Service Specification for Pulmonary Rehabilitation

DRAFT DATED  26 September 2011
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User Note Specification Use

This specification has been designed to assist commissioners in the delivery of services for Pulmonary Rehabilitation. The text within square brackets [    ] should be completed by the commissioner in order to capture local needs and to help inform bespoke responses from the Provider(s).

The specification is not mandatory and the commissioner should review it all to ensure that it meets local needs and, once agreed with the Provider, it should form part of a re-negotiated contract or form the relevant section of the NHS Standard Contract.
**Key Outcomes**

The expected high-level outcomes of the service are:

- To promote and embed pulmonary rehabilitation as an essential component in the management of patients with COPD and other chronic respiratory conditions.
- Improved understanding of which patients will benefit and should be referred to pulmonary rehabilitation.
- Improved access to pulmonary rehabilitation for eligible patients.
- Improved completion rates from pulmonary rehabilitation for eligible patients.
- Provision of a cost-effective, quality assured pulmonary rehabilitation programme that meets the patient’s personal needs.
- Improve patient’s confidence in the self-management of their condition, resulting in appropriate use of other health care resources.
- Improved patients’ health-related quality of life, breathlessness management, functional and maximum exercise capacity and thus reduce disability and handicap associated with chronic respiratory disease.
- Users of the service have a positive experience.
B Purpose of the Service

B1 National and Local Context
Pulmonary rehabilitation is widely used for patients with a variety of chronic respiratory conditions who have disabling breathlessness. There is the greatest evidence of benefit to patients with moderate to severe Chronic Obstructive Pulmonary Disease (COPD). It can be defined as an individualised multidisciplinary programme of care, the principal twin components of which are standardised exercise (as per ATS/ERS statement 2006) and comprehensive education. It is designed to prevent or slow functional decline and improve physical ability and allow the patient to cope/self manage their disease more effectively by improving self confidence and knowledge of their disease and its self-management.

Nearly 900,000 people in the UK have been diagnosed as having COPD and twice as many are again thought to be living with COPD undiagnosed. Pulmonary rehabilitation should be an essential option available within a wider comprehensive respiratory pathway. There is sound evidence on the benefits of pulmonary rehabilitation (NICE COPD Guidelines and Department of Health Outcomes Strategy) and emerging evidence that pulmonary rehabilitation may make an impact on secondary care health utilisation (Cochrane review 2010 and Seymour 2010).

B2 Aims and Objectives
The overall aim of the pulmonary rehabilitation service is to provide all eligible patients with a service that meets their needs and achieves the target outcomes.

The objectives of the service are:

- To make pulmonary rehabilitation accessible to all individuals with chronic lung conditions.
- To make pulmonary rehabilitation accessible to patients who have had a recent hospitalisation for an acute exacerbation.
- To provide quality assured, multi-component (exercise and education), multidisciplinary pulmonary rehabilitation programmes tailored to meet the patient’s individual needs.

Outcomes strategy for people with chronic obstructive pulmonary disease (COPD) and asthma in England – Department of Health July 2011
To agree practical and achievable goals with the patient and facilitate attainment of them.

To hold and maintain an up to date, comprehensive database of service provision and clinical outcomes, within the context of the service and the wider integrated respiratory pathway objectives.

To report annually the outcomes of the service and to monitor and audit outcomes on a regular basis in order to determine service improvements.

C. Scope

C1 Patients
A pulmonary rehabilitation service is designed to meet the needs of key patient populations with chronic respiratory disorders. Pulmonary rehabilitation shall be offered to:

1. All patients who consider themselves functionally disabled by breathlessness (usually MRC Grade 3 or above).
2. Patients with MRC 2 who are symptomatic and disabled by their condition, and who require a health care professional assessment and supervision of exercise training, rather than simple advice on lifestyle changes. Not universally to everyone with MRC Grade 2.
3. Patients with a confirmed diagnosis of COPD and other chronic progressive lung conditions (e.g. bronchiectasis, interstitial lung disease, chronic asthma and chest wall disease and also patients pre and post thoracic surgery including lung transplant).
4. Patients who have either recently had an exacerbation of COPD requiring a hospital admission or whose functional baseline has significantly altered and is not following the expected recovery path

2 MRC dyspnoea Grade 3: “walk slower than people of the same age on the level because of breathlessness, or I have to stop for breath when walking at my own pace on the level”
5. An accompanying carer should be encouraged to observe the exercise component and participate in the education sessions, where possible, unless a given session is specifically orientated for the patient only.

