

# NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

## Medical technology guidance

### SCOPE

## myCOPD for self-management of chronic obstructive pulmonary disease (COPD)

### 1 Technology

#### 1.1 *Description of the technology*

myCOPD is a digital tool to help people manage their chronic obstructive pulmonary disease (COPD). It has been designed to be used by people at any stage of their disease progression including those who are newly diagnosed with COPD, those being discharged from hospital, those at their annual review and those unable to attend class-based pulmonary rehabilitation. People can access myCOPD on any digital device such as smart phones and tablets that connect to the internet.

myCOPD is an integrated online education, self-management, symptom reporting and pulmonary rehabilitation system. It has a dashboard of self-care tools and educational resources to teach people how to take their inhalers correctly; a self-management plan to help people understand what medication to take and when; a prescription assessment function to check whether there are conflicts with prescribed medication; and a COPD assessment test to enable patients to track their symptoms to help optimise symptom control. The technology provides online tutorials on a range of topics such as smoking cessation and the role of exercise in managing their COPD. People can also access an online 6-week pulmonary rehabilitation course consisting of an incremental exercise programme with education sessions to help promote self-management of COPD.

Patients using myCOPD can allow clinicians access to their data to enable management decisions and monitoring to be done remotely. Clinicians can access and review the patient's profile including medications and the assessment reports. Clinicians are also able to suggest a change to a patient's medications such as inhaler/device prescription, and any changes are communicated automatically to patients as notifications.

myCOPD is listed on the [NHS app library](#). It is currently being reassessed following an update of the technology. The technology was supported by the innovation and technology tariff in 2017. For [the Evidence Standards Framework](#), myCOPD is classified as active monitoring and is therefore a tier 3b technology.

## **1.2 Regulatory status**

myCOPD is CE-marked as a class I medical device.

## **1.3 Relevant diseases and conditions**

COPD is a long-term respiratory condition. In the UK, an estimated 1.2 million people are living with COPD. It has also been estimated that there are over 2 million people living with COPD undiagnosed. It is the second most common lung disease in the UK after asthma and on average, 115,000 people are diagnosed with COPD each year. Most people are not diagnosed until they are 50 years of age or older. It is more common in men than in women ([British Lung Foundation 2019](#)).

Typical COPD symptoms include breathlessness when active, a persistent cough and frequent chest infections. Without treatment, the symptoms are likely to gradually get worse. Some patients may periodically experience sudden and acute worsening of symptoms known as exacerbations which may be triggered by infection. Optimal treatment can help control symptoms, slow the progression of the disease and prevent exacerbations, but the condition is not curable.

In the UK, it is estimated that 1.4 million GP consultations are related to COPD each year. It is the second most common cause of emergency admissions with an estimated 1 in 8 emergency hospital admissions for COPD in the UK. COPD also accounts for approximately 30,000 deaths every year in the UK ([NICE Clinical Knowledge Summaries, 2019](#)). People with COPD are more likely to experience worse psychological functioning and greater psychological distress compared with people with other chronic diseases ([Dury 2016](#)). Anxiety and depression are common comorbidities in patients with COPD, having a negative effect on mortality, exacerbation rates and length of hospital stay ([Pumar et al. 2014](#)).

## **1.4 Current management**

The majority of people (90%) with COPD live at home and their management is likely to be shared between healthcare professionals in primary and secondary care ([NICE guideline on COPD, 2010](#)). Most people with mild and moderate symptoms and those who are not experiencing frequent exacerbations will be managed predominately in primary care. People with severe COPD are likely to have frequent exacerbations leading to hospital admissions.

The NICE guideline for [chronic obstructive pulmonary disease over 16s: diagnosis and management](#) provides recommendations on the management of stable COPD covering smoking cessation, inhaled therapy, oral therapy, oxygen therapy, pulmonary rehabilitation and managing pulmonary hypertension. A recent update of the guideline focuses on monitoring, education and self-management. All people with COPD should be followed up, the frequency of which depends on the severity of symptoms. Follow-up visits should review the need for referral to specialist care, smoking status, symptom control, presence of complications, effects of medication and inhaler technique. The guideline notes that most people with COPD can develop adequate inhaler technique if they are given training.

