaler technique and how to recycle inhalers. http://www.dontwasteabreath.com/

Some of our members were on the working group that developed this, and PCRS-UK contributed comments to a draft version. http://www.therapeutics.scot.nhs.uk/resources/

Evidence reviews on Trelegy and Trimbow

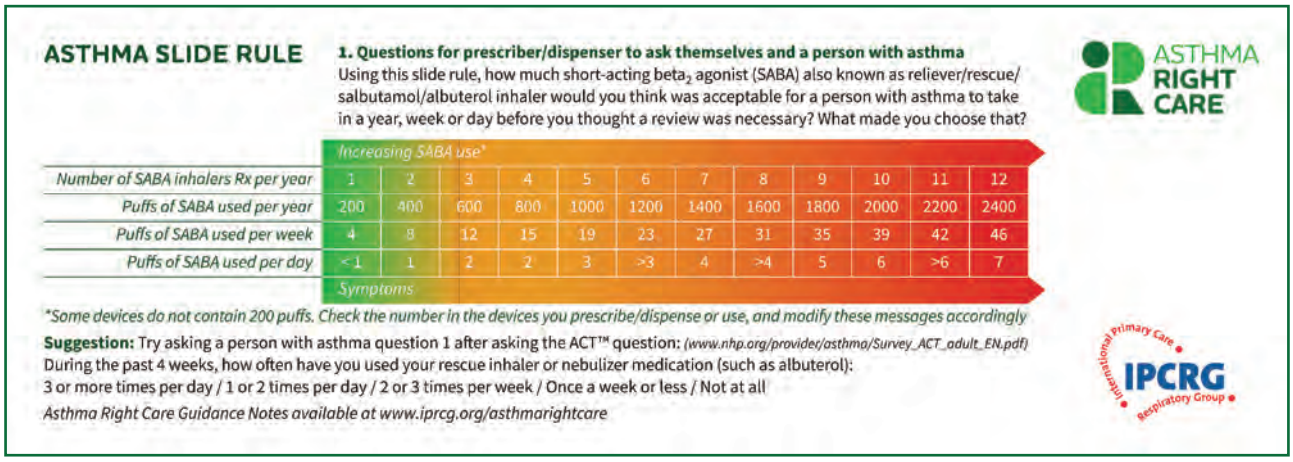
When new products are launched, NICE often produces timely summaries of the evidence behind them, so that clinicians can consider whether and how to introduce them into their respiratory prescribing. This does not constitute formal NICE guidance, but simply brings all the evidence available into one place in a summarised format. It does not recommend whether or not the products should be used.

NICE has recently issued evidence reviews for both Trelegy and Trimbow, the new triple combination inhalers (LABA/LAMA/ICS). Search the NICE website under the product names.

Asthma Right Care initiative from IPCRG challenges thinking on appropriate SABA usage

ASTHMA RIGHT CARE

PCRS-UK has been one of four national primary care respiratory organisations piloting a social movement approach to challenge perceptions of what constitutes the 'right amount' of short acting beta-agonists (SABA) for people with asthma. Asthma guidelines have tended to lack clarity about how many puffs a day or how many inhalers a month or year could be too much. The National Review of Asthma Deaths (2015) found that many of those who had died of asthma (39%) had received 12 or more inhalers a year, so a key recommendation was that any patient who has been prescribed more than 12 SABAs in the previous 12 months should be invited for urgent review of their asthma control.



ASTHMA SLIDE RULE

1. Questions for prescriber/dispenser to ask themselves and a person with asthma

Using this slide rule, how much short-acting beta$_2$ agonist (SABA) also known as reliever/rescue/salbutamol/albuterol inhaler would you think was acceptable for a person with asthma to take in a year, week or day before you thought a review was necessary? What made you choose that?

ASTHMA RIGHT CARE

*Increasing SABA use**

Number of SABA inhalers Rx per year	1	2	3	4	5	6	7	8	9	10	11	12
Puffs of SABA used per year	200	400	600	800	1000	1200	1400	1600	1800	2000	2200	2400
Puffs of SABA used per week	4	8	12	15	19	23	27	31	35	39	42	46
Puffs of SABA used per day	<1	1	2	2	3	>3	4	>4	5	6	>6	7

Symptoms

Suggestion: Try asking a person with asthma question 1 after asking the ACT™ question: *(www.nhp.org/provider/asthma/Survey_ACT_adult_EN.pdf)*
During the past 4 weeks, how often have you used your rescue inhaler or nebulizer medication (such as albuterol):
3 or more times per day / 1 or 2 times per day / 2 or 3 times per week / Once a week or less / Not at all

Asthma Right Care Guidance Notes available at www.iprcg.org/asthmarightcare

**Some devices do not contain 200 puffs. Check the number in the devices you prescribe/dispense or use, and modify these messages accordingly*

International Primary Care Respiratory Group IPCRG

The International Primary Care Respiratory Group (IPCRG) led a pilot initiative in four countries (Canada, Portugal, Spain, UK) starting in autumn 2017, and culminating in a presentation of the findings at the IPCRG conference in Porto, Portugal in June this year. Rather than writing a lengthy publication, which might not be read or implemented, the approach explored ways of starting conversations about SABA use, and to pilot some tools which would help to challenge current thinking about how much SABA is too much. We invited key UK stakeholders from paediatric and adult asthma to attend a 'Design charrette' at which we committed to trialling those conversations with colleagues in our working environments.

The tools we piloted were a slide rule (see above) and a set of Challenge cards. The slide rule allowed easy translation of what, for example, 12 inhalers a year actually meant in terms of number of puffs per day and week. In this way, if a clinician said that six SABA inhalers a year was acceptable, they could be asked whether they would be happy with their patient needing 23 puffs a week. Would that really constitute good control? Our guinea pigs enjoyed piloting the tools and having different types of conversations with colleagues. In due course we hope that the project will extend to have conversations directly with patients too.

To read more and to see a video of Asthma Right Care in action, search for Asthma Right Care IPCRG.

Update on respiratory activity at NICE

NICE has quite a lot going on in respiratory disease just now. First, there is a raft of tools to help support clinicians to implement the asthma guideline which was published in November 2017. Go to the asthma guideline webpage and click on 'Putting this guideline into practice'. This will lead you to tools and resources. NICE has also been consulting on amended asthma QOF indicators following on from the NICE asthma guideline. We will keep our members informed.

Respiratory guidance in development includes:

- Updated COPD guideline (GID-NG10026): Last updated in 2010, this guideline update is long overdue and we expect the final version to be published in November.
- Update of Asthma quality standard (GID-QS10056): they are proposing to reduce the number of statements from 11 to 5. Due out September 2018.
- Tobacco update (GID-NG10086): reviewing 8 previous guidelines and pulling them together into a single guideline. Due for publication in 2020.
- Sleep disordered breathing guideline (GID-NG10098): first guideline from NICE on sleep disorders will include obstructive sleep apnoea and hypopnea. Due out in 2020.

Asthma UK: 12-week support programme

Asthma UK is offering the opportunity for patients to sign up to a programme which supports them in managing their asthma well. This programme identifies and challenges patients' beliefs about their asthma and their medicines, improving self-management and adherence. Patients will leave the programme with new confidence and skills to continue managing their asthma well even after the programme has ended. They will also have a better understanding about what's holding them back from good asthma management, which should help them to sustain good control. Using emails, texts, apps and phone calls alongside web-based resources, this programme uses digital media to support patients.

So if you have patients who are struggling to control their asthma or who need a bit of a re-boot in understanding and managing their asthma, this is a programme that might provide benefits in both the short and the long term. It is free to patients and is designed to supplement their regular care from their practice. To find out more, go to the 'For professionals' pages on the Asthma UK website.

People with asthma are pro data sharing and the use of technology to help improve asthma care

Asthma UK has published a report based on surveying their members about their attitudes to data sharing and technology. They found that patients were largely happy to share their data if it would benefit them or others with managing their asthma, for research projects and for service improvement. They would also welcome the collection of data from apps if it could help communication with healthcare professionals. Asthma UK also found via another survey that over half of asthma patients are using some kind of technology in their care.

Summary of key findings:

Health data sharing scenarios

83% of people with asthma are comfortable with their confidential health data being shared for research to develop new asthma treatments

88% of people with asthma would be willing for their confidential health data to be used for service improvement

94% of people with asthma would be willing for their anonymised health data to be shared with an analytics company to develop a tool to target people particularly at risk of an asthma attack

Data from new technology to improve asthma care

93% of people with asthma would welcome the use of data collected through apps to tell healthcare professionals when their asthma needs to be reviewed

88% of people with asthma would be happy to use a smart inhaler if they were available on the NHS

Annual asthma survey shows little improvement in basic care

Every year Asthma UK undertakes a survey with members to explore whether people with asthma are getting the care they need. By asking patients about whether they are receiving the care outlined in the NICE quality standard, they can get a picture of whether the number of patients getting basic care is improving year on year. Sadly, it seems that little is changing. Once again roughly two-thirds of patients are not getting basic care, and within this overall figure there are inequalities based on where you live and what age you are. Guidelines recommend that people who attend hospital for asthma should receive a follow-up appointment within two days but two-thirds of patients are not getting this. More needs to be done at a local level to address these essential elements of care.

Taskforce for Lung Health gathers evidence on areas for improvement in lung health

The British Lung Foundation has set up the Lung Health Taskforce to prevent more people from developing lung disease and to transform the care of people living with lung disease. By bringing together the most influential voices in UK Lung Health from 30 organisations, they hope to create a new vision for better services for everyone affected by lung disease, and captured in a 5-year plan. PCRS-UK is closely involved with this work, and we are supporting their call for evidence about the main areas in which improvements are needed in lung disease under the headings: diagnosis, treatment and medicines, managing lung disease and end-of-life care. They are interested to hear about both the barriers and potential solutions to achieving optimal outcomes in these areas.

Journal Round-Up

Each month the Primary Care Respiratory Academy, in partnership with the Primary Care Respiratory Update Editorial Board, publishes a series of informative summaries of studies and reviews in areas relevant to respiratory health in a primary or community setting. The summaries can be found online at http://www.respiratoryacademy.co.uk/clinical/journal-club/. Below is a selection of those published.

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

The use of electronic alerts in primary care computer systems to identify the excessive prescription of short-acting beta2-agonists for people with asthma: a systematic review

Shauna McKibben, Anna De Simoni, Andy Bush, *et al*. *NPJ Prim Care Respir Med* 2017;**28**:14 doi: 10.1038/s41533-018-0080-z

Asthma is the most common long-term condition in the UK, with a prevalence of 6% in 2016–17. Approximately 5.4 million people currently receive treatment for the condition in the UK, and in 2015–16 there were an estimated 1.4 million asthma-related admissions to hospital in England and Wales. Of 195 deaths from asthma between 2012 and 2013, the National Review of Asthma Deaths (NRAD) reported that 39% of these patients had been prescribed more than 12 short-acting beta2-agonist inhalers (SABAs) in the previous year, and 4% had been prescribed more than 50. Given that patients with good asthma control have less need for SABAs and require no emergency visits, it was recommended, after the publication of NRAD, that there be an electronic surveillance of SABA-prescription-refill frequency to alert clinicians to overuse. McKibben and colleagues from Asthma UK Centres for Applied Research in London and Southampton undertook a systematic review of MEDLINE, CINAHL, Embase, Cochrane and Scopus databases for randomised controlled trials between 2001 and 2015 using electronic alerts to signal SABA overuse in primary care. They screened 2,035 articles and four trials involving both adults and children, and only included computer support systems that incorporated an alert initiated by excessive prescribing or dispensing of SABAs for asthma. The analysis found that electronic alerts, when delivered as a multicomponent intervention in an integrated healthcare system, have the potential to successfully identify and reduce excessive SABA prescribing. Due to variations in healthcare systems, intervention design and outcomes measurements in the studies considered, further research is needed to establish optimal design of alerting systems.

