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THE CONTINUING PROFESSIONAL DEVELOPMENT PROGRAMME

This module is suitable for use by pharmacists as part of their continuing professional development cycle. After reading this module, complete the learning scenarios and post-test at www.pharmacymag.co.uk and include in your CPD portfolio. Previous modules in the Pharmacy Magazine CPD Programme are also available to download from the website

MODULE 181

Welcome to the one hundred and eighty first module in the *Pharmacy Magazine* Continuing Professional Development Programme, which looks at supporting patients with COPD. It is valid until October 2013.

Continuing professional development (CPD) is now a legal requirement for pharmacists. Journal-based educational programmes are an important means of keeping up-to-date with clinical and professional developments and form a significant element of your CPD. Completion of this module will contribute to the nine pieces of CPD that must be recorded a year.

Before reading the module, test your existing understanding of the topic by completing the pre-test at www.pharmacymag.co.uk. Then after studying the module in the magazine, work through the six learning scenarios and post-test on the website. Record your learning and how you applied it in practice using our new CPD report form, available online and on pviii.

Self-assess your learning needs:

- Define the main characteristics of COPD
- What are the clinical differences between COPD and asthma?
- What are the aims of the pharmacological management of COPD?
- How can exacerbations be minimised?

This module supports the following CPD competences: C1c, C2a, C2e, C3e and C4k. More details on pvii

CURRENT THINKING ON...

SUPPORTING PATIENTS WITH COPD

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Introduction

The number of people in England diagnosed with chronic obstructive pulmonary disease (COPD) in 2008 was 835,000, although around three million people are estimated to have the disease (900,000 diagnosed and two million undiagnosed). COPD accounts for over 25,000 deaths a year.

The cost to the NHS is significant – estimates range from £810m to £930m a year, mainly linked to the cost of hospital admissions and drugs. The median length of stay for a person admitted with COPD is five days (a reduction from six days in 2003) but 33 per cent of sufferers are re-admitted within the next 90 days. Despite these figures, however, the majority of treatment for COPD takes place within primary care through dealing with exacerbations, chronic disease reviews and managing co-morbidities.

Many patients who suffer from COPD will either smoke or have smoked in the past and will associate their cough symptoms with smoking. Approximately 90 per cent of COPD cases in the UK are caused by smoking tobacco. Self-blame may be an obstacle to patients seeking medical help. Another issue is that the condition will slowly creep up on a person, who will learn to live with the ever-worsening symptoms before seeking medical help, while others prefer ignorance to a diagnosis.

A diagnosis of COPD is the beginning of a lifetime of care for patients and many will feel hopeless about their future. COPD is incurable, inexorably progressive and will require increasing medical, social and psycho-emotional attention and resources as time goes on.

A COPD national strategy (formerly known as the National Service Framework for COPD) is

FOR THIS MODULE

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GOAL: To provide an update on how community pharmacists can contribute to improving patient care in chronic obstructive pulmonary disease (COPD).

OBJECTIVES: After completing this module, you should be able to:

- List the key points from the 2010 NICE guideline on COPD
- Identify patients with COPD who use your pharmacy
- List three actions you will take to improve care of COPD patients, including optimising use of medicines and addressing lifestyle issues.

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Figure 1: Key areas of the national strategy for COPD

- Prevention & identification / Finding the "missing millions"
- High-quality care and support
- End-of-life care
- Asthma
- Supporting the implementation of the strategy

expected to be published shortly to guide the NHS "in delivering COPD services more effectively, in a way that supports patient choice… tackles current inequalities… ensures that patients are able to access the services they need, where and when they want them".

The national strategy aims to improve care for people with long-standing respiratory conditions and to improve diagnosis of COPD. It has been developed by the Department of Health with the Healthcare Commission, British Lung Foundation, British Thoracic Society and Primary Care Respiratory Society UK. The key areas of the consultation on the national strategy for COPD are summarised in Figure 1 (above).

The strategy is being developed in a challenging environment where there is a need to ensure continued provision of high quality services during a period in which growth in expenditure in the NHS will be restricted despite increased demand. The NHS is being required to deliver £15-£20bn in efficiency savings over a three-year period from 2011 through the QIPP programme.

Many of the measures recommended in the strategy are designed to support the NHS in meeting the quality and productivity challenge. For COPD patients this will mean ensuring that people who already have a diagnosis of the disease have in fact been diagnosed correctly and are managed according to the most cost-effective and evidence-based interventions.

Patients who are suffering from COPD will invariably present at a community pharmacy asking for over-the-counter medication to relieve their cough or making enquiries about nicotine replacement therapy. This offers pharmacy staff their first opportunity to make an intervention to improve a sufferer's quality of life – but how can you tell if someone has COPD?