C2 Exclusion criteria

- Significant unstable cardiac or other disease that would make pulmonary rehabilitation exercise unsafe or prevent programme participation (ATS ERS and PCRS (formerly known as GPIAG)).

- Patients who are unable to walk (NICE GUIDELINES PG 283 R4) or whose ability to walk safely and independently is significantly impaired due to non-respiratory related conditions. This should not exclude patients who have general musculo-skeletal problems where exercise is recommended.

- Patients unable to participate in a group environment or for whom group sessions are not suitable e.g. extreme frailty, sight or balance impairment), or for whom mental health, cognitive, personality or other communication barriers, that make group work inappropriate. These patients may require a modified approach (see paragraph D below).

C3 Equity of access to services, venues and operational hours

[Describe the Commissioner’s requirements for ensuring that its services are accessible to all, regardless of age, disability, race, culture, religious belief, gender or sexual orientation, or income levels, and deals sensitively with all service users and potential service users and their family/friends and advocates. This needs to reflect The Equalities Act 2010. Commissioners are advised that they may, depending on existing local services & resources, have to commission appropriate venues and transport services separately. Language services may also be required in order to assist with translation requirements where patients do not speak English. The general points listed below will apply in all cases.]

- The venue will need to be suitable and easily accessible to patients in view of choice of locality, and have adequate parking and good public transport links.

- The programmes shall be delivered at a suitable time and in easily accessible buildings (not restricted to medical buildings) for patients including provision for people with disabilities.

- Special consideration should be given to those patients who are most limited by their breathlessness (i.e. MRC 5 – housebound) with regards to the provision of transport
• Special consideration may need to be paid to the provision of pulmonary rehabilitation to accommodate race, language and gender issues and for those still working as far as reasonable practicality allows.

• A risk and suitability assessment of the venue must be undertaken.

• The Provider should be flexible and be able to increase availability in periods of high referral rates and/or waiting times, and reduce availability in slower months (for example in mid-summer and mid-winter) as appropriate.

C4 Referral sources
The Provider can receive referrals from a broad range of sources that have made an accurate COPD or other chronic respiratory condition diagnosis, which include but are not limited to, organisations in the following settings:

• Primary Care
• Intermediate Care
• Secondary Care
• Tertiary Care
• Others (for example: Occupational health, private health, self referral by patients who carry an accurate diagnosis.)

C5 Interdependencies with other services
• Pulmonary Rehabilitation is part of a wider respiratory pathway, which should be a fluid system where the patients can be within several aspects of the pathway at the same time as undergoing Pulmonary Rehabilitation. Thus enabling motivation, support and encouragement throughout, and provide the ability to act promptly in the presence of deterioration to slot the patients into Pulmonary Rehabilitation again without losing any momentum.

• Pulmonary rehabilitation is an important element of the long-term management of chronic respiratory conditions and as such will work closely with primary, secondary and intermediate care providers including diagnostic services, specialist and non-specialist community teams, social care, hospital discharge (including early) and hospital at home schemes, oxygen assessment services, palliative care/acute care service providers and the third sector e.g.: British Lung Foundation.
Pulmonary rehabilitation as part of a wider integrated respiratory pathway involving community services and secondary care services will optimise the referral and completion of patients within the system.

[Also describe here any relationships between the service and other Providers of health and other services in which a relationship of ‘dependency’ exists. This may include but not be limited to specialist community delivered respiratory services e.g.: hospital at home, oxygen services, cardiac services, social care, smoking cessation services and pharmacists.]