Short-term respiratory effects of e-cigarettes in healthy individuals and smokers with asthma

Andreas S Lappas, Anna S Tzortzi, Efstathia M Konstantinidi, *et al*. *Respirology* 2018;**23**:291–7
doi: 10.1111/resp.13180

With electronic cigarettes (e-cigarettes) rising in popularity as effective smoking cessation aids, research has focused on the health effects associated with using these devices. In particular, how they affect the lung function of asthmatic patients is of important consideration. In this study Lappas and colleagues aimed to explore the differences between the respiratory effects of e-cigarette vapour in both healthy and asthmatic patients who smoke. The study exposed 27 healthy smokers (HS) and 27 smokers with mild asthma (MA) to controlled conditions, in which the participant use a third-generation e-cigarette without the coil or e-liquid (meaning vapour was not produced), and experimental conditions (in which the device included all components and vapour was produced) for 5 min. The participants' impulse oscillometry impedance, lung resistance, reactance and fractional exhaled nitric oxide (FeNO) were then measured at 0, 15 and 30 min after each condition. Results highlighted that control sessions produced no significant changes in lung function, while experimental sessions induced a significant increase in respiratory system resistance. In addition, the MA group exhibited higher baseline values and a greater respiratory effect after e-cigarette use compared with the HS subjects. This experiment highlighted that single sessions of e-cigarette vaping induces mechanical and inflammatory effects on the respiratory system. These were intensified and more prominent in smokers with asthma.

Occupational exposures and 20-year incidence of COPD: the European Community Respiratory Health Survey
Theodore Lytras, Manolis Kogevinas, Hans Kromhout, *et al.*
Thorax 2018; published online 24 March 2018
doi: 10.1136/thoraxjnl-2017-211158

Smoking is a well-known risk factor for COPD, but the role of occupational exposure to other irritants is less well characterised. Few studies have prospectively assessed the association of occupational exposure with incidence of COPD. The European Community Respiratory Health Survey (ECRHS) is a longitudinal population-based study with a long follow-up duration, and this paper by Lytras (Barcelona, Spain) and colleagues analysed the ECFRS data to examine the effect of occupational exposure on COPD incidence after 20 years of follow-up.

In total, 3,443 participants were analysed, originating from 24 study centres in 12 countries. Participants were enrolled in 1991–1993, and followed up in 1998–2002 and again in 2010–2012. Anyone reporting current asthma was excluded from the analysis.

After adjusting for covariates, there was a significant association between biological dust exposure and COPD incidence. There was also a significant effect for all pesticides, specifically insecticides; however, these effects were based on a small number of cases. Exposure to 'gases and fumes' was also significant, but there was no significant effect associated with mineral dust or 'vapours, gases, dusts and fumes' overall. There was weak evidence of a dose–response relationship for biological dust, but the intensity of exposure did not affect results for any other irritants.

This was the first study to show a link between occupational exposure to biological dust and increased incidence of spirometrically determined COPD. It also supported previous studies linking pesticide exposure with respiratory disease. As worldwide smoking prevalence declines, the role of occupational exposure may become more important and should be critically re-examined.

Intensified therapy with inhaled corticosteroids and long-acting β2-agonists at the onset of upper respiratory tract infection to prevent chronic obstructive pulmonary disease exacerbations. A multicenter, randomized, double-blind, placebo-controlled trial
Daiana Stolz, Hans H Hirsch, Daniel Schilter, *et al.*
Am J Respir Crit Care Med 2018;**197**:1136–46
doi: 10.1164/rccm.201709-1807OC

Upper respiratory tract infections (URTI) are strongly associated with COPD exacerbations, resulting in hospital admissions and increasing the risk of mortality. Use of intensified combination therapy involving inhaled corticosteroids (ICS) and long-acting beta2-agonists (LABA) at the onset of URTI symptoms may help reduce their effect in COPD patients. In this study, researchers explored the efficacy of ICS/LABA therapy at the onset of URTI symptoms in COPD patients by measuring the occurrence of COPD exacerbations. They conducted a multicentre, randomised, double-blind, placebo-controlled trial in which 450 patients with stable, moderate to very severe COPD were tested.

Participants were randomised into two conditions in which they were provided with either an intensified dose of ICS/LABA or a placebo. They were instructed to take the medication twice daily for 10 days at the onset of URTI symptoms. Findings showed that intensified ICS/LABA therapy did not significantly decrease the incidence of COPD exacerbations when compared with placebo therapy (14.6% vs. 16.2%, respectively). However, the risk of severe exacerbation decreased by 72% in the ICS/LABA group. Researchers therefore concluded that use of intensified combination therapy with ICS/LABA at the onset of URTI symptoms does not decrease the incidence of COPD exacerbations. However, it may help to manage the severity of exacerbation experienced.

Smoking duration alone provides stronger risk estimates of chronic obstructive pulmonary disease than pack-years
Surya P Bhatt, Young-il Kim, Kathy F Harrington, *et al.*
Thorax 2018;**73**:414–21
doi: 10.1136/thoraxjnl-2017-210722

Tobacco smoking is known to be one of the greatest risk factors for COPD. When comparing the strength of association between COPD and smoking, the parameters used to define tobacco exposure often explore the amount smoked over a long period of time (i.e. pack-years). However, other factors, such as the duration of tobacco smoking, may provide a more representative depiction of tobacco exposure than those currently used. In this study, Dr Surya Bhatt and colleagues aimed to examine the relative contributions of pack-years, cigarettes smoked per day (cigarettes/day) and duration on the development of COPD, particularly its effect on airflow obstruction.

They conducted a cross-sectional study analysing data from a large multicentre cohort, COPDGene, including 10,187 subjects. Findings showed that the parameter most associated with estimates of COPD (e.g. FEV1) was smoking duration. In particular, smoking duration produced a greater adjusted effect size in airflow obstruction, CT emphysema and respiratory morbidity than cigarettes/day and pack-years. The researchers concluded that smoking duration may provide the strongest risk estimate of COPD compared with other defining parameters of tobacco exposure. This may suggest that smoking duration should be optimised as a defining factor of tobacco exposure in epidemiological studies to accurately represent the association between smoking and COPD.

'Exacerbation-free time' to assess the impact of exacerbations in patients with chronic obstructive pulmonary disease (COPD): a prospective observational study
Lonneke M Boer, Erik W Bischoff, Xandra Borgijink, *et al.*
NPJ Prim Care Respir Med 2018;**28**:12
doi: 10.1038/s41533-018-0079-5

Exacerbation frequency is a frequently used indicator in COPD studies. However, this may not fairly reflect the effects of every intervention.

For example, self-management strategies are often not intended to prevent exacerbations occurring, but to reduce their severity. Boer and colleagues from Nijmegen in the Netherlands therefore propose considering the total amount of time a patient suffers from exacerbations, rather than the simple frequency.

This study was a secondary analysis of two prospective cohort studies, one in primary care and one in an outpatient setting. Data from 166 patients were included. In patients with <3 exacerbations per year, the correlation between exacerbation frequency and exacerbation-free time was strong, but this was not the case for those with ≥3 exacerbations per year.

Medical Research Council (MRC) category was related to exacerbation frequency, and to some extent exacerbation-free time. Patients in MRC category 1 had more exacerbation-free time than those in category 3, but there was no significant difference between patients in categories 2 and 3. Current smokers also had less exacerbation-free time, but not a higher exacerbation frequency, than ex-smokers or never-smokers. Correlation between exacerbation frequency and health-related quality of life scores was weak. However, greater exacerbation-free time was related to a higher quality of life score.

This suggests that exacerbation-free time and exacerbation frequency are two distinct indicators in COPD, particularly in smokers and frequent exacerbators. The greater correlation of exacerbation-free time with quality of life may indicate this is a more patient-centred outcome than exacerbation frequency, which has relevance for clinical practice as well as research.

Chronic airway obstruction in a population-based adult asthma cohort: prevalence, incidence and prognostic factors

Helena Backman, Sven-Arne Jansson, Caroline Stridsman, *et al*.
Respir Med 2018;**138**:115–22
doi: 10.1016/j.rmed.2018.03.036

People with asthma may develop chronic airway obstruction (CAO). Its prevalence in patients recruited from hospitals and primary care ranges from 29% to 60%, and from 19% to 32% in population-based samples. The incidence of CAO has not been recorded, and risk factor patterns for prevalent CAO among asthmatics are conflicting. Asthma-COPD overlap (ACO), proposed by joint Global Initiative for Asthma and GOLD guidelines, lacks an accepted definition, and it is unclear whether the term is a distinct disease entity or used to describe the co-existence of both asthma and COPD. Whichever it may be, it is important to study the natural history of ACO, so as to better define management and treatment of those affected.

The aims of this study were to estimate the prevalence and incidence of CAO in a large population-based adult asthma cohort, and to study risk factors for both prevalent and incident CAO. The asthma cohort comprised 2,055 adults aged 19–72 years, and the study was run between 1986 and 2001. CAO was defined as post-bronchodilator FEV1/FVC <0.7. The cohort was invited to a clinical follow-up involving interview, spirometry and blood sampling in 2012–2014, of whom 983 attended.

The study concluded that the prevalence of CAO at study entry level was 11.4%. The incidence rate was 16 per 1,000 per year, meaning the majority did not develop CAO. Those with CAO had higher levels of neutrophils and a greater incidence of heart disease. Risk pattern factors for both prevalent and incident CAO were similar, and corresponded to that of general population COPD patients – namely, smoking, older ages and male sex. There was nothing in the findings to suggest ACO is a specific disease entity.

Tiotropium and olodaterol in the prevention of chronic obstructive pulmonary disease exacerbations (DYNAGITO): a double-blind, randomised, parallel-group, active-controlled trial

Peter M A Calverley, Antonio R Anzueto, Kerstine Carter, *et al*.
Lancet Respir Med 2018; online ahead of print
doi: 10.1016/S2213-2600(18)30102-4

For patients with COPD requiring combination bronchodilator therapy, the combination of a long-acting LABA and a LAMA is considered the preferred option. This double-blind randomised controlled trial from Peter Calverley and colleagues explored whether the combination of the LABA tiotropium and the LAMA olodaterol was effective in reducing the rate of COPD exacerbations in the study population, compared with tiotropium alone.

A total of 9,009 patients from 51 countries were screened, of whom 7,880 were treated. Patients were aged 40 years or older with a diagnosis of COPD, a smoking history of more than 10 pack-years, stable airflow obstruction and a history of at least one moderate or severe exacerbation in the preceding year.

To the surprise of the authors, the combination treatment did not perform as well as expected. There was no significant difference between combination and tiotropium alone in the rate of moderate and severe exacerbations. The time to first exacerbation was also not significantly different.

Some benefits were seen in post-hoc analyses: the rate of exacerbations treated with corticosteroids (with or without antibiotics) was lower in the combination group, and among patients who had been receiving ICS as maintenance treatment at baseline, the risk of exacerbations was lower with combination therapy than tiotropium alone.

The authors suggested a few reasons why the combination therapy did not demonstrate the expected benefit. The variance in the study population was higher than expected, and there was differential study withdrawal between treatment arms, both of which may have had an impact on the treatment effect size.