Definition of terms:
FEV_1 – Forced expiratory volume in one second
PEF – Peak expiratory flow
FVC – Forced vital capacity

Definition of COPD

COPD is characterised by the presence of airflow obstruction (defined as a FEV_1/FVC ratio of <0.7) due to chronic bronchitis or emphysema. The airflow obstruction is usually slowly progressive and predominantly caused by smoking.

The 2010 NICE guideline on COPD (Clinical Guideline 101) is a partial update of the original version published in 2004 (Clinical Guideline 12). As highlighted earlier, COPD is still a major cause of hospital admissions and effective implementation of the NICE guidelines is likely to help reduce the cost of these and decrease COPD morbidity.

There has also been increasing recognition that COPD is not just a disease of the lungs but that it has systemic effects; for example, depression and muscle wastage.

Several large-scale clinical trials published since 2004 have looked at the efficacy of pharmacotherapy in stable COPD leading to new recommendations on:

- Diagnostic and assessment criteria
- The role of various inhaled pharmacotherapies and a new algorithm for inhaled therapy
- The value of early pulmonary rehabilitation post-hospital discharge.

An increased emphasis is also placed on the fact that COPD has systemic manifestations that need a multi-dimensional approach to treatment and care, including meeting patients' emotional needs, end-of-life care and improved communication between patients and professionals involved in their care.

Diagnosis

A diagnosis of COPD should be considered in a patient aged 35 years and over who has a risk factor (e.g. smoking, occupation) and presents with one or more of the following:

- Exertional breathlessness
- Chronic cough
- Regular sputum production
- Frequent winter 'bronchitis'
- Wheeze.

Table 1: 2010 NICE guidelines grading severity of airflow obstruction

Severity	FEV_1 % predicted
Stage 1 – Mild	≥80*
Stage 2 – Moderate	50-79
Stage 3 – Severe	30-49
Stage 4 – Very severe	<30**

* Symptoms should be present to diagnose COPD in people with mild airflow obstruction
** Or FEV_1 <50% with respiratory failure

Reflection exercise 1

Review the Medicines Map for COPD on the NHS Choices website (**www.nhs.uk/pages/homepage.aspx**). Study the COPD Suspected 'tab'. What questions could you ask the next 20 adult patients presenting at your pharmacy with a productive cough to identify whether or not they may have suspected COPD?

… and does not have clinical features of asthma:

- Chronic unproductive cough
- Significantly variable breathlessness
- Night-time wakening with breathlessness and/or wheeze
- Significant diurnal or day-to-day variability of symptoms.

The diagnosis of COPD is made on the basis of the presence of characteristic symptoms (e.g. coughs, breathlessness), and signs and the demonstration of airflow obstruction on spirometry. However, post-bronchodilator spirometry is used to confirm the presence of airway obstruction but other investigations (e.g. chest X-ray) would have to be used to exclude alternative diagnoses.

It is important to distinguish COPD from other conditions that have similar symptoms. Patients who have a predicted FEV_1 ≥80 per cent and a FEV_1/FVC ratio <0.7 would formerly not have been considered as having COPD under the 2004 NICE guidelines.

There is evidence that asymptomatic patients in this group do not have an accelerated decline in health and disease status (i.e. they do not have a worse prognosis) compared to control patients without airways obstruction and therefore a diagnosis of COPD should only be made in patients with a FEV_1/FVC ratio <0.7 and FEV_1 predicted ≥80 per cent *if characteristic symptoms are present* (i.e. respiratory symptoms, breathlessness or cough).

The airflow obstruction is due to a combination of airway and parenchymal damage, resulting from chronic inflammation differing from that seen in asthma and is usually the result of tobacco smoke. It is possible for both asthma and COPD to occur together. However other factors, particularly occupational exposures, may also contribute to the development of COPD.

Table 2: Clinical differences between COPD and asthma

	COPD	Asthma
Smoker or ex-smoker	Nearly all	Possibly
Symptoms under 35 years of age	Rare	Often
Chronic productive cough	Common	Uncommon
Breathlessness	Persistent and progressive	Variable
Night-time waking with breathlessness and/or wheeze	Uncommon	Common
Significant diurnal or day-to-day variability of symptoms	Uncommon	Common

Chronic bronchitis

Chronic bronchitis is defined as the presence of chronic productive cough for three months of each of two successive years in a patient in whom other causes of chronic cough have been excluded (e.g. asthma, post-nasal discharge, gastroesophageal reflux disease).

Emphysema

Emphysema is defined as abnormal permanent enlargement of the air spaces distal to the terminal bronchioles, accompanied by destruction of their walls and without obvious fibrosis.

Asthma

Asthma is associated with reversible airflow obstruction and is a chronic inflammatory condition that produces narrowing of the airways. Patients with asthma whose airflow obstruction is completely reversible are not considered to have COPD. The obstruction in many patients with COPD may include a significant reversible component. Some patients with asthma may develop irreversible airflow obstruction indistinguishable from COPD.