**D  Service Delivery Pulmonary Rehabilitation Pathway**

This specification is primarily to assist commissioners with routine programmed pulmonary rehabilitation provided in a group setting in an out-patient environment, either based in the community or in secondary care locations. However modified pulmonary rehabilitation in the form of individualised intervention or rapid access post hospitalisation for an acute exacerbation of COPD, should be encouraged as far as possible. Modified service models should follow local negotiation and all service models should be carried out in accordance with the same principles and standards.

Although pulmonary rehabilitation can be commissioned separately it should be part of a wider integrated respiratory care pathway with shared outcomes.

The pulmonary rehabilitation patient group has a variety of often complex needs. Patients invariably decline or drop out of PR programmes for a wide variety of reasons including illness, bad weather and transport issues and commissioners must recognise that this is not always because the service is performing poorly or unsatisfactorily.

Commissioners should also recognise that an evidence base for PR has been established principally on one standard model. Patient populations in the randomised control trials of PR are motivated and agreed to participate. They are not representative and could exclude a large percentage of those who would be suitable leaving gaps in our knowledge of the real world, where motivation and acceptance are often difficult to establish and maintain. Commissioners do therefore need to monitor uptake, dropout and completion and encourage providers to adapt their programme to improve uptake and completion rates on a continuous improvement basis.

At the same time they should not rely on a one size fits all approach and need to encourage innovation and new ideas and approaches to provide a greater range of choice as evidence emerges of benefit as far as possible and practicable. Patients need choice and emerging evidence of alternative models should help to facilitate this.
The purpose of this document is to set out the principal requirements and characteristics which are expected of an integrated pulmonary rehabilitation service. NICE and the Outcomes Strategy set clear national standards for NHS services and treatments which the Provider is required to follow. These include the new NICE quality standard on COPD.

The stages are set out below, including the key deliverables and associated indicators at each stage. The stages are:

Stage 0 – Identify and refer patient
Stage 1 – Manage referral and recruit patient
Stage 2 – Assess patient for pulmonary rehabilitation
Stage 3 – Deliver a comprehensive pulmonary rehabilitation programme
Stage 4 – Final Assessment and discharge

Stages 1 to 4 reflect core stages in the pulmonary rehabilitation pathway. Stage 0 is included in the service specification to confirm the obligations to be placed on the Stage 0 Referrer by the Commissioner. This is important since Stage 0 contains the prerequisites that should be in place for stages 1 to 4 to be effective.

The summary requirements for each stage are set out below and the detailed deliverables for each stage are set out in the Appendices.

Stage 0 – Identify and refer patient

Overview

1 Pulmonary rehabilitation should be a component of the overall management of all patients officially diagnosed with COPD and other chronic respiratory conditions resulting in disabling breathlessness.

2 Prior to referral all eligible patients should be on optimal medical management for their disease severity and symptomatic control (NB: This

3 http://www.nice.org.uk/guidance/qualitystandards/chronicobstructivepulmonarydisease/pulmonaryrehabilitation.jsp
does not imply maximal).

3 Clinicians should actively engage in shared decision-making with the patient to increase the likelihood of uptake of assessment.

4 All referring clinicians should be enthusiastic and promote the benefits and overall health gains of attending pulmonary rehabilitation.

5 At the time of referral, patients should be given a full explanation of pulmonary rehabilitation and its benefits and details of the local service in the most appropriate way(s).

6 At this vital stage, patients need to agree to the referral and the importance of attending the programme in its entirety.

7 The Provider shall also discuss the patient’s prognosis at this stage, especially patients who have interstitial lung disease.