This study was funded by Boehringer Inhelheim International GmbH; some of the paper's authors are employees of Boehringer Ingelheim.

Association of inhaled corticosteroids and long-acting muscarinic antagonists with asthma control in patients with uncontrolled, persistent asthma: a systematic review and meta-analysis
Diana M Sobieraj, William L Baker, Elaine Nguyen, *et al*.
JAMA 2018;**319**:1473–84
doi: 10.1001/jama.2018.2757

Guidelines recommend the stepwise escalation of corticosteroid therapy when asthma severity increases, risking patient exposure to systemic effects of drugs and increasing the risk of adverse effects. Diana Sobieraj and colleagues explored the role of long-acting antimuscarinics (LAMAs) as an adjunct therapy to ICS to aid the management of patients with persistent asthma. Data from 15 randomised clinical trials, covering 7,122 patients, was analysed, comparing the effect of add-on LAMA therapy on the risk of exacerbation with either a placebo or other controllers (e.g. LABAs). The researchers also compared the effectiveness of triple therapy (LAMA, ICS and LABA) with ICS and LABA.

The results showed that the addition of LAMA to ICS significantly reduced the risk of exacerbation compared with placebo. However, compared with other controllers (e.g. LABA), no significant improvement in asthma exacerbation risk was found. Triple therapy demonstrated some improved outcomes, but an association with improved exacerbations was not demonstrated when compared with ICS and LABA therapy. Conclusions stated that, although use of LAMA does reduce the risk of exacerbation when compared with placebo, similar improvements were not noted when compared with other controllers or triple therapy. The researchers concluded that the association of LAMA with benefits to persistent asthma management may not be greater than that associated with LABA.

Long-term oxygen therapy in COPD patients: population-based cohort study on mortality
Nikolay Pavlov, Alan Gary Haynes, Armin Stucki, *et al*.
Int J COPD 2018;**13**:979–88
doi: 10.2147/COPD.S154749

Mortality from COPD is projected to become the world's third leading cause of mortality by 2030. Current treatment guidelines recommend the use of long-term oxygen therapy (LTOT) in COPD patients with severe chronic hypoxaemia. However, despite LTOT, survival of these patients remains poor as severe hypoxaemia is a symptom of end-stage COPD. Few studies have addressed mortality in this subgroup of patients.

The aim of this population-based prospective cohort study by Nikolay Pavlov and colleagues was to gain a better understanding of the natural course of COPD at its end stage, and to identify those risk factors that might be modified, so as to improve patient management and give insight into novel care strategies for patients with COPD on LTOT.

The study was conducted over two years with all COPD patients receiving LTOT in Bern, Switzerland (n=771). The two-year mortality rate of COPD patients on incident LTOT was found to be somewhat lower in this study than in older cohorts, but remained high compared with the general population (especially in younger patients receiving LTOT for <6 months). The recommendation from this observation was that patients on LTOT should receive a closer follow-up in the first months, which looks at compliance, indication for oxygen therapy and dose adjustment according to blood gas analysis. Close attention should be given to type 2 respiratory failure, which was associated with mortality, while non-invasive ventilation should be considered early.

Do patients and carers agree on symptom burden in advanced COPD?
Emma Mi, Ella Mi, Gail Ewing, *et al* (on behalf of the Living with Breathlessness Study Team)
Int J COPD 2018;**13**:969–77
doi: 10.2147/COPD.S147892

Patients with advanced COPD exhibit a range of symptoms. Informal carers capable of accurately assessing these symptoms can enhance their ability to judge the appropriate level of support required by a patient in their home. However, inaccurate assessment could lead to overtreatment or inadequate symptom control. The extent of agreement between patients and carers has been extensively studied in cancer, but few studies have been undertaken in COPD or in population-based settings.

In this prospective cross-sectional analysis of 119 patients living with advanced COPD alongside their carers, the Living with Breathlessness Study Team reports on agreement between patients and carers on symptoms and factors associated with disagreement. Six symptoms representing physical and psychological aspects were considered: breathlessness, fatigue, anxiety, depression, constipation and diarrhoea.

The study reported fair-to-moderate agreement between patients and carers, but poorer agreement for less observable, more subjective symptoms. Carers who estimated a greater burden of symptoms for patients had less patient-centred contact, more symptoms of anxiety and depression themselves, and had a range of unmet carer support needs. The study identified the need for a more open dialogue between patients and their carers. It also suggests a need to screen for and address psychological morbidities in patients with advanced COPD and in their carers, and to address unmet support needs in carers.

The role of anxiety sensitivity-physical concerns in terms of quit day withdrawal symptoms and cravings: a pilot test among smokers with asthma
Andrienne L Johnson, Emily M O'Bryan, Kristen M Kraemer, *et al*
J Asthma 2018;**26**:1–6
doi: 10.1080/02770903.2018.1437175.

Compared with their non-asthmatic counterparts, asthmatic patients often experience increased risk of relapse during the first months of

their quit attempt due to prolonged withdrawal symptoms and cravings. Such experiences are believed to be linked to anxiety sensitivity (AS), a cognitive-affective vulnerability factor defined as the fear of arousal-related sensations due to perceived negative consequences. In this study, Dr Andrienne L Johnson and colleagues aimed to explore the predictive ability of pre-cessation AS-physical concerns on the likelihood of withdrawal symptoms and cravings during a patient's quit attempt. Controlling for the effects of cognitive and social domains of AS, this study specifically explored the effect of AS-physical concerns on the experience of these symptoms. Results showed that increased AS-physical concerns pre-cessation significantly predicted greater quit day withdrawal symptoms and urge to smoke. The researchers concluded that asthmatic smokers are more likely to experience quit day withdrawal symptoms if they experience AS-physical concerns. Based on this, AS concerns should be targeted as a smoking cessation strategy to help avoid increased withdrawal symptoms and cravings in asthmatic patients. Nicotine replacement therapies should also be optimised to help combat the experience of these symptoms.

Factors associated with appropriate inhaler use in patients with COPD – lessons from the REAL survey
David Price, Dorothy L Keininger, Boomi Viswanad, Matthias Gasser, Susann Walda, Florian S Gutzwiller
Int J COPD 2018;**13**:695–702
doi: 10.2147/COPD.S14904

Self-management of COPD is dependent upon patients' ability to self-administer inhaled medication on a daily basis, yet 28–68% of patients may be using their inhalers incorrectly. The Real-life Experience and Accuracy of inhaLer use (REAL) study was a qualitative survey conducted by David Price from the University of Aberdeen (and supported by Novartis), enrolling 764 COPD patients from nine countries. Approximately 30% of respondents reported not receiving any training on inhaler use, but those who did receive training were significantly more confident that they were receiving a full medication dose. Among trained patients, the strongest preference was for technique to be demonstrated personally: 83% said this technique was 'very helpful' compared with 58% for video, 51% for instructions and 34% for leaflets. A total of 29% of patients had not had their inhaler technique checked in the past two years, but those who had been checked were more confident that they received the full doses. When results were stratified by inhaler device, patient confidence was higher with Breezhaler® than with Ellipta® or Respimat® (p=0.001 for both), but the difference between Breezhaler and Genuair® did not appear to be significant. This study underlined the importance of teaching inhaler technique in increasing patients' confidence and capacity to self-manage, and provided evidence that this teaching should be delivered in person wherever possible.

Factors influencing treatment escalation from long-acting muscarinic antagonist monotherapy to triple therapy in patients with COPD: a retrospective THIN-database study
John R Hurst, Maria Dilleen, Kevin Morris, Sian Hills, Birol Emir, Rupert Jones
Int J COPD 2018;**13**:781–92
doi: 10.2147/COPD.S153655

Inappropriate use of inhaled corticosteroids (ICS) in patients with COPD can have serious clinical implications and contributes to the economic burden of COPD. In this retrospective non-interventional database study, John Hurst from University College London and colleagues examined the records of 14,866 COPD patients who received long-acting muscarinic antagonist (LAMA) monotherapy as their initial treatment, and recorded the time until treatment was escalated to 'triple therapy', a combination of LAMA plus ICS and a long-acting beta-agonist (LABA).

In total, 6,482 patients (43.6%) received treatment escalation. Of these patients, 85% of escalations occurred within two years of starting LAMA monotherapy, with a median time to escalation of 155 days. In multivariate analysis, an acute COPD exacerbation was the variable most strongly associated with treatment escalation (hazard ratio: 2.11). Other variables positively associated with escalation were a diagnosis of asthma, greater breathlessness according to the MRC Dyspnoea scale, contact with healthcare services and number of short-acting bronchodilator prescriptions.

Results were analysed according to patients' GOLD grade, based on the 2011/2013 guidelines (which stratified patients based on FEV1 and MRC score) and 2017 guidelines (derived from MRC score and number of exacerbations). Fewer treatment-escalated patients were classified as groups C or D under the 2017 strategy compared with the 2011/2013 edition. This suggests that many patients were being overtreated according to the GOLD 2017 strategy. Reviewing patients' treatment in the light of the most recent GOLD strategy could reduce inappropriate prescription of these powerful drugs.

Guidelines for the diagnosis and management of asthma: a look at the key differences between BTS/SIGN and NICE
John White, James Y Paton, Robert Niven, Hilary Pinnock, on behalf of the British Thoracic Society
Thorax 2018; published online 3 January 2018
doi: 10.1136/thoraxjnl-2017-211189

There are at least two national guidelines for the diagnosis and monitoring and management of asthma in England: the British Thoracic Society/Scottish Intercollegiate Guideline Network (BTS/SIGN) guidelines, last published in 2016, and the National Institute for Health and Care Excellence (NICE) guideline on asthma diagnosis and monitoring and chronic asthma management, published in 2017. While the evidence base used by both guideline development groups is broadly the same, the recommendations are based on significantly different methodology. BTS/SIGN and NICE methodology both employ robust

critical appraisal of the literature, but methodologies diverge after that: BTS/SIGN considers pragmatic studies to ensure their guidelines provide clinically robust recommendations, while NICE employs health economic modelling, with interpretation supported by advice from a multidisciplinary Guideline Development Group.

To help clinicians in the care of people with asthma, the BTS has issued a statement, written by John White, James Paton, Robert Niven and Hilary Pinnock, which considers the similarities and differences. The statement provides context for these differences in the areas of diagnosis and pharmacological management, with the latter broken down into key areas: treatment at diagnosis, introduction of leukotriene receptor antagonist after low-dose inhaled corticosteroids, maintenance and reliever therapy, treatment beyond combined inhaler therapy and issues in managing asthma in children. The statement also highlights recommendations in the BTS/SIGN guidelines regarding aspects of asthma management not addressed in the NICE guidelines, including guidance on inhaler devices, the management of acute asthma attacks in both adults and children, the management of difficult asthma, guidance on asthma in adolescents, in pregnant women and on occupational factors.

Quadrupling inhaled glucocorticoid dose to abort asthma exacerbations
Tricia McKeever, Kevin Mortimer, Andrew Wilson, *et al.*
N Engl J Med 2018;**378**:902–10
doi: 10.1056/NEJMoa1714257

Acute exacerbations of asthma can be alarming for patients, cause illness, can be fatal, and account for a large proportion of costs related to asthma. While asthma control has been shown to improve in patients with self-management plans, a previously recommended step of doubling the dose of inhaled glucocorticoids has been shown to be ineffective at preventing acute exacerbations. In 2016 a Cochrane review concluded that it is unlikely that increasing the dose of inhaled glucocorticoids reduces the odds of systemic glucocorticoid use or hospitalisation or shortens recovery time.