Reversibility testing is not usually necessary as part of the diagnostic process (although GPs are required to do this for QOF points), but the following may help to identify asthma:

- A large FEV_1 response (>400ml) to bronchodilators or prednisolone (30mg daily for two weeks) is more strongly suggestive of asthma
- Serial PEF readings showing ≥20 per cent diurnal variation or day-to-day variability.

Features of COPD

If COPD is suspected, the clinical history of a patient will include the following factors: weight loss, effort and exercise intolerance, waking at night, swelling of the ankles, fatigue, chest pain, occupational hazards, haemoptysis, smoking history, and a history of childhood wheeze or bronchitis and atrophy.

The presenting features of COPD could be one of the following:

- Mild: morning cough, recurrent infection, dyspnoea on vigorous exertion
- Moderate: productive cough, dyspnoea on moderate exertion, infective exacerbation
- Severe: wheeze, paroxysmal dyspnoea, cor pulmonale, limitation of activities of daily living.

Traditionally, disease severity has been equated with the degree of airflow obstruction. However airflow obstruction relates poorly to disability and a more comprehensive assessment of severity should also include other known prognostic factors, such as breathlessness, assessed using the Medical Research Council dyspnoea score (see Table 3); health status; exercise capacity; body mass index; partial pressure of oxygen in arterial blood (PaO_2); cor pulmonale; and the frequency of exacerbations experienced by the patient.

What is an exacerbation?

An exacerbation is a sustained worsening of a patient's symptoms for three days or more from their usual stable state, that is beyond normal day-to-day variations and is acute in onset.

Commonly reported symptoms are: worsening breathlessness, cough, increased sputum volume and change in sputum colour, and tightening of the chest. The change in these symptoms often necessitates a change in medication.

An exacerbation may also include:

- Upper airway symptoms (e.g. colds and sore throats)
- Increased wheeze or chest tightness
- Reduced exercise tolerance
- Fluid retention
- Increased fatigue
- Acute confusion.

Management of exacerbations

In an exacerbation, the earlier treatment is started the better. The overall aims of pharmacological COPD treatment are listed in Table 4. The recommended steps for management of exacerbations are:

1. Take maximal bronchodilator therapy
2. Oral steroids (30mg prednisolone daily for seven to 14 days) if symptoms persist despite adequate bronchodilators
3. Prescribed antibiotics if sputum goes yellow or green.

It is important that patients who are at risk of having an exacerbation are encouraged to respond quickly to their symptoms by following these recommendations. Courses of antibiotic and corticosteroid tablets may be kept at home and the use of the drugs monitored.

It must be recognised that no drug used in COPD fully relieves symptoms, and that treatment needs to be reviewed regularly and polypharmacy minimised as much as possible. The clinical effectiveness of combined treatments can be assessed by improvements in symptoms, activities of daily living, exercise capacity and lung function.

Table 3: Medical Research Council dyspnoea score

Grade	Degree of breathlessness related to activities
1	Not troubled by breathlessness except on strenuous exercise
2	Short of breath when hurrying or walking up a slight hill
3	Walks slower than contemporaries on level ground because of breathlessness or has to stop for breath when walking at own pace
4	Stops for breath after walking about 100m or after a few minutes on level ground
5	Too breathless to leave the house or breathless when dressing or undressing

Table 4: Aims of pharmacological treatment of COPD

Reduce symptoms	Improve exercise tolerance
Prevent exacerbations	Improve health-related quality of life
Provide package of care that meets patients' needs	Provide treatment that minimises the risk of adverse effects
Reduce mortality	Prevent disease progression

Oral therapy

- Only use oral cortiscosteroids if COPD is advanced and use as low a dose as possible
- Only use theophylline after a trial of short- and long-acting bronchodilators or if the patient is unable to use inhaled therapy
- Consider mucolytic therapy with chronic cough productive of sputum.

Antibiotics

In acute exacerbations prompt antibiotic treatment should always be given where there is purulent sputum.

Oxygen

There are three different types of home oxygen therapy available:

- Long-term oxygen therapy (LTOT)
- Ambulatory oxygen
- Short-burst oxygen therapy (SBOT).

If a patient's breathlessness worsens it is important that he/she is assessed to confirm the cause of the breathlessness. LTOT is indicated for managing confirmed chronic hypoxaemia and should only be provided after appropriate assessment. The NICE guidelines recommend assessment by measuring arterial blood gases on two occasions at least three weeks apart. Patients would be assessed if they:

- Have confirmed, stable COPD, receiving optimum medical management
- Are experiencing very severe airflow obstruction and have other conditions including peripheral oedema, cyanosis and oxygen saturations less than or equal to 92 per cent breathing air.