8 The process and deliverables for Stage 0 are set out in Appendix A.

<table>
<thead>
<tr>
<th>Performance Indicators</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>All patients with MRC 3-5 (and those with significant disability at MRC 2 or who have admitted to hospital for an exacerbation of COPD) are identified, and eligible patients referred to pulmonary rehabilitation.</td>
<td>Improved access to pulmonary rehabilitation for eligible patients.</td>
</tr>
<tr>
<td></td>
<td>Improved completion rates from pulmonary rehabilitation for eligible patients.</td>
</tr>
<tr>
<td></td>
<td>Users of the service have a positive experience.</td>
</tr>
</tbody>
</table>

**Stage 1 – Manage Referral and Recruit Patient**

<table>
<thead>
<tr>
<th>Overview</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 The Provider should process the referral and offer eligible patients a place on a programme within 10 weeks of initial referral. Adequate administrative support is required by personnel other than clinicians.</td>
</tr>
</tbody>
</table>

2 Patients who are unable to attend through personal or medical reasons should only be re-offered a place on [one] [two] “further occasion(s). If they cannot attend again, they are required to be re-referred, as their medical or motivational issues may need to be addressed.

3 The process and deliverables for Stage 1 are set out in Appendix B.

<table>
<thead>
<tr>
<th>Performance Indicators</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>All eligible PR patients are offered pulmonary rehabilitation</td>
<td>•</td>
</tr>
<tr>
<td>[85]% of eligible patients have an agreed assessment date booked</td>
<td>•</td>
</tr>
</tbody>
</table>

**Stage 2 – Assess Patient for Pulmonary Rehabilitation**

**Overview**

1 Each patient attends a comprehensive assessment, by a specialist(s) in chronic respiratory care where they participate in a review of their general health, respiratory condition and its medical management. This may result in recommendations to the referrer to either optimise treatment or conduct further investigations or refer to a more appropriate service prior to proceeding onto the programme.

2 Standards for pulmonary rehabilitation assessment should be followed – especially surrounding exercise capacity testing, and questionnaire choice (e.g. quality of life). The individual needs of the patient should be identified at the assessment, and a pulmonary rehabilitation programme should be tailored accordingly.

<table>
<thead>
<tr>
<th>Performance Indicators</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>[85]% of all eligible patients booked for their assessment for pulmonary rehabilitation attends their appointment.</td>
<td>• To improve access to pulmonary rehabilitation for eligible patients.</td>
</tr>
<tr>
<td>[100]% of all eligible patients has their personal assessment performed.</td>
<td>• To establish and document base line levels of health status and disability</td>
</tr>
<tr>
<td>[95]% of patients who attend their PR assessment have a baseline assessment</td>
<td>• To ensure that users of the service have a positive experience.</td>
</tr>
</tbody>
</table>

5 Whether one or two further offers is to be decided locally.
Stage 3 – Deliver a comprehensive Pulmonary Rehabilitation Programme

Overview

1. Delivery of Pulmonary Rehabilitation consists of:
   - Programme style – Rolling / Cohort / Combination – recommended minimum 6 weeks (2 supervised sessions per week with additional home training as recommended by current guidelines)
   - Programme content – Exercise (prescription, training and progression) & Education
   - Goal evaluation throughout
   - Delivered by a team experienced in chronic respiratory disease
   - Delivered by a team experienced in exercise prescription and training

2. The process and deliverables for Stage 3 are set out in Appendix D.

<table>
<thead>
<tr>
<th>Performance indicators</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>[90]% of patients are satisfied with PR Programme</td>
<td>To provide a quality assured pulmonary rehabilitation programme that meets the patient's personal needs.</td>
</tr>
<tr>
<td>100% of patients have a personalised exercise plan showing appropriate progression</td>
<td>To offer programmes that are multi-component, multidisciplinary and tailored to the patient's needs.</td>
</tr>
<tr>
<td>100% of exercise sessions are supervised by a professional experienced in the management of pulmonary conditions and trained in the prescription and delivery of aerobic and strength exercise training, with suitable expertise to adapt exercises for co-morbidities and breathlessness</td>
<td>To include education and self-management skills for people with COPD and their carers.</td>
</tr>
<tr>
<td>100% of programmes should demonstrate an educational programme delivered by a variety of personnel (clinical or other) who are experienced in the topics delivered to patients with chronic respiratory care</td>
<td>To improve aerobic fitness, muscle strength and joint flexibility</td>
</tr>
<tr>
<td></td>
<td>To establish and record each patient's attendance record</td>
</tr>
</tbody>
</table>
Stage 4 – Final Assessment and discharge

**Overview**

1. Final assessment is important to establish effectiveness of the programme in achieving individual goals, physical performance, self-confidence and disease impact on quality of life.