A randomised, unblinded, pragmatic, multicentre trial comprising 1,922 participants (adults and adolescents) was commissioned by the Heath Technology Assessment Programme of the National Institute for Health Research in the UK. McKeever, Mortimer and colleagues tested the hypothesis that, when asthma control started to deteriorate, a temporary increase in the dose of inhaled glucocorticoids by a factor of four would reduce the use of oral glucocorticoids for asthma compared with a plan that did not include this step. The quadrupling group showed (1) fewer severe asthma exacerbations, (2) a higher frequency of treatment-related adverse events such as oral candidiasis, but (3) no significant between-group differences in the incidence of pneumonia. Given the potential benefit with regard to preventing exacerbations and considering the established toxicity associated with inhaled glucocorticoids as well as the biases that may have been introduced in this study by the absence of blinding, the authors urge that individual practitioners, patients and guideline committees consider whether the magnitude of the reduction achieved is clinically meaningful.

Prediction of mortality in patients with chronic obstructive pulmonary disease with the new Global Initiative for Chronic Obstructive Lung Disease 2017 classification: a cohort study
Anne Gedebjerg, Szimonetta Komjáthiné Szépligeti, Laura-Maria Holm Wackerhausen, *et al*
Lancet Respir Med 2018;**6**:204–12
doi: 10.1016/S2213-2600(18)30002-X

Since 2007, COPD has been classified according to the Global Initiative for Chronic Obstructive Lung Disease (GOLD) classification system based on patients' FEV1 thresholds compared with predicted normal values. To address the complexity of the disease and improve understanding of its effect on patients, the 2011 GOLD revision presented an ABCD classification system, combining respiratory symptoms, risk of exacerbation and airflow limitations as indicated by FEV1. While guiding treatment, the 2011 classification does not predict mortality of respiratory outcomes any better than the GOLD 2007 classification. GOLD 2017 further subdivided its main ABCD groups according to spirometric 1–4 staging. In this Danish cohort study of 33,765 patients with COPD, Gedebjerg and colleagues sought to evaluate the predictive ability of the new GOLD 2017 ABCD classification for all-cause and respiratory mortality compared with the GOLD systems of 2007 and 2011. The paper concluded that the GOLD 2017 classification based on ABCD groups did not predict all-cause and respiratory mortality better than the 2007 and 2011 GOLD classifications. However, when 16 subgroups (1A to 4D) were defined, the new classification predicted mortality more accurately than the previous systems. None of the GOLD classifications appeared to have sufficient discriminatory power to be used as a stand-alone tool for risk classification of mortality in patients with COPD.

PCRS-UK News Round-Up

DO YOU READ AND ENJOY PRIMARY CARE RESPIRATORY UPDATE?

Would you like to be more involved in the development of the publication in terms of content and its longer term planning? If you are interested why not consider joining the editorial board. Contact tricia@pcrs-uk.org for more information.

IN TOUCH – YOUR E-NEWSLETTER

As a member of PCRS you will receive a regular e-newsletter from us packed full of relevant clinical and service respiratory news as well as updating you on all the PCRS programmes, events and activities. But did you know that non-members can also sign up for an e-update (maximum of 6 per year)? Please encourage your colleagues to sign up to ensure that they keep up to date with news at https://www.pcrs-uk.org/keep-in-touch

PRIMARY CARE RESPIRATORY ACADEMY WEBSITE: YOUR YEAR-ROUND SOURCE OF RESPIRATORY LEARNING AND UPDATES

www.respiratoryacademy.co.uk

PCRS-UK and Cogora (publisher of *Pulse*, *Nursing in Practice* and *Healthcare Leader*) have developed the Primary Care Respiratory Academy (PCRA) to promote high-quality, high-value respiratory care. It consists of two platforms – a Clinical Platform to help clinicians build on their respiratory skills and a Commissioning Platform to help the service development community deliver improved respiratory outcomes. Both platforms comprise face-to-face events and a complementary suite of highly relevant digital content housed on the PCRA website, which is updated throughout the year.

The Clinical Platform's digital content is two-pronged. First, clinical digital resources span topics such as best-practice advice, guidance updates and clinically-relevant instructional pieces, delivered in a variety of formats including audio, video and digital documents. Users can access these resources at www.respiratoryacademy.co.uk/clinical/resources. Second, clinical CPD modules use case studies and thought-provoking questions to enable clinicians to develop their respiratory knowledge and meet their CPD requirements. These can be accessed at www.respiratoryacademy.co.uk/clinical/cpd-modules.

The Commissioning Platform's digital content is focused on commissioning digital resources – a broad assortment of tools that users can draw from to make a difference in their local areas. These resources are presented in a range of formats including digital articles, frameworks and videos and can be accessed at www.respiratoryacademy.co.uk/commissioning/resources.

COMING SOON FROM PCRS...

We've probably all noticed the impact technology's having on all our lives, both in and out of the working environment. Digital business is changing how people access information, the ways in which people communicate, as well as creating day-to-day efficiencies. We've been thinking about this too and been doing a six-month review of how, as an organisation, we can make the most of digital communication for our members. Noel Baxter will announce the results of this work at this year's Conference. We'll be launching a new brand identity for PCRS and a vision for the future that looks at how we can do more as a networked community of practice committed to developing inspiring whole person-centred respiratory care. Come to the conference to hear more about these exciting developments (https://www.pcrs-uk.org/annual-conference).

ASTHMA RIGHT CARE - SABA GUARDIANS - TACKLING THE UNWARRANTED VARIATION OF SABA OVER-RELIANCE IN ASTHMA

The International Primary Care Respiratory Group (IPCRG) has been leading an international pilot to explore how to use social movement approaches to create a desire for change in the management of asthma.

What we are doing currently isn't working - we need a different approach

The challenge of implementing clinical guidelines into practice has been widely documented, and further guidelines may not be the solution.

This project is built around the concept of producing conversation starters that allow people to come to the conclusions for their role or area with regard to the over-reliance on short-acting beta2 agonists (SABAs).

Resources have been tested (including the popular SABA slide rule, and pack of question & challenge cards) to trigger interactions between patients, pharmacists, GPs, nurses and others involved in front line care. The aim to create a sense of discomfort and dissatisfaction with the status quo in a manner that's positive and creates a sense of hope.

Other examples of social movements include the 'hello my name is' campaign, antibiotic guardianship.

The UK (PCRS), Canada, Spain and Portugal were involved with the initial phase with findings presented at the national conference in Porto earlier in the year.
https://www.theipcrg.org/display/TreatP/Asthma+Right+Care+-+Information+for+clinicians+and+patients

Follow PCRS for more from the UK in the coming months and look out for the movement's further development at this year's conference!

SECOND OPINION

Your respiratory questions answered...

Question:

I'm the trainee practice manager at Cross Plain Health Centre. We have two practitioners (one a practice nurse and one a GP assistant who does Pulmonary Rehab) who have historically done spirometry for us. I understand that the rules around having these practitioners certified is changing soon and was wondering if you could help me understand what it is I need to do to keep these practitioners being able to continue doing spirometry for us.

Answer

In 2016 it was announced that a more formalised National Register would be set up of people who have been certified as competent to perform and/or interpret spirometry. This would enable employers, commissioners and patients to see who has had their skills and knowledge in spirometry assessed, demonstrated their competence and has joined the register. The National Register commenced in April 2018 and it is expected that, by March 2021, anyone performing or interpreting spirometry will be on that list, having been assessed as competent. The details of the scheme are set out in the document 'Improving the quality of diagnostic spirometry in adults: the National Register of certified professionals and operators' on the Primary Care Commissioning website (see website short link www.goo.gl/Xr8ktU).

Your practitioners could approach this in one of several ways:

1. If they are already on the National Register (the register did exist before 2016 but was fairly informal) then they will receive notification within 3 years that they need to be recertified in order to remain on the register. They will be told what they need to do depending on whether they perform and/or interpret spirometry. The register is available online so if they are uncertain if previous training led to certification, they can check the register.

2. If they are experienced and are confident that they are competent, they can apply to be assessed through the Experienced Practitioner Scheme (EPS) before joining the register. This requires no additional training, but they can apply through the Association for Respiratory Technology and Physiology website (ARTP) to have their competence assessed. The Institute of Clinical Science and Technology (ICST) is managing the National Register for them, so you may be redirected to their website. If your practitioners do not pass the assessment process, they may have to undertake some training before applying again.

3. If they wish to undertake training in performing or interpreting spirometry or both, they can make contact with any training organisation which provides specific training in spirometry. ARTP has worked with ICST to develop an online training programme (and for those undertaking training in performing spirometry, this includes a half-day practical skills workshop), and PCRS has endorsed this after reviewing the training modules. However, there are other training providers too – some national and some operating only in certain regions. If they choose an independent training provider, they still need to undergo assessment by the ARTP to be certified, and to pay for this separately. If they choose the ARTP-approved ICST online training programme, the assessment is included within the cost of training.

4. You will need to consider how you are going to pay for the training and assessment process. Will the practice pay or will you be looking to the CCG for payment? There may be funding from service improvement initiatives but it may fall to the practice to fund this.

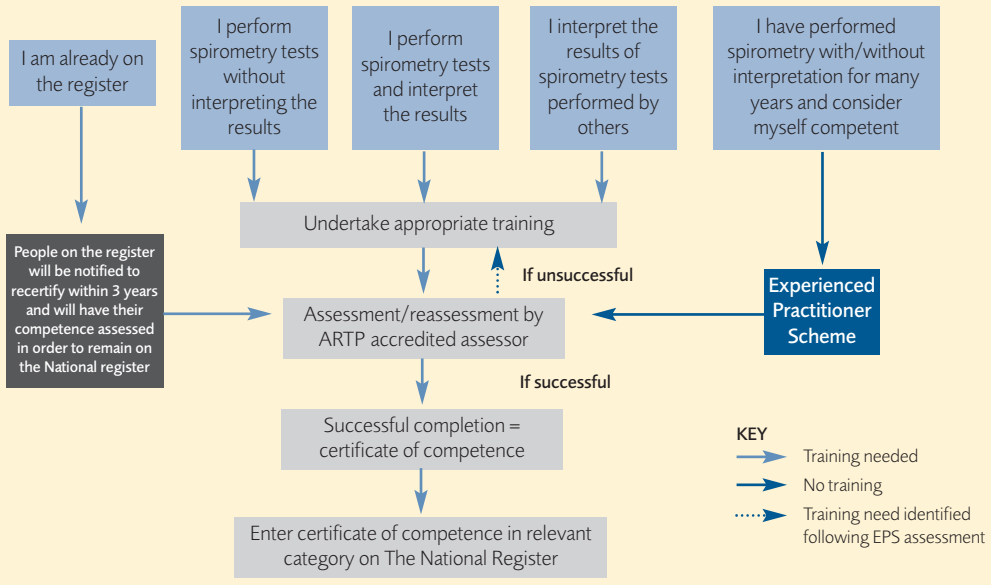
As a practice manager you can support this process by:

- Checking whether the practitioners are already on the National Register
- Ensuring they are aware of the options for joining the National Register, if they are not on it already
- Working with senior partners in the practice to explain the upgraded arrangements for training and certification, which are intended to raise the standard of respiratory diagnosis
- Securing the funding necessary for your practitioners to take training if needed and to be assessed and certified to join the National Register

SECOND OPINION

Your respiratory questions answered...

continued



We know that the situation has been a bit confusing so, if you are still unclear, check out the FAQs on the PCRS-UK website or contact Carol Stonham via the members' directory on the PCRS-UK website.