If oxygen is provided for more than 15 hours per day it can prolong life in patients with persistent hypoxia in a stable condition. It is currently under-prescribed and poorly adhered to by patients despite its proven benefits. There is no evidence to support short-burst oxygen therapy (SBOT), which should not be used except in palliative care in the presence of hypoxia.

Non-pharmacological COPD management

Stopping smoking is the single most important intervention. Help to stop smoking needs to be offered at every opportunity. Pharmacotherapy should be combined with appropriate support as part of a structured programme.

Pulmonary rehabilitation

Pulmonary rehabilitation is defined by NICE as: "…a multidisciplinary programme of care for patients with chronic respiratory impairment that is individually tailored and designed to optimise the individual's physical and social performance and autonomy".

Pulmonary rehabilitation should be made available to all appropriate patients with COPD – usually those with a MRC dyspnoea score of three and above. An addition to the updated NICE guidelines stated that pulmonary rehabilitation should be considered in patients recently admitted to hospital with an exacerbation of COPD as it has been shown to reduce the risk of re-admission. After pulmonary rehabilitation patients should be able to handle breathlessness better, feel more in control of their condition and gain in self-confidence. It is not suitable for people who cannot walk, have unstable angina or who have had a recent myocardial infarction.

Most hospital chest clinics run programmes that usually last between six and 12 weeks. If you do not know where the nearest class might be, the British Lung Foundation can provide details (see Signposting). After the hospital programme has ended, a COPD patient may be referred to a local leisure centre to continue a fitness programme.

Immunisation

Many exacerbations of COPD are caused by viral and bacterial infection. Unless contraindicated, all patients with COPD should have pneumococcal and influenza immunisation.

An important improvement in the management of COPD has been a change in focus on the patient outcomes. Figure 1 *(pii)* shows the key areas of importance identified in the consultation on the national strategy for COPD.

The importance of prevention cannot be overemphasised, especially with regard to smoking tobacco. Reducing exacerbations and breathlessness and improving quality of life and exercise performance are now considered to be more appropriate patient-orientated outcomes than the effect of drug therapy on the rate of decline in FEV_1.

The community pharmacy contractual framework in England and Wales offers the pharmacy team scope to:

- Identify patients with undiagnosed COPD
- Help tackle the risk factors for COPD
- Support patients to self-manage their COPD.

Reflection exercise 2

Identify the local pulmonary rehabilitation services available in your area and record these along with contact telephone numbers and points of access in your signposting file. Download a copy of the British Lung Foundation's leaflet on pulmonary rehabilitation (**www.lunguk.org/you-and-your-lungs/diagnosis-and-treatment/pulmonary-rehabilitation.htm**). What advice can you provide to your COPD patients about safe levels of physical activity?

Table 5: Summary of COPD clinical guidelines for the management of breathlessness and exercise limitation with inhaled therapy

Inhaled short-acting beta agonists (SABA) or short-acting muscarinic antagonists (SAMA) as initial treatment for relief of breathlessness and exercise limitation.

If FEV_1 ≥50% predicted:

- And patient is receiving short-acting bronchodilator therapy but remains breathless or has exacerbations:
  Offer long-acting beta agonists (LABA) or long-acting muscarinic antagonists (LAMA); discontinue SAMA
- And patient is receiving a LABA but remains breathless or has exacerbations:
  Consider LABA and inhaled corticosteroid (ICS) in a combination inhaler
  Consider LAMA + LABA if ICS not tolerated