The NICE guideline recommends the development of an individualised self-management plan to include education and an action plan for managing the risk of exacerbations including a cognitive behavioural component being considered in the self-management plan to help those who feel frightened when experiencing symptoms of breathlessness. For some people with COPD such as those who are functionally breathless or those who have had a recent hospitalisation because of an acute exacerbation, pulmonary rehabilitation is recommended to help better manage symptoms and improve exercise capacity and quality of life.

### **1.5 Claimed benefits**

The benefits to people using myCOPD claimed by the company are:

- Improvement in self-management of COPD symptoms
- Increased quality of life
- Enabling shared care between primary care and secondary care

The benefits to the healthcare system claimed by the company are:

- Reduction in emergency admissions
- Increased efficiency in patient management
- Improvement in coordination of patient care or services

## 2 Statement of the decision problem

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| Population  | People with a diagnosis of COPD   |
| Intervention  | myCOPD as an add-on intervention to standard care   |
| Comparator(s)   | Standard care without MyCOPD as an add-on intervention  |
| Outcomes  | <p>The outcome measures should include:</p> <ul style="list-style-type: none"> <li>• COPD symptoms assessment (COPD assessment test [CAT] score)</li> <li>• Rates of acute exacerbation</li> <li>• Rates of hospital admissions, readmissions or emergency admissions</li> <li>• Number of consultations with healthcare professionals in primary and secondary care</li> <li>• Rates of inhaler error</li> <li>• Compliance (adherence) to the use of myCOPD including pulmonary rehabilitation (rate of course completed), education, inhaler technique improvement and exercise.</li> <li>• Health-related quality of life</li> <li>• Patient activation measurement</li> <li>• Self-efficacy for appropriate medication use</li> <li>• Walking test (a 6-minute walking test)</li> <li>• Device-related adverse events</li> </ul> |
| Cost analysis   | <p>Costs will be considered from an NHS and personal social services perspective.</p> <p>The time horizon for the cost analysis will be sufficiently long to reflect any differences in costs and consequences between the technologies being compared.</p> <p>Sensitivity analysis will be undertaken to address uncertainties in the model parameters, which will include scenarios in which different numbers and combinations of devices are needed.</p>  |
| Subgroups to be considered                                  | <ul style="list-style-type: none"> <li>• Severity of COPD (mild, moderate or severe COPD)</li> <li>• Time since COPD diagnosis</li> </ul>   |
| Special considerations, including those related to equality | <p>myCOPD is only accessible to people who have access to and are able to use devices that connect to the internet. Digital technologies such as myCOPD may be unsuitable for people with visual or cognitive impairment, problems with manual dexterity or learning disabilities. People who are unable to read or understand health related text, including those unable to read English, may not be suitable for using the technology. Disability and race are protected characteristics under the Equality Act. COPD is linked with deprivation and is more common in the most deprived communities. Access to electronic devices, access to the internet and user engagement with the technology may be more difficult for the people in</p>   |

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|  | deprived communities. COPD is most common in people over 50 years. Men tend to be at higher risk than women. Age and sex are protected characteristics under the Equality Act.  |    |
| Special considerations, specifically related to equality | Are there any people with a protected characteristic for whom this device has a particularly disadvantageous impact or for whom this device will have a disproportionate impact on daily living, compared with people without that protected characteristics? | No |
|  | Are there any changes that need to be considered in the scope to eliminate unlawful discrimination and to promote equality?   | No |
|  | Is there anything specific that needs to be done now to ensure MTAC will have relevant information to consider equality issues when developing guidance?  | No |
| Any other special considerations                         | Not applicable  |    |

### **3 Related NICE guidance**

#### **Published**

- NICE guideline 115: [Chronic obstructive pulmonary disease in over 16s: diagnosis and management](#).

### **4 External organisations**

#### **4.1 Professional organisations**

The following societies have been alerted to the availability of the draft scope for comment:

- Royal College of General Practitioners
- Royal College of Nursing
- Royal College of Physicians
- Primary Care Respiratory Society
- British Thoracic Society
- British Lung Foundation
- National Association of Primary care
- British Association of Emergency Medicine
- British Society for Genetic Medicine
- Association of Respiratory Nurse Specialists
- Community Practitioners' & Health Visitors Association
- Infection Prevention Society
- The Association for Respiratory Technology and Physiology (UK)

## **4.2 Patient organisations**

NICE's Public Involvement Programme contacted the following organisations for patient commentary and alerted them to the availability of the draft scope for comment:

- British Lung Foundation
- The Breathing Charity