In summary:

- there is now a National Register for anyone performing and/or interpreting spirometry
- there are many training providers who can provide training
- there is only one assessment process to deem people competent and certify them
- once you are on the register, you will be contacted to be re-certified every three years
- while the register is not mandatory, CQC will be looking at whether practices have individuals on the register if they are performing and/or interpreting spirometry, and PCRS supports the register as we believe it will raise standards of respiratory diagnosis.

Key information points: www.pcrs-uk.org, www.artp.org.uk and www.clinicalscience.org.uk

Have you got a question for Second Opinion?
If you have a question for Second Opinion please submit your question to info@pcrs-uk.org quoting "Second Opinion" in the subject line

Delivering Excellence Locally

Featuring initiatives led by PCRS-UK members around the UK, supported by PCRS-UK programmes and tools

Very brief advice training as part of a quality improvement scheme

Dr Katherine Hickman
GP, Leeds

At a recent training course of GPs I asked everybody in the room to stand up if they had done CPR training in the last year. They all stood up. The whole room sat down when asked if they had performed CPR and saved a life in the last year. Not surprisingly, nobody had used their mandatory CPR training. I then asked everybody to stand up if they had had contact with a smoker, in any guise, in the last year. Everybody stood up. Finally, I asked them to sit down if they had done online Very Brief Advice (VBA) training. The whole room remained standing and looked bemused as to what VBA even was, let alone the fact that, if they had done it, just 30 seconds of discussion with a patient may have saved that patient's life. https://www.youtube.com/watch?v=d7D1zye8jpQ

Tobacco dependency is a treatable long-term condition, no different from diabetes, heart attacks or strokes, which very often starts in childhood. For many of us as clinicians this is a difficult concept to get our heads round as many still see smoking as a lifestyle choice. Why do we treat smokers differently to our other long-term condition patients, many of whom are ill due to the 'lifestyle choices' they have made. We would never not treat an overweight hypertensive patient or withhold metformin from a diabetic, but how often do we explore nicotine replacement therapy in a smoker who hasn't attended a stop smoking clinic? Surely treating smokers is ALL of our problem?

"*OK put up your hand if you made a mistake when you were 13?*". This is another question I often ask when teaching on tobacco dependency. Invariably everybody will put up their hand. I now ask every single one of my patients who smoke what age they started smoking. The average age where I work is 13. They were unlucky. They made a mistake. I tried my first cigarette aged 13 and I hated it but I continued to try it subsequently; fortunately, I never got hooked. I was lucky. At my 20-year school reunion I bumped into my friend who had given me my first cigarette. She was still smoking.

We are now in a situation in the NHS where very few doctors and nurses smoke. Sometimes, when we don't smoke ourselves, it's easy to be judgemental and tell a patient off for smoking and to not offer them help, writing off their COPD as 'their own fault for smoking'. Are some doctors and nurses, though, less judgemental of a diabetic patient who continues to eat cakes and chocolate when we have ourselves eaten cake for a colleague's birthday at lunchtime or snacked on chocolates in reception? It can sometimes feel wrong criticising somebody's lifestyle when we're not always a great role model ourselves.

The turning point for me was doing the NCSCT Very Brief Advice online training. It is a 30-minute training module with information on how to deliver VBA on smoking and can be accessed at www.ncsct.co.uk/vba. It includes key facts, examples of delivery via video clips, links to supplementary information and a short multiple-choice assessment. It revolutionised how I talk to smokers and helped me to help them to quit. All of my patients now expect to be asked about their smoking status. I use it with them regardless of whether I asked them last week or a year ago. It is about planting a seed in the patient's head. The more you ask the more that seed will grow, and at some point the trigger of you asking will prompt a decision to try and quit.

How to refer to a stop smoking service

- "Call this number and they will put you in touch with someone who can arrange treatment and support for you to stop" or
- "I can refer you to the stop smoking service and they will phone you to go through the options for treatment and support" or
- "When you are ready to stop, make an appointment at reception with our stop smoking advisor"

Fortunately, as healthcare professionals working in primary care, we don't have to perform CPR on a daily basis. We do, however, see many conditions caused or exacerbated by smoking on a daily basis. Leeds CCGs recognised the importance of increasing the number of people who receive brief interventions and support to quit smoking. They have made the forward decision to incorporate VBA training into their

Quality Improvement Scheme. They were inspired by the London Respiratory Team's 10 Top Tips for CCGs wanting high value respiratory care:

"Ask all healthcare professionals who care for people with asthma and COPD to complete online stop smoking very brief advice training within the next year at http://www.ncsct.co.uk/vba so that they make every contact count."

Practices will be asked to provide a list of staff who have regular contact with smokers including any receptionists. They will be paid based on the percentage of staff who undertake the training and are demonstrated to be on the NCSCT register. I am in a fortunate position of being Respiratory Lead for both Leeds and Bradford. As Bradford are all also putting together their Quality Improvement Scheme, I have recommended that we follow in Leeds footsteps and do the same.

Outline of Very Brief Advice

Very Brief Advice should be delivered as follows:

ASK and record smoking status:

"I see from our notes you are a smoker"

"Do you smoke at all?"

"Do you smoke?"

"Are you a smoker?"

ADVISE on the best way of quitting:

DON'T ask if they want to stop. DON'T ask how much they smoke but use a simple statement such as:

"We now know the best way to quit is a combination of support and medication"

ACT on patient response:

"Would you like to be referred to our in-house stop smoking service?"

An integrated care project to proactively identify patients with respiratory disease achieves Gold Standard care

Fran Robinson PCRS-UK Communications Consultant talks to **Jayne Longstaff** , Lead Specialist Respiratory Research Nurse, Portsmouth Hospitals NHS Trust

An integrated care project has brought secondary and tertiary care clinicians out into primary care to identify patients with asthma, COPD and breathlessness symptoms and given them a holistic assessment and has significantly improved patient care.

Called MISSION ABC (Modern Innovative Solutions Improving Outcomes In Asthma, Breathlessness and COPD), this innovative model of respiratory care has been developed over the last year by the Research and Innovation Department at Queen Alexandra Hospital, Portsmouth.

Led by Professor Anoop Chauhan, Respiratory Consultant Physician and Director of Research and Innovation and Jayne Longstaff, Lead Specialist Respiratory Research Nurse, Portsmouth Hospitals NHS Trust, the aim of the project has been to proactively find patients who have uncontrolled respiratory symptoms in primary care and fast track them to the right diagnosis and identify co-morbidities.

"If patients aren't diagnosed correctly, no matter how much disease management support or inhalers you provide they are never going to be well and eventually at some point we are going to end up seeing them in secondary care," says Jayne.

Using PRIMIS, the electronic GP practice patient record search tool, Jayne identified all patients with uncontrolled asthma and COPD and undifferentiated breathlessness within 11 GP practices in South East Hampshire and invited them to take part in the project.

These patients were then proactively invited to a 90-minute appointment in a MISSION 'one-stop carousel clinic' held in their GP practice, where they were seen by a team of respiratory specialists from secondary care. Physiologists performed a battery of diagnostic tests including FeNO, spirometry and oscillometry. Depending on their needs, patients were seen by respiratory consultants for a diagnosis, a physiotherapist for help with breathing control and mucus clearance and nurses for education in self-management and inhaler technique.

From an initial 1,050 patients identified, 482 patients attended the MISSION clinic. Some of the original diagnoses of asthma were changed to COPD and some of the diagnoses of COPD were changed to asthma/COPD overlap. Approximately a quarter of patients were diagnosed with a breathing pattern disorder rather than just asthma alone. The majority of patients were diagnosed with additional co-morbidities including lung cancer, bronchiectasis and cardiac conditions. In total, 57 different types of new diagnoses were given to patients including inducible laryngeal obstruction (also known as VCD).

"This project completely changed the lives of these patients who went from having uncontrolled symptoms to having a definitive diagnosis. This enabled them to understand how to manage and control their disease," says Jayne.

Ninety-eight of the 482 patients seen in a MISSION clinic needed further assessments. They were referred within 4 weeks to a rapid access investigation clinic on a Saturday at Queen Alexandra Hospital where they were given further one-stop specialist tests including full lung function tests, arterial blood gases, CT scans, pulmonary function tests, nasoendoscopy and X-rays to further ensure they had the right diagnosis.

After receiving their diagnosis, all patients were offered a follow-up appointment in their GP practices with a multidisciplinary team from secondary care. This team included a psychologist, dietician, smoking cessation adviser, respiratory consultant, nurse and a physiotherapist who were able to provide the extra support patients and carers needed to manage their disease.

Lessons learned

The multidisciplinary project team used the learning opportunities of the MISSION clinics to mentor GPs, practice nurses and primary care staff. Other educational events, which have been oversubscribed, were organised for wider members of the community team involved in respiratory care, including pharmacists and care home staff.

"These educational initiatives were held to ensure the service had momentum once the secondary care team left," says Jayne.

A key target of this project was to develop good communication between primary and secondary care. Jayne explains: "Part of achieving quality improvement is persuading people to work differently, it's a huge barrier. Our aim should be to work collaboratively and work in partnership, but there were huge lessons learned by secondary care clinicians about the culture differences in primary care and we also realised that primary care staff were unaware of what we do in secondary care. Often you feel the only thing that links everybody is the patient and their carer."

Another significant goal of the project was to engage with patients. When they were asked how they could be better supported to manage their condition, patients told the MISSION team that their carers had no idea how to help them when they were having an exacerbation or 'flare up'. A cheap fridge magnet was therefore developed, one for COPD and one for asthma, explaining in clear language what to do during an exacerbation and was received well by patients and carers.

Ruth De Vos, Specialist Respiratory Physiotherapist from Portsmouth Hospital Trust, identified that a lot of patients were having pulse oximetry done for QOF targets but the oxygen saturation levels were often only being measured and recorded and not acted on. So Ruth and Jayne developed a MISSION guide for general practice on how to perform and interpret pulse oximetry.

A MISSION clinical patient review template was also developed for general practice clinicians based on learning from the project. Every member of the multidisciplinary team had an input into this template.

Sharing the learning

The MISSION team worked in partnership with the Health Foundation and Wessex Academic Health Science Network to test and evaluate the initiative. The project team is currently in the process of developing an online MISSION toolkit to pass on the learning from the project to other clinicians. This model of care can be replicated by other areas, so they are making available the toolkit's videos, documents and resources free of charge.

As a result of the project, the Portsmouth locality is developing a series of long-term conditions hubs which will include diabetes as well as respiratory disease. The hubs will be based on the new MISSION integrated model of care. They are supported by both secondary and primary care who will provide members of staff to work in them.

Jayne says: "For me, MISSION has developed a strong working partnership between all healthcare providers, has and was been built on trust, respect and team work, and focused on excellence in patient-centred care."

For further information about the project and the toolkit visit https://missionabc.uk

Respiratory clinical leadership programme

Investing in you, enabling improvement for patients with respiratory disease

- ✓ **Rolling 3 year programme of workshops**, enabling you to build up your range of tools, knowledge and skills over a period of time and to participate in events that suit your interests and fit in with your other commitments
- ✓ **Supportive and safe environment** to develop and practice a range of skills with the support of like minded colleagues and a multi disciplinary faculty of experienced clinical leaders
- ✓ **Open to and free to attend** for any member of PCRS-UK keen to develop and to improve the respiratory care available to patients in their area

2018 Workshop events

Utilising Patient's feedback for service evaluation: patient-centred outcomes based care
9-10 November 2018, University of Birmingham

Mobilise support for your idea - The Case for Change
7-8 June 2019, Hallmark Hotel Derby Midland

https://pcrs-uk.org/clinical-leadership-programme

PRIMARY CARE RESPIRATORY SOCIETY UK
PCRS

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

Respiratory Leadership Programme

Leadership skills enable respiratory nurse to raise standards of care


Fran Robinson talks to **Deirdre Siddaway** Respiratory Specialist Nurse, Suffolk

When Deirdre Siddaway came up against some obstacles while trying to improve respiratory care it was the PCRS-UK Respiratory Clinical Leadership programme that gave her the support she needed to succeed.