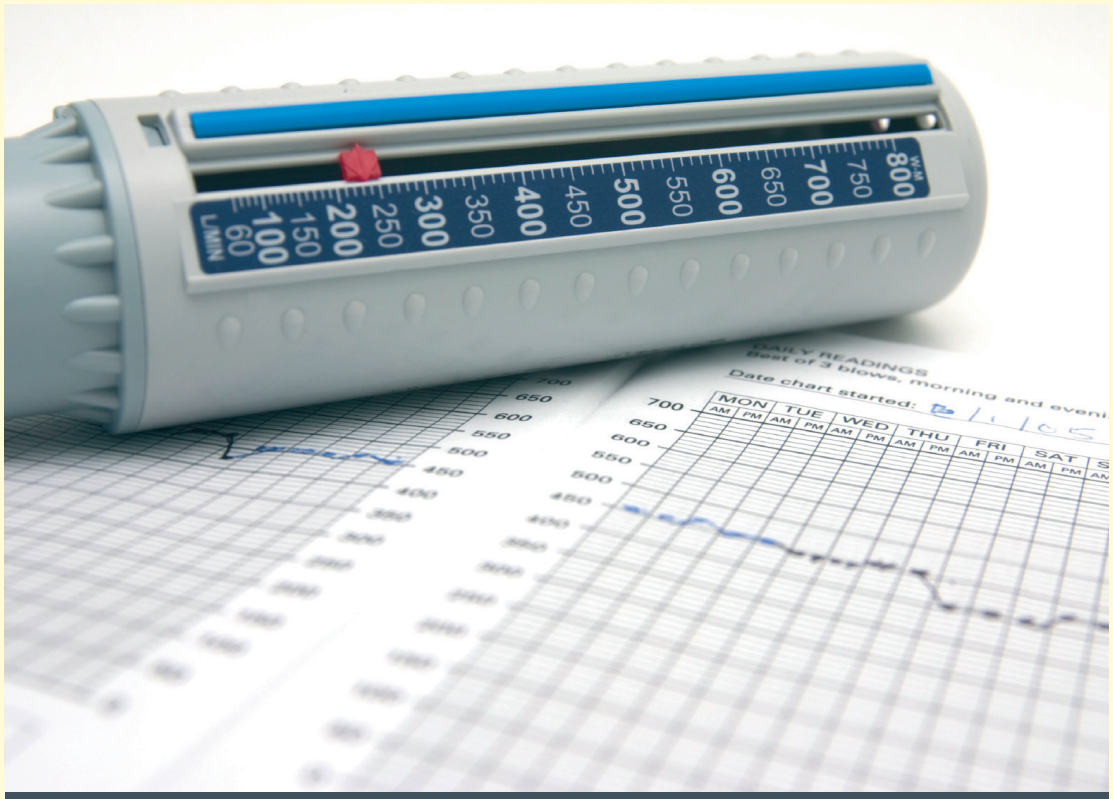
If FEV_1 ≤50% predicted:

- And patient is receiving short-acting bronchodilator therapy but remains breathless or has exacerbations:
  Offer LABA and ICS in a combination inhaler, or LAMA (discontinue SAMA)

Irrespective of FEV_1 if patient remains breathless or has exacerbations and is receiving:

LABA and ICS – consider LAMA

LAMA – consider LABA + ICS in combination inhaler



COPD is characterised by declining lung function and worsening quality of life

Essential services:

Dispensing

For COPD patients who are able to manage exacerbations at home on recognition of symptoms, a suggestion could be made to the patient's GP that short courses of antibiotics and oral steroids be added to repeat prescriptions. Ask patients if they have experienced any changing symptoms.

Repeat dispensing

The differentiation of COPD from asthma is complicated as bronchial obstruction is a common symptom of both diseases. As already mentioned, the underlying disease processes are different and require different treatment. The main differences between COPD and asthma are shown in Table 2.

Through the repeat dispensing process, a pharmacist or pharmacy technician may identify a long-term asthmatic patient collecting repeat prescriptions for inhalers or having repeated courses of antibiotics. Repeat dispensing also offers the opportunity to check that a patient is optimising treatment, and to check for progress since the last visit or if any side-effects are experienced.

Pharmacy staff should be trained to identify early signs of COPD, such as laboured breathing, frequent purchasing of OTC cough medicines, a "smoker's" or hacking cough, the collection of repeated courses of antibiotics or "smelling of cigarettes".

Another sign is the asthmatic patient complaining that the treatment is not working. If you suspect a patient has undiagnosed COPD, either advise the patient to contact his/her GP or contact the GP on the patient's behalf using a structured referral form (make sure you have an agreement with your local practices to refer patients if you feel it is necessary).

Public health and self-care

Pharmacists can run specific health promotion campaigns (including those around smoking cessation and flu vaccinations), either on an individual basis or as part of a local directed public health campaign (e.g. raising awareness of lung health). Leaflets are readily available from the British Thoracic Society and the British Lung Foundation (see Signposting), which also runs local Breathe Easy groups.

Prescription-linked interventions can be made as appropriate for those patients presenting prescriptions for COPD medicines, particularly if they are asking for OTC cough preparations or are smokers. Record the intervention and refer if appropriate.

One of the recommendations included in the National Strategy for COPD is that people with COPD should be encouraged to learn how to help manage their condition themselves and how to have positive interactions with healthcare professionals and others about their condition. Community pharmacy is ideally placed to reinforce this message when COPD patients or their representatives come into the pharmacy to pick up their prescriptions.

If your pharmacy is commissioned to provide smoking cessation support, this would be an ideal opportunity to sign the patient up to the service. If not, make sure you have information about the local Stop Smoking services and can signpost patients appropriately. For more information go to **http://smokefree.nhs.uk/what-suits-me/local-nhs-services** or call the NHS smoking helpline (0800 022 4332).

Other important messages to reinforce relate to dietary advice and information. This is particularly important for COPD patients, as losing weight through diet and exercise will make breathing easier for those who are overweight, and a balanced diet is important for keeping the immune system healthy.