2. Standards for pulmonary rehabilitation re-assessment should be followed – especially surrounding exercise capacity testing, and questionnaire choice (e.g. quality of life).

3. Patient and carer satisfaction and comments should be obtained.

4. Patients should be encouraged and given advice on how to continue exercise and health maintenance.

5. Patients should be signposted to available services complementary to pulmonary rehabilitation in order to continue exercise and maintain the benefits gained by pulmonary rehabilitation.

6. Patients if required should continue within the integrated respiratory pathway throughout their time in pulmonary rehabilitation.

7. Patients could be re-referred after 12 months if either functional status declines, or at any time, if a hospital admission for an exacerbation of their respiratory condition occurs.

8. Results on process outcomes and individual outcomes including attendance and completion records should be disseminated to stakeholders as appropriate.

9. The process and deliverables for Stage 4 are set out in Appendix E.

<table>
<thead>
<tr>
<th>Performance Indicators</th>
<th>Outcomes – short term</th>
</tr>
</thead>
</table>

Pulmonary Rehabilitation Service Specification V_026 26 September 2011.doc
- [75%] of all eligible referred patients complete the PR Programme
- Completion means that the patient has attended at a minimum [X]% of sessions (this is to be agreed locally 75% minimum is recommended)
- [ ]% of patients who are satisfied with the service
- 100% of patients are offered advice on maintaining the effects of the pulmonary rehabilitation programme
- 100% of patients are offered advice on options for maintenance/follow on and alternative activities to maintain functional status and improving fitness
- 100% of patients who completed the programme have completion letters
- 100% of patient outcomes are communicated back to initial referrer within one month.

<table>
<thead>
<tr>
<th>Aggregate Pulmonary Rehabilitation Programme Outcome Measures:</th>
</tr>
</thead>
<tbody>
<tr>
<td>In order to demonstrate the overall quality assurance and effectiveness of the Pulmonary Rehabilitation Programme the Provider is required to demonstrate improvement on an aggregate basis to the short term intervention outcomes as set out above (using validated measures or questionnaires in each case), in at least [X] % of patients who complete the Programme. (this is to be agreed locally, 50% is the minimum recommended benchmark).</td>
</tr>
<tr>
<td>The Provider is invited to submit proposals on how best to record and monitor the long term outcomes of the Pulmonary Rehabilitation Service.</td>
</tr>
</tbody>
</table>

**Review and Audit**

The Provider agrees to allow the [Commissioners]:

- to review and audit the provision of the Service at least annually and to provide a summary of the overall results and its performance of the Service to confirm compliance with the Indicators; and
• to have reasonable rights of audit and access to any of the Provider’s premises, personnel, the Provider’s systems, sub-contractors and their facilities and premises and the relevant records (including the right to copy) and other reasonable support as the [Commissioner] may require whilst the Service is being provided [and for twenty four (24) months following the end of [the Contract] in order to verify any aspect of the Service or Provider’s performance.