Deirdre, a respiratory nurse specialist in Suffolk, was instrumental in persuading her CCG to commission a 6-month integrated care pilot to improve the management of respiratory patients in primary care.

But she had to overcome a number of challenges along the way.

Deirdre first tried raising her idea for improving standards of care at local CCG meetings. She spoke to the CCG Chair and the official responsible for medicines management.

It was only after she learned about stakeholder mapping at a respiratory leaders' workshop that she realised she had been approaching the wrong people. She explains: "The workshop taught me to identify who the local key players were that could help me to drive my idea forward. I was able to work out who might be an advocate, who could help with funding and who would be interested in commissioning services. I also understood how to avoid the 'blockers', people who will prevent the project from progressing."

She says the workshops helped her to find the levers to encourage the right people to listen to her idea and to engage those who were influential.

She also learned the importance of aligning the aims of her project with those of the CCG. This meant looking at the CCG's five-year plan which identified avoiding hospital admissions and cost-effective prescribing were a priority. "Respiratory conditions weren't specifically mentioned but they fitted within that umbrella," recalls Deirdre.

The project began to move forward when Deirdre identified a respiratory consultant at her local hospital who was involved in setting up a respiratory taskforce. She also found the CCG official responsible for long-term conditions was supportive.

Other valuable backing came from people she met at the respiratory leaders' workshops who had worked on and achieved success with similar projects. "I was able to use a lot of their ideas and their levers to engage the CCG. One of the delegates had launched a similar project across a very large CCG with a similar demography and geography to mine and they were happy to share with me virtually everything that they had done. This included the way they had worked out their figures, the savings that could be achieved and the potential improvement that could be gained in patient outcomes. I was able to take that to the CCG and say this is how it could work," says Deirdre.

With the hospital consultant on board, the project began to take shape. However, Deirdre recalls that during the process of developing the project with secondary care there were at least half a dozen frustrating meetings where hospital managers talked about the issues that were important to them and were concerned about ring fencing their own pools of money. She was initially the only representative from primary care. However, influencing

Continued on page 52...

The PCRS-UK Respiratory Clinical Leadership programme offers a rolling three-year programme of workshops to help give you the tools, knowledge and skills to drive improvements for patients with respiratory disease in your area. We run two residential workshops each year which are free of charge to members of PCRS-UK. Each workshop is a stand-alone event with a focus on hot clinical topics and policy or guidance changes, teaching essential professional skills such as understanding your team or your own leadership style, as well as one or more relevant management techniques such as making a business case, mapping your stakeholders, pitching your case for change or evaluating data.

The programme also facilitates an active network discussion group through which participants share dilemmas, ideas, best practice and solutions.

The next workshop is to be held on 9 and 10 November 2018 at the University of Birmingham and the title is 'Utilising Patients' Feedback for Service Evaluation: Patient-Centred Outcomes Based Care'.
For more details see https://www.pcrs-uk.org/event/november-2018

A logical choice

of maintenance treatment to help prevent exacerbations of COPD

Chiesi

Trimbow®

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

a combination of 3 established compounds in an extrafine formulation

Inspired logic

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

...Continued from page 50

skills, managing conflict and project planning techniques and tips she learned at the respiratory leaders' workshops all helped her to progress the scheme.

Eventually the meetings were scaled down to involve only the key players and a 6-month pilot was launched.

The project

The pilot was established to improve the respiratory patient pathway between primary and secondary care, reduce outpatient appointment waiting times (at that time between 12 and 16 weeks) and enable cost-effective prescribing.

It involved:

- Deirdre and a respiratory consultant went into 15 practices to work alongside and train and upskill primary care staff
- A full-time respiratory nurse specialist in hospital, assessing patients prior to discharge and liaising with primary care
- An agreement was put in place to ensure that practices would see patients within 48 hours of discharge from hospital
- A treatment pathway for management of asthma and COPD was established and rolled out, resulting in savings in prescribing spend
- A self-management plan for asthma and COPD was produced for use across the CCG
- Breathless patients with symptoms of anxiety were given access to an Improving Access to Psychological Therapies Service
- The number of places for pulmonary rehabilitation were trebled and filled

Feedback shows that healthcare professionals are now more confident about managing patients in primary care and are less likely to refer unwell patients to secondary care.

For various reasons the pilot didn't continue beyond the 6 months, but Deirdre says the additional training and resources that were introduced have left a legacy of improved care.

"I was very disappointed that the pilot came to an end. However, I do feel that I was able to raise the profile of respiratory care in my area, gain the support of local practices and make a difference to a wider group of patients beyond my own practice."

"This project has been the high point of my career so far. I could not have got it off the ground without the skills I gained from the respiratory leaders' programme."

'Be Seen, Be Heard, Be Brave' – PCRS One-Day Workshop held on 11 July 2018

Fran Robinson reports on a one-day workshop to support healthcare professionals to be more confident in the workplace and act as the patient advocate

Learn to listen to your inner voice and conquer your fear

"A fearful, critical, controlling voice in our heads can hold us back from being self-confident at work," confidence coach Jo Emmerson told a PCRS-UK personal development workshop 'Be Seen, Be Heard, Be Brave'.

"That voice is telling you – if I challenge authority I might lose my job, who the heck am I to even contemplate challenging authority? I can't say no because I must do everything for everyone all the time or terrible things will happen."

But she said that if delegates could identify what was going on with their inner voice, and identify the thoughts that sabotaged them, they could find the courage to speak up and advocate for their patients from a place of strength rather than fear.

"You tell yourself at work you're not as good as 'them' – but that's you doing that yourself not them doing it to you. That's the story you're telling yourself, you are creating that story in your head," she explained.

Jo said confident people had an inner self belief, were grounded, could make others feel good about themselves, were gentle, assertive, at peace, wise and strong. Confidence was not arrogance, aggression, bullishness or being egocentric.

> *"I thought this was a truly inspirational meeting with challenging topics. I thoroughly enjoyed the day and took so much away from it"*
>
> Linda, nurse practitioner

Fear was at the root of a lack of confidence. "In life we have many fears, but they are usually: rejection, loss of popularity, loss of security, change, conflict, criticism, being taken advantage of and failure," she said.

But Jo explained that fear is a normal part of life – everyone feels it and those who tell you they don't are lying. "The best way to tackle fear is to accept it, and feel it. This helps you to grow as a person and face new situations. Once you start doing that thing you were afraid of – speaking out, advocating on behalf of your patients, for example – it becomes much less terrifying than the thought of doing it and getting it wrong. Pushing through the fear is less scary than living in permanent dread," she said.

Tools that will make you feel more confident at work

Learn to manage your inner voice

This will give you the confidence to find your outer voice at work. There is a vicious circle where a thought becomes a feeling. You base your actions on those thoughts and feelings and if you continually practise this behaviour it becomes a habit. So if you're thinking something negative, you're likely to act based on fear and that will become a negative behaviour.

But you can go the other way round this circle and think positive, more grounded thoughts. Your feelings will then change and you will start to act more positively and your behaviour will change. As a result, the beliefs and the feelings that you base your life on will also start to change. You can enter the circle at any point.

Practising the opposite behaviour is the best way to change

Change happens when we practice the opposite behaviour to the one that has become a habit. So, for example, if you want to gain self-esteem then you have to start doing esteemable things rather than telling yourself all the time that you have got low self-esteem.

In the same way, if you go on a diet, instead of thinking about what you can't eat, think about what you can eat, so say to yourself – I can't eat chocolate but I'm going to eat more vegetables.

So at work, if your fear is – I can't speak up, the opposite behaviour is – I'm going to speak up, here I am!

Jo warned that self-confidence is not a permanent state: "You are likely from time to time to fall down into a hole of self-doubt and low self-esteem. It's what we all do as human beings, which is why we need to learn and use these tools to return to a confident state. These tools will give you a ladder to prop up against the rabbit hole that you've fallen into and enable you to climb out. I myself have to do it on a daily basis."

In conclusion, Jo said: "What you must do to feel more confident at work is: disconnect a bit, stop listening to that critical voice all the time and start believing something truer, wiser and gentler."

Resilience and teams

Inspirational speaker, Tom Ray, a quadruple amputee with additional facial amputations as a result of sepsis, held the workshop spellbound as he described his remarkable story of resilience.

> *"I really enjoyed this workshop – I came away thinking I'd learnt new skills and found it very beneficial – not just in my working life, but personal life too"*
>
> Victoria, respiratory nurse specialist

A fit, healthy 38-year-old, he slipped into a coma within 24 hours after doctors missed the classic signs of sepsis. He woke up 5 months later at Addenbrooke's Hospital in Cambridge facing a long journey of rehabilitation. He and his wife lost the business they had been running together, had to sell their house and start again from scratch after he came out of hospital.

He said beating sepsis, coping with the aftermath and trying to earn enough for his family had been the challenge of his life. He had to go right back to the bottom step of the career ladder and nearly 20 years on he still found life hard. But he said he was proud of who he was and what he had achieved.

"I worked out the only way I was going to make any progress was step-by-step, little by little and through being prepared to compromise. People talk about compromise being a bad word, but to me it's the most valuable skill and it also links into the concept of teamwork that is important to you. Like me, it's about that role that you are happy to do every day at work, especially when the resources aren't there to back you up as much as you would like."

He said that, after his family, he gained huge support from a network of friends. This was no different from the way that healthcare professionals could gain support from their teams by maintaining friendships and allies at work.

"To me it's become really important to maintain networks on LinkedIn, Twitter and Facebook. There will come a time, one day when you are feeling really low at work, when those networks will save you. This notion of teamwork is so valuable, it's not just theoretical, it's the thing that gets us through the day and we should really value it."

Effective teams

Noel Baxter, GP and PCRS-UK Chair, gave delegates an insight into the benefits of working in effective teams and gave some tips on resolving conflict.

He explained several different management theories which help people to understand their and other people's characters and different styles of working in teams.

Noel stressed that everybody was important to a team and no individual was the best or most valuable member of the team. "A team that functions well, adapts and responds to changing conditions has faith in their ability to solve problems, are positive about their activities, trust each other and are resistant to stress," he said.

He described the Merrill Colours model which sets out four colour-coded behaviour traits of people in teams. Blue describes an analytical character, red a driver, green amiable and yellow expressive. "There are no good or bad team roles, but the performance in the team can be helped by an awareness of our own team roles and those of our colleagues," he said.

Resolving conflict

> *"Inspirational workshop on confidence and to develop this ... very worthwhile way to spend a day off"*
>
> Jackie, GP

Relationship awareness theory sets out two types of conflict – warranted and unwarranted. Warranted conflict occurs when the people involved do not agree on the desired outcome. Unwarranted conflict occurs when there is agreement as to the goal but disagreement in the approach to accomplishing the goal.

Noel said that conflict occurs when a person is faced with a situation that threatens their sense of self-worth or value. "The goal when faced with this is to return to the style of relating that a person normally prefers to use that makes them feel good about themselves," he said.