Advising the patient to drink lots of fluids, especially water, will help to reduce mucus and phlegm. In addition steam inhalation or a humidifier in the patient's home can help reduce mucus and phlegm and the feeling of being 'blocked up' and unable to breathe properly.

Influenza is an exacerbation of COPD. Questions that can be asked are:

- Have you experienced an increase in phlegm from the lungs?

A typical COPD patient....

- Age over 35 years
- A smoker or ex-smoker
- Presents with cough or excessive sputum production or shortness of breath on exertion, plus wheeze
- Frequent purchases of OTC cough medicines
- No clinical features of asthma
- Frequent courses of antibiotics for chest infections
- Gradual worsening of quality of life

Reflection exercise 3

Identify typical OTC medication requested by a patient repeatedly suffering from a productive cough. Agree a pharmacy policy for the treatment of cough and when staff should refer a patient to the pharmacist for an intervention.

- Has there been a change in colour of that phlegm to yellow or green?
- Is there increased breathlessness that does not respond to medication but is related to either of the above?

A positive response to at least two of the questions indicates a probable exacerbation. This could provide a trigger for a medicines use review to:

- Ensure the patient is taking his/her medicines correctly
- Remind him/her to take any antibiotics and steroids if kept at home to treat exacerbations
- Refer back to the GP for a prescription.

Signposting

If not already provided by the local PCT as part of the community pharmacy signposting folder, it would be useful for pharmacies to hold information about local pulmonary rehabilitation programmes, chest or respiratory clinics, organisations like the British Lung Foundation and other COPD care services in the area.

It is very important for COPD patients to keep warm. Pharmacy staff can signpost patients to useful sources of information:

- The Warm Front Scheme: Tel: 0800 316 2805; **www.warmfront.co.uk**
- The winter fuel payment – for people aged over 60 years: Tel: 08459 15 15 15; text\phone: 0845 601 5613 or **www.thepensionservice.gov.uk/pensioncredit**
- Home Heat **www.homeheathelpline.org.uk**; helpline: 0800 33 66 99.

Signposting

- British Lung Foundation: www.lunguk.org/copd.asp or 020 7688 5555
- Patient helpline: 0845 850 5020
- British Thoracic Society: www.brit-thoracic.org.uk
- Respiratory Education UK: www.respiratoryeduk.com
- Patient UK (for leaflets): www.patient.co.uk

Clinical governance

It is important to ensure that patients understand all aspects of their medication and any advice or information given by you or members of your pharmacy team. One requirement of the contractual framework is that pharmacies undertake one pharmacy-based audit each year.

You could audit whether your staff have received sufficient training to be able to counsel patients on the non-pharmacological management of COPD, or that patients understand the counselling they have been given. Organisations such as the RPS offer a range of audit tools that could be applied to COPD.

Advanced Services – MURs

The goals of COPD management are to:

- Prevent progression
- Relieve symptoms
- Improve exercise tolerance
- Reduce mortality from the disease
- Improve health status
- Prevent complications.

A MUR provides an ideal opportunity for community pharmacists to identify patients who may be struggling with their COPD medication.

Patient recruitment

All patients who regularly use inhalers may benefit from a MUR. However those who may particularly benefit include patients:

- Referred by another healthcare professional
- Over-using inhalers, in particular "relievers"
- Declining dispensing of "preventer" inhalers
- Asking about inhaler technique, use of spacers and peak flow devices
- Changing formulations and inhaler types
- Returning unopened inhalers.

Hints and tips

There are a variety of practical hints and tips that can be used to check a patient's knowledge and understanding of why he/she is taking each of his/her medications:

- Compliance (does this match the PMR record?)
- Inhaler technique (e.g. using the Incheck device to check patient technique)

It is always important to check inhaler technique

- Does the patient know how to tell if the inhaler is nearly empty?
- Are the quantities supplied on the prescription approximately synchronised?
- Are there adequate instructions on the labels?
- Is the patient experiencing any side-effects?
- Does the patient regularly use any OTC medication?
- Generic prescribing can lead to a choice of devices, so it's important to know what inhaler type your patient requires and mark on the PMR
- Theophylline drugs are not bio-equivalent – the patient requires a consistent brand of medication
- Many patients suffer from anxiety and depression because of their condition. They may benefit from a referral to a GP (if you have concerns about their wellbeing) or from participation in an expert patient programme
- Find out smoking status and offer appropriate advice within the pharmacy or signpost to a local NHS service
- Make sure the patient understands the signs of an exacerbation and how to manage it.