Tips for resolving conflict:

- Be self-aware, ask yourself what is driving your position?
- Be curious
- Can you learn from the differences you have?
- Can you improve on the outcome by combining the passion you both have?

"In the NHS most conflict is unwarranted. Whenever you find yourself in a conflict situation, ask yourself is it warranted or unwarranted? The best place to be at the end of conflict is collaboration. Just accommodating is not a good place," advised Noel.

> *"Clear, concise and excellent workshop that I feel will be most beneficial to my practice"*
>
> Dawn, respiratory nurse specialist

Carol Stonham, Primary Care Respiratory Nurse, Queen's Nurse and PCRS-UK Vice Chair, discussed how to resolve a range of professional dilemmas with the group which included: challenging the diagnosis, prescribing difficulties, educational issues and interpersonal relationships.

Summing up the workshop, she said it had given delegates an insight into the leadership role. She encouraged those interested in pursuing this further to sign up to the PCRS-UK Clinical Respiratory Leadership programme (https://www.pcrs-uk.org/event/november-2018). **The next meeting is 'Utilising Patients' Feedback for Service Evaluation: Patient-Centred Outcomes Based Care' on 9–10 November 2018 at The Edgbaston Park Hotel and Conference Centre, Birmingham.**

"Progress is not a stationary thing we are all moving in time. Don't stand still after today but move on, changing and evolving all the time," she said.

Affiliated Groups

PCRS Affiliated Group Leaders Networking Event

27 September 2018, The International Centre, Telford

- Interested in setting up a local group?
- Want some inspiration on how to get your group funded, get more attendees at your meetings, succession planning?
- Want to hear from successful group leaders on what they have achieved and tips to take home?

Come along for a drink and a natter to our networking event on 27 September from 16:45 to 18:15. We'll share some successes of other group leaders and learn from their achievements.

This is an ideal opportunity to quiz other passionate and inspiring group leaders and learn more about how to get a new group established, get the most out of an existing group and learn what PCRS can do to support you.

Find out more and register at https://www.pcrs-uk.org/ag-leaders-events.

Thinking of setting up a local group? Benefits of PCRS-UK Affiliated Groups

Working in primary care can, at times, feel quite lonely and isolating. With the ever-present pressures of today's NHS, there just aren't enough hours in the day to keep up to date or just take time to enjoy our jobs.

That's where PCRS affiliated local groups come in. They offer a lifeline for nurses and other healthcare professionals enabling them to stay in touch, network with colleagues, learn about clinical issues, share best practice and, moreover, offer a welcome chance for some fun and camaraderie. See https://pcrs-uk.org/affiliated-groups to see if there is an affiliated group near you.

PCRS can offer support to get you started. We can introduce you to members who are already running successful groups so that they can help mentor you through the initial stages and we also provide a resource pack (see https://www.pcrs-uk.org/resource-pack-help-you-get-started). See https://pcrs-uk.org/local-groups-getting-inspired for more information on how to get started.

Affiliating your group to PCRS confers FREE PCRS membership for the group leader and the opportunity to attend group leader workshops.

We can:

- Promote your events/meetings by sending emails to members in your area and adding your meetings to our events listing on our website
- List your group on our website and promote it to our members
- Point you in the direction of tools and resources that you can use as a basis for discussion and local update
- Send you a regular newsletter especially for group leaders offering tips and advice for managing your group and sharing information

To affiliate your group visit https://www.pcrs-uk.org/affiliation-pcrs-uk

Level 7 Education - is an MSc for me?

Have you considered your education into 2019? Our MSc Respiratory Practice, accredited by the University of Hertfordshire, focuses on the development of a unique inter-professional postgraduate provision relating to respiratory practice.

With no set cohort intake dates, you can step on to the programme whenever you are ready, and study modules in any order, or on a stand-alone basis. We still have some 2018 module dates available for you on our website now, and are adding dates for 2019 - you can register your interest using the website, to be notified when dates are added.

Courses include:

- Ethical Issues in Respiratory Practice
- Optimising Asthma Management
- Optimising the Management of COPD
- Research Applied to Respiratory Practice
- Respiratory Assessment
- Respiratory Diagnostics
- Applying Learning Theories to Clinical Practice
- Respiratory Examination

Visit: www.educationforhealth.org/msc

Call: 01926 838969

Email: programmes@educationforhealth.org

Funding & Sponsorship

One of the benefits of studying with Education for Health is that we can guide you towards funding opportunities. These are available from a variety of sources: charities, external organisations, pharmaceutical companies and employers.

Visit www.educationforhealth.org/funding to find out more.

education for health

www.educationforhealth.org

Charity Reg No: 1048816

TOBACCO DEPENDENCY IS A LONG-TERM RELAPSING CONDITION THAT USUALLY STARTS IN CHILDHOOD

Supporting smokers to quit, knowing and using these interventions, is the business of every healthcare professional.

Treating tobacco dependency is the single most cost-effective intervention for the prevention of smoking-related disease and for smokers who have smoking-related disease(s). A range of evidence-based pharmacological treatments exist to support smokers facing the difficulty of behaviour change and breaking nicotine addiction.

Stop smoking support, across the board, has been shown to be a clinically and highly cost-effective long-term intervention for people with smoking-related long-term disease.

MAKING EVERY CONTACT COUNT

Very Brief Advice

ASK

and record smoking status
Is the patient a smoker, ex-smoker or non-smoker?

ADVISE

on the best way of quitting
The best way of stopping smoking is with a combination of medication and specialist support

ACT

on the patient's response
Build confidence, give information, refer, prescribe
Patients are up to four times more likely to quit successfully with NHS support

Making Every Contact Count (MECC) encourages conversations based on behaviour change methodologies (ranging from brief advice to more advanced behaviour change techniques), empowering healthier lifestyle choices and exploring the wider social determinants that influence all of our health.

Patients expect to be asked about their smoking by a GP. 72% of smokers consider quitting and 30% try, but only a tiny fraction (5–8%) of smokers use an evidence-based intervention each year.

Make sure you have accessible information backed up by trained reception staff who facilitate access to the right stop smoking interventions and healthcare professionals who are trained and confident to help quitters.

http://www.ncsct.co.uk/
http://www.nhshealth.org.uk/StopSmoking/

ARE YOU PREPARED FOR SUPPORTING YOUR PATIENTS TO QUIT?

Have the tools you need on your desk and in your room

- A carbon monoxide monitor
- A microspirometer to assess lung age
- Examples of stop smoking medicines – show you know how to use them and that you consider them as treatments
- A stop smoking prescribing ready reckoner

TREATMENTS AVAILABLE

Smoking cessation treatment options, both pharmacological and advisory, are inexpensive and judged by NICE to be highly cost-effective in terms of life years gained.[1] Providing a mixture of nicotine replacement therapy (NRT) and a stop smoking drug is the most effective pharmacological intervention when providing behavioural support. When using NRT, ensure you are prescribing enough to manage the nicotine withdrawal symptoms. The best way to do this is often by giving more than one delivery system so patients can fit it in to their daily life. As with choosing inhaler devices, use something that the patient would like to try and change if it isn't working. There is good evidence to show that combination NRT is more effective than single product use. NICE recommends that combination NRT should be considered as a viable option for smokers wanting to quit.[2]

Nicotine replacement therapy (NRT)

- NRT is available in patch format, patch, inhalator, microtab, lozenge, mouthspray and nasal spray.
- Discuss patient preference, highlighting the benefits and disadvantages of each option. The patch is easy to use and available in different strengths but does not offer replacement activity for smoking whereas the gum, inhalator, lozenge, microtabs and nasal spray can all be titrated to nicotine needs and offer a replacement activity for smoking. The microtabs can taste unpleasant and the nasal spray is more difficult to use and may cause watery eyes and sneezing.
- The degree of nicotine addiction and therefore the required dosage of NRT is best decided by asking how long after waking the first cigarette is smoked, the so called "Time To First Cigarette" (TTFC). If the TTFC is less than 30 minutes, the maximum dose should be used.
- Localised reactions can occur depending on the form taken (e.g. skin irritation with patches).
- NRT can be prescribed in pregnancy, breastfeeding and in children from the age of 12 years. Swallowed nicotine may exacerbate symptoms in patients suffering from oesophagitis, gastritis or peptic ulcers and oral NRT preparations should be used with caution in these conditions.[3]

Bupropion (Zyban®)

- Bupropion works as a dopamine re-uptake inhibitor, reducing the need for the next cigarette because of the fall in dopamine levels.
- Side effects include insomnia, headache, dry mouth and nausea. It is reported to cause seizures in one per 1,000 people.[3]
- Some patients express a preference for bupropion if they have used it before or if it has been recommended by a friend.

Varenicline tartrate (Champix®)

- Varenicline tartrate is the most effective of the smoking cessation drugs.
- It has long-term quit rates of 22.5% compared with 15.7% for bupropion and 9.4% for placebo.[4]
- Varenicline tartrate has no known clinically meaningful drug interactions (for full details please see summary of product characteristics at http://emc.medicines.org.uk). The main side effect is nausea which affects about a third of patients, so warning of this before prescribing is a good idea. It often occurs as the dose goes up on days 4 and 8, usually lasts for about an hour after taking the tablet for the first two or three weeks, and is mild to moderate with 97% of patients tolerating it. Taking treatment with drink or food can help, and if it becomes difficult to tolerate then anti-emetics such as prochlorperazine can be used for a short period or the dosage may be reduced from 1 mg b.d. to 0.5 mg b.d.
- Varenicline tartrate is contraindicated in the under 18s, pregnant or lactating women and those with end-stage renal disease.

- Varenicline can be used in people with mild, moderate and severe mental illness.[5] It has very few if any clinically significant drug interactions.[6]
- The act of stopping smoking itself may alter the liver metabolism of insulin and warfarin, for example. Psychoactive medication requirements may change for the same reason, so extra monitoring is usually required in those with more serious mental health problems and with certain drugs.

References

1. Quality and Outcomes Framework Programme. NICE cost impact statement July 2011. Available at https://www.nice.org.uk/Media/Default/standards-and-indicators/qof%20indicator%20key%20documents/NM40%20cost%20statement.pdf
2. Combination therapy - NCSCT http://www.ncsct.co.uk/publication_combination_nrt_briefing.php
3. Prescribing Information for smoking cessation products available at https://www.medicines.org.uk/emc/medicine/20534 (change the searches for different products)
4. Gonzales DH *et al.* Presented at 12th SRNT, 15th-18th Feb 2006, Orlando, Florida, Abstract PA9-2
5. Anthenelli RM, Benowitz NL, West R, *et al.* Neuropsychiatric safety and efficacy of varenicline, bupropion, and nicotine patch in smokers with and without psychiatric disorders (EAGLES): a double-blind, randomised, placebo-controlled clinical trial. *Lancet* 2016;**387**:2507–20. http://dx.doi.org/10.1016/S0140-6736(16)30272-0
6. https://www.drugs.com/monograph/varenicline-tartrate.html

Manufacturers have had the opportunity to comment on the factual accuracy of the information about their product or equipment.

E-CIGARETTES

Based on the current evidence PCRS-UK supports e-cigarettes as a positive option available to support people to quit tobacco smoking.