Information to be aware of

- A short-acting bronchodilator – beta$_2$ agonist – is used when required (e.g. salbutamol,

CPD competences

This module supports the following community pharmacy competences:

Competence	Where this module supports competence development
C1c: Reviewing medication with patients to identify difficulties and potential risk (e.g. concordance issues, adverse effects, changing medication needs)	Pharmacists are encouraged to undertake MURs with COPD patients. The advanced services section of the module identifies issues that patients may have with their medication and encourages pharmacists to reflect on ways to help patients with their concordance and compliance
C2a: Providing information to promote public health and prevent disease	The module identifies the risk factors of COPD and encourages pharmacists to be more proactive in providing lifestyle advice during their contacts with patients with suspected or diagnosed COPD
C2e: Screening and testing for chronic conditions	Pharmacists are encouraged to identify patients demonstrating symptoms of mild to moderate COPD in conjunction with their local GP practices. Reflection exercise 1 encourages pharmacists to review the types of questions they could ask a small number of patients to identify whether or not they may have COPD. Reflection exercise 3 encourages a team approach to identifying people requesting OTC cough treatments who may have COPD
C3e: Providing pharmaceutical care to people with chronic conditions	COPD is a chronic condition. Pharmacists are encouraged to provide pharmaceutical care to patients with COPD, particularly through planned MURs
C4k: Signposting to other health-care or social care provision	The module identifies organisations that can support patients with COPD and encourages pharmacists to train staff in signposting patients to service providers. Reflection exercise 2 asks pharmacists to identify local organisations that can support COPD patients

terbutaline). An anticholinergic (e.g. ipratropium) is more commonly used (regularly, three to four times a day) as increased cholinergic tone of the airways is thought to be beneficial in COPD

- A combination of a short-acting beta$_2$ agonist with a short-acting anticholinergic as either individual inhalers or combined (e.g. Combivent) can be used regularly three to four times a day
- A long-acting bronchodilator – beta$_2$ agonist or anticholinergic (e.g. eformoterol, salmeterol or tiotropium) may be preferred
- In moderate or severe COPD: if still symptomatic, a combination of long-acting beta$_2$ agonist and inhaled corticosteroid is often tried, either as individual inhalers or in combination formulations (e.g. Seretide or Symbicort)

Reflection exercise 4

You are interested in providing a service to help identify people with undiagnosed COPD. How would you establish the need for such a service in your pharmacy and what data would you need to access?

- Theophylline may also be added to the therapy
- Oral steroids may be used for severe exacerbations
- Mucolytics (e.g. carbocisteine and mecysteine) ease symptoms of productive cough by reducing sputum viscosity and enabling easier clearance
- Nebuliser systems are not available on prescription. Patients should not consider purchasing or using a nebuliser without the agreement of their GP or COPD specialist. Generally nebulisers are no more effective than a spacer device plus a MDI. They require regular servicing, maintenance and replacement of disposables such as nebuliser chambers, tubing, mouthpieces and masks. The nebuliser supplier is responsible for help with maintenance and use
- Oxygen may be used to support patients with severe COPD. This is generally initiated by the specialist service
- Self-management plans should be discussed with patients having frequent exacerbations. These should include details of how to recognise an exacerbation, triggers associated with worsening COPD, when to use "rescue" courses of antibiotics and steroids, and when to contact the GP or another appropriate healthcare professional.

Concordance tips and issues

- Drug treatments are given to relieve symptoms and improve quality of life but they will not reverse the underlying lung damage
- Check inhaler technique – the elderly, in particular, may have problems with dexterity in handling and correctly using inhalers
- Give advice on the benefit and use of spacer devices where appropriate
- Oxygen service – questions about this service (e.g. holiday arrangements, replacement masks and tubing) should be directed to the local service provider
- Patients on oral steroids or high-dose inhaled steroids should be given a steroid warning card
- Patients who live on their own may need to access a pharmacy delivery service, if available, when their exacerbations are bad
- Theophyllines should be prescribed by brand name due to variance in bioavailability.

Asymptomatic patients will benefit from an annual influenza vaccine and five-yearly pneumococcal vaccination. Signpost to GP if the patient has not accepted the offer of vaccinations. Provide lifestyle advice about healthy eating and exercise. As the disease progresses, underweight patients have increased risks and may need to be referred to a dietician.

Regardless of the severity of the disease, remind people that exercise is beneficial and not dangerous. Encourage patients to exercise at their own level, to become a little short of breath but not to overstrain themselves. People who are immobile should be encouraged to do upper limb activities, such as twisting and arm stretches. The British Lung Foundation leaflet on physical activity is a useful resource.

- *Extend your CPD on this topic by referring to the following article on p35, which looks at building local enhanced services around COPD management.*

ASSESSMENT QUESTIONS

SUPPORTING PATIENTS WITH COPD

1. What spirometry reading for forced expiry volume in one second (FEV_1) would suggest mild COPD if characteristic symptoms of COPD are also present?
a. FEV_1 ≥ 80 per cent of predicted
b. FEV_1 50-79 per cent of predicted
c. FEV_1 30-49 per cent of predicted
d. FEV_1 <30 per cent of predicted

2. What scale is used to measure breathlessness with respect to activity?
a. Borg scale
b. MRC dyspnoea scale
c. Change in FVC
d. EU scale meter

3. What vaccinations should patients with COPD be encouraged to have?
a. Annual flu vaccination
b. Annual pneumococcal vaccination
c. Annual influenza vaccination and (once only) pneumococcal vaccination
d. Annual tuberculosis vaccine

4. What percentage of COPD patients are re-admitted to hospital within 90 days?
a. 13 per cent
b. 23 per cent
c. 53 per cent
d. 33 per cent

5. Which is NOT a factor in an undiagnosed COPD sufferer?
a. Early morning 'smoker's cough'
b. Blood in the sputum
c. Weight loss
d. Difficulty in breathing

6. What is the initial choice of regular pharmacotherapy for persistent symptoms despite using short-acting bronchodilators if FEV_1 is ≥ 50 per cent predicted?
a. LAMA or LABA
b. LAMA or LABA and inhaled corticosteroid (ICS) in a combination inhaler
c. Short-acting bronchodilator for relieving symptoms
d. LAMA or LABA and ICS in a combination inhaler plus oral corticosteroids

7. Which statement is TRUE? Nearly all COPD patients:
a. Have a chronic unproductive cough
b. Are smokers or ex-smokers
c. Are under 35 years of age
d. Have significant day-to-day symptom variability

8. Which grade of the MRC dyspnoea score describes being short of breath when tackling a slight hill?
a. 2
b. 3
c. 4
d. 5

PHARMACY MAGAZINE CPD RECORD – NOVEMBER 2010

USE THIS FORM TO RECORD YOUR LEARNING AND ACTION POINTS FROM THIS MODULE ON SUPPORTING PATIENTS WITH COPD OR DOWNLOAD FROM WWW.PHARMACYMAG.CO.UK AFTER COMPLETING THE ONLINE LEARNING SCENARIOS

Activity completed. (Describe what you did to increase your learning. Be specific)
(Act)

Name/date: **Time taken to complete activity:**

What did I learn that was new in terms of developing my skills, knowledge and behaviours? Have my learning objectives been met?*
(Evaluate)

How have I put this into practice? (Give an example of how you applied your learning. Why did it benefit your practice? How did your learning affect outcomes?)
(Evaluate)

Do I need to learn anything else in this area? (List your learning action points. How do you intend meeting these action points?)
(Reflect)

* If as a result of completing your evaluation you have identified another new learning objective, start a new cycle – this will enable you to start at **Reflect** and then go on to **Plan**, **Act** and **Evaluate**. This form can be photocopied to avoid having to cut this page out of the module. Complete the learning scenarios at www.pharmacymag.co.uk

MODULE 181 ANSWER SHEET

ENTER YOUR ANSWERS HERE Please mark your answers on the sheet below by placing a cross in the box next to the correct answer. Only mark one box for each question. Once you have completed the answer sheet in ink, return it to the address below together with your payment of £3.75. Clear photocopies are acceptable. **You may need to consult other information sources to answer the questions.**

1.	**a.** ☐	**2.**	**a.** ☐	**3.**	**a.** ☐	**4.**	**a.** ☐	**5.**	**a.** ☐	**6.**	**a.** ☐	**7.**	**a.** ☐	**8.**	**a.** ☐
	b. ☐		**b.** ☐		**b.** ☐		**b.** ☐		**b.** ☐		**b.** ☐		**b.** ☐		**b.** ☐
	c. ☐		**c.** ☐		**c.** ☐		**c.** ☐		**c.** ☐		**c.** ☐		**c.** ☐		**c.** ☐
	d. ☐		**d.** ☐		**d.** ☐		**d.** ☐		**d.** ☐		**d.** ☐		**d.** ☐		

Name (Mr, Mrs, Ms) _____

Business/home address _____

Town _____ **Postcode** _____ **Tel:** _____ **RPSGB/PSNI Reg no.** ☐☐☐☐☐☐☐☐

I am a PM subscriber ☐ **I confirm the form submitted is my own work (signature):** _____

Please charge my card the sum of £3.75 **Name on card** _____ ☐ **Visa** ☐ **Mastercard** ☐ **Switch/Maestro**

Card No. _____ **Start date** _____ **Expiry date** _____

Date _____ **Switch/Maestro Issue Number** _____

Processing of answers
Completed answer sheets should be sent to Precision Direct Marketing, Precision House, Bury Road, Beyton, Bury St Edmunds IP30 9PP (tel: 01284 718918; fax: 01284 718920; email: cpd@precisiondm.com), together with credit/debit card/cheque details to cover administration costs. This assessment will be marked and you will be notified of your result and sent a copy of the correct answers. The examiners' decision is final and **no additional correspondence** will be entered into.

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