- E-cigarettes are marketed as consumer products and are proving much more popular than NRT as a substitute and competitor for tobacco cigarettes.
- The hazard to health arising from long-term vapour inhalation from the e-cigarettes available today is unlikely to exceed 5% of the harm from smoking tobacco.
- The available evidence to date indicates that e-cigarettes are being used almost exclusively as safer alternatives to smoked tobacco, by confirmed smokers who are trying to reduce harm to themselves or others from smoking, or to quit smoking completely.
- Supported by Public Health England, RCP and RCGP


© Artur Marciniec | Dreamstime.com

References

Nicotine without smoke: Tobacco harm reduction: https://www.rcplondon.ac.uk/projects/outputs/nicotine-without-smoke-tobacco-harm-reduction-0

RCGP Position Statement on the use of non-combustible inhaled tobacco products, November 2016 http://www.rcgp.org.uk/policy/rcgp-policy-areas/e-cigarettes-non-combustible-inhaled-tobacco-products.aspx

Public Health England E Cigarettes Evidence Review https://www.gov.uk/government/news/phe-publishes-independent-expert-e-cigarettes-evidence-review

Carbon monoxide breath test monitors

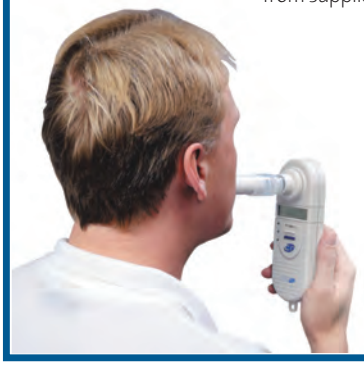
Carbon monoxide (CO) is breathed into the lungs from polluted or smoky air or from inhaling tobacco smoke. CO is absorbed into the blood from the lungs. It binds to haemoglobin in red blood cells about 200 times as readily as oxygen. It also reduces the release of oxygen. CO deprives the body of oxygen and the body needs oxygen to live.

CO monitors measure the amount of CO in the exhaled breath in CO molecules in a million parts of air (parts per million – ppm). The CO ppm reading informs how much CO is in the blood. The COHb(%) reading is the proportion of haemoglobin that is carrying CO instead of oxygen. If a CO ppm reading is 30 ppm then it means that 5% of the red blood cells are carrying CO.

Smokers can have 2–20% of their normal blood oxygen taken up by CO.

The CO breath test is simple and quick to perform with instant readings. In most cases, patients are simply required to hold their breath for 15 seconds and then blow slowly into the mouthpiece aiming to empty the lungs fully.

Devices are inexpensive and easy to maintain. All devices require maintenance, cleaning and calibration to ensure accuracy. Inexpensive consumable mouthpieces can be purchased from suppliers.



Interpreting expired air carbon monoxide (CO) readings

10ppm and over

Almost certainly smoking

A reading of 10ppm and over suggests recent exposure to a high level of CO. He/she can be a smoker (higher readings indicate heavier smoking).

- If a person says he/she does not smoke, discuss potential reasons for a high CO reading (e.g. secondhand smoking, faulty gas appliances, cannabis smoking).

Example of what to say:

- "Your CO reading is... times high than what would be safe for you. As CO is a poisonous gas, which can cause serious health problems, it is important that you stop smoking completely to improve your overall health. Once you stop smoking, CO is eliminated from your body rapidly, and help is available to increase your chance of quitting."
- "Your CO reading today is... ppm which we normally only see in smokers, as the typical readings for adult non-smokers are below 10ppm. You can get support from trained professionals and there are effective medications to help you stop smoking."
- "One of the immediate health benefits of stopping smoking is rapid decline in your CO level. If you stop smoking completely, your CO reading will return from...ppm to that of a non-smoker within a day of quitting."

5-9ppm

Possibly smoking

A reading between 5ppm and 9ppm suggests recent exposure to a moderate level of CO. He/she can be a non-smoker or a light smoker

- If a person says that he/she smokes, discuss potential reasons for a low CO reading (e.g. CO monitors can only detect smoking in the last 24 hours).

Example of what to say:

- "This reading is consistent with that of a non-smoker, which is below 10ppm in adults."
- "Your CO reading is within the normal range. As long as you do not have a single puff on a cigarette, you can maintain this low level and become a non-smoker for good."

1-4ppm

Almost certainly not smoking

A reading of 4ppm and below suggests recent exposure to a low level of CO.

Example of what to say:

- "It is normal to have a small amount of CO in your breath even if you are not a smoker. The body naturally produces CO and the air quality around you can also affect your CO readings."

Acknowledgements

The content of this flyer is composed primarily of information derived from the PCRS-UK tobacco dependency resources available at https://pcrs-uk.org/tobacco-dependency written by Dr Noel Baxter. The PCRS-UK would like to thank GlaxoSmithKline, Pfizer Ltd and Williams Medical and for the supply of images of pharmacological treatments and equipment. Interpreting expired air carbon monoxide (CO) readings chart provided with permission by NHS London Clinical Senate.

http://www.pcrs-uk.org

a natureresearch journal

npj | Primary Care Respiratory Medicine

Call for Papers

npj Primary Care Respiratory Medicine is an open access, online-only, multidisciplinary journal dedicated to publishing high-quality research in all areas of the primary care management of respiratory and respiratory-related allergic diseases. Papers published by the journal represent important advances of significance to specialists within the fields of primary care and respiratory medicine. We are particularly interested in receiving papers in relation to the following aspects of respiratory medicine, respiratory-related allergic diseases and tobacco control:

- Epidemiology
- Prevention
- Clinical care
- Service delivery and organisation of healthcare (including implementation science)
- Global health

Published in partnership with

International Primary Care Respiratory Group IPCRG

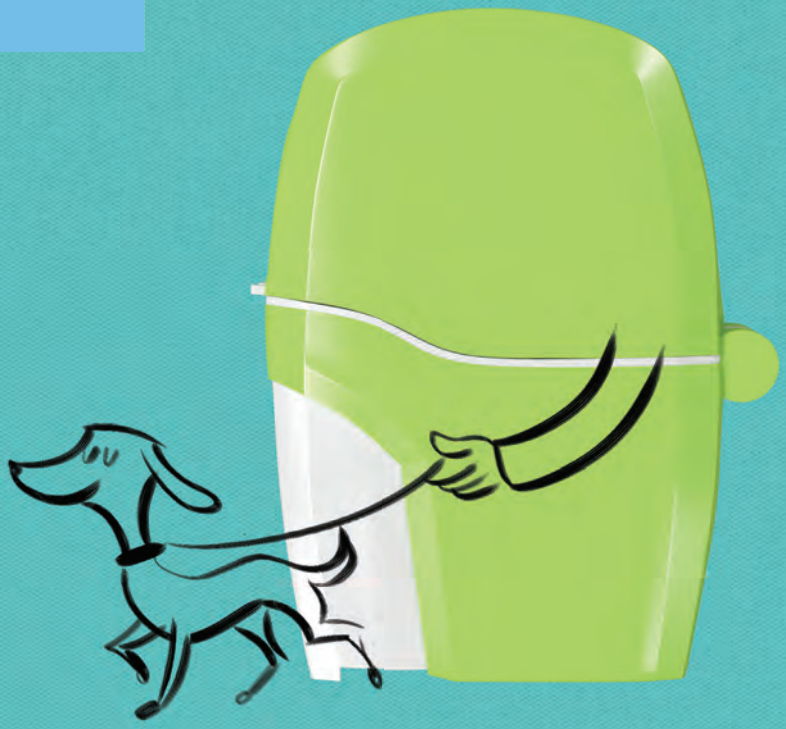
Primary Care Respiratory Society UK PCRS

All content is indexed within PubMed, PubMed Central, MEDLINE, Scopus and Web of Science

Part of the Nature Partner Journals series

npj nature partner journals

Respiratory



It's not just about tiotropium,

it's about long walks with the dog

- **Tiotropium** is a widely accepted LAMA for COPD[1]
- Ergonomic and compact inhaler with a clear capsule for visual confirmation of dose delivery to the patient[2]
- Braltus® Zonda® £25.80 *vs.* Spiriva® HandiHaler® (tiotropium bromide) refill pack £33.50 reduction in NHS spend of £7.70[3,4]

Braltus®
tiotropium

For more information about Braltus® please visit **www.braltus.co.uk**

Prescribing information

Please refer to the Summary of Product Characteristics (SmPC) for full details of Prescribing Information.

Braltus® (tiotropium bromide) Inhalation Powder Abbreviated Prescribing Information

Presentation: Delivered dose: 10 mcg of tiotropium per capsule. Each capsule contains 16 mcg of tiotropium bromide, equivalent to 13 mcg of tiotropium. **Indications:** Maintenance bronchodilator treatment to relieve symptoms in adult patients with chronic obstructive pulmonary disease (COPD). **Dosage and administration:** Inhalation use only. Must not be swallowed. Inhalation should be at the same time each day. *Adults:* Inhalation of the contents of one capsule once daily with the Zonda® inhaler. See SmPC for administration and instructions for use. *Children:* Not to be used in children or adolescents <18 years of age. *Elderly:* No special requirements. *Renal Impairment:* Mild: (creatinine clearance >50 ml/min), no special requirements. Moderate to severe: Use only if expected benefit outweighs the potential risk. *Hepatic Impairment:* No special requirements. **Contraindications:** Hypersensitivity to the active ingredient or any excipients. **Precautions and warnings:** Not to be used for the initial treatment of acute episodes of bronchospasm, i.e. rescue therapy. Immediate hypersensitivity reactions may occur. As with other inhalation therapy, paradoxical bronchospasm may occur and treatment should be immediately discontinued. Use with caution in patients with narrow-angle glaucoma, prostatic hyperplasia or bladder-neck obstruction; patients with recent myocardial infarction <6 months; unstable or life threatening cardiac arrhythmia; cardiac arrhythmia requiring intervention or a change in drug therapy in the past year; hospitalisation for heart failure (NYHA Class III or IV) within past year. Avoid getting the powder into eyes. The excipient lactose may contain trace amounts of milk proteins which may cause allergic reactions in patients with severe hypersensitivity or allergy to milk protein. **Interactions:** No formal drug interaction studies have been performed. Co-administration with other anticholinergic drugs not recommended. **Pregnancy and lactation:** Not recommended. **Effects on ability to drive and use machines:** No studies on the effects on the ability to drive and use machines have been performed. The occurrence of dizziness, blurred vision, or headache may influence the ability to drive and use machinery. **Adverse reactions:** *Serious:* Hypersensitivity reactions, anaphylactic reaction, bronchospasm, anticholinergic effects (glaucoma, constipation, intestinal obstruction including ileus paralytic as well as urinary retention), atrial fibrillation, supraventricular tachycardia, tachycardia. *Common:* Dry mouth. Consult the Summary of Product Characteristics in relation to other side effects. **Overdose:** May lead to anticholinergic signs and symptoms. **Price:** £25.80 **Legal category:** POM. **Marketing Authorisation Number:** PL 00289/1870 **Marketing Authorisation Holder:** Teva UK Limited, Brampton Road, Hampden Park, Eastbourne, BN22 9AG, United Kingdom. **Job Code:** UK/MED/18/0138. **Date of Preparation:** April 2018.

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 Teva UK Limited on 0207 540 7117 or **medinfo@tevauk.com**

References

1. Karner C et al. Cochrane Database of Systematic Reviews. 2014; 7: 1-120.
2. Teva. Data on file. Teva market testing. 2015.
3. MIMS. Available at: https://www.mims.co.uk/drugs/respiratory-system/asthma-copd/braltus. Last accessed: April 2018.
4. Braltus Prescribing Information, UK/MED/18/0138. April 2018.

Date of preparation: April 2018 Approval code: UK/BRA/18/0007a

If you have any questions or wish to request further information, please contact us as follows: email at medinfo@tevauk.com or by post at Teva UK Limited, Ridings Point, Whistler Drive, Castleford, WF10 5HX.