**APPENDIX A Stage 0 – Identify and refer patient**

<table>
<thead>
<tr>
<th>Stage 0 Process [Deliverables]</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stage 0.1</strong></td>
</tr>
<tr>
<td>The Stage 0 Provider(s) shall identify patients eligible for pulmonary rehabilitation which shall include:</td>
</tr>
<tr>
<td>• Patients who consider themselves functionally disabled by breathlessness MRC Grade 3 or above</td>
</tr>
<tr>
<td>• Patients with MRC 2 who are disabled by their condition,</td>
</tr>
<tr>
<td>• Patients who have been discharged from hospital following an exacerbation of COPD</td>
</tr>
<tr>
<td>• Patients with chronic progressive lung conditions (such as bronchiectasis, interstitial lung disease, chronic asthma and chest wall disease and also patients pre and post thoracic surgery including lung transplant).</td>
</tr>
<tr>
<td><strong>Stage 0.2</strong></td>
</tr>
<tr>
<td>All patients must have a clear diagnosis, a record of recent quality assured diagnostic spirometry and their MRC score at time of referral. This information should be included in the referral information to the PR Provider.</td>
</tr>
<tr>
<td>Patients who are referred for pulmonary rehabilitation should have had an appropriate assessment to ensure that the rehabilitation team can consider their suitability and eligibility.</td>
</tr>
<tr>
<td><strong>Stage 0.3</strong></td>
</tr>
</tbody>
</table>
| The Stage 0 Provider shall ensure that patients are aware of the benefits of pulmonary rehabilitation and the level of commitment required in order to realise substantive benefits. The Provider should use all efforts to encourage patients to overcome their fears and they must be able to describe the benefits of pulmonary rehabilitation to the patients in order to maximise uptake of pulmonary rehabilitation. Clinicians should actively engage in shared decision-making with the patient to increase the likelihood of uptake of
Pulmonary Rehabilitation should be discussed at every clinical contact with eligible patients by all healthcare professionals involved in their care – to maximise the message that Pulmonary Rehabilitation is an essential part of the management of their condition and the route to maximise individuals’ potential.

The Stage 0 Provider shall inform the patient and carers of the need for an initial assessment and the duration of the local program.

Stage 0.4

The Stage 0 Provider shall:

- Provide the patient with written information about pulmonary rehabilitation including the local service to which they will be referred; and
- Refer all eligible patients to the pulmonary rehabilitation service Provider(s) as soon as the patient has confirmed their willingness to be referred.
- The Stage 0 Provider(s) shall transmit all referrals and referral information to the Pulmonary Rehabilitation Service Provider(s) via email, fax or letter.

APPENDIX B Stage 1 - Manage referral and recruit patient

Stage 1 Deliverables

Stage 1.1 Receive patient referral

- The PR Provider shall send an acknowledgement confirming receipt of the referral to the patient and the referrer with either confirmation of acceptance and an indication of waiting time or rejection of the referral.

Stage 1.2 Contact and invite eligible patients to assessment for pulmonary rehabilitation

- The Provider shall send patients an offer in writing of an assessment date with a request to accept or decline.
• If no contact has been received from the patient regarding the assessment date, the Provider will attempt to contact the patient by phone on [ ] further occasions.

• Patients should be advised that they can bring a carer to the assessment and the provider shall encourage a carer to attend (with the patient’s consent) to observe the exercise component and participate in the education sessions, unless the session is specifically orientated for the patient only.

• Patients should be provided with a clear explanation of what the assessment will involve

• The Provider shall record the date of the proposed assessment.

• The Provider shall record the number of patients willing and ready for assessment and those not willing and/or not ready for assessment and give brief details.

Stage 1.3 Re-offer pulmonary rehabilitation assessment date

• The Provider shall offer a second assessment date to patients who are unable to accept the first offer.

• The Provider shall ensure that when a patient accepts a second assessment date, that acceptance is recorded.

• The Provider shall make a record of when the patient confirms that he/she is not willing to accept the second assessment date.

• If the patient is not willing to accept either the first or any subsequent offer⁶, they will be referred back to the primary care service provider. The Provider shall record the onward referral of non-willing patients to the primary care service provider.

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⁶ Subject to a maximum of 3 as agreed locally.
**APPENDIX C Stage 2 - Assessment of Patient’s Suitability for Pulmonary Rehabilitation**

<table>
<thead>
<tr>
<th>Stage 2 Deliverables</th>
</tr>
</thead>
<tbody>
<tr>
<td>The PR Provider shall use the information provided by the referrer to form part of the risk assessment. This must include:</td>
</tr>
<tr>
<td>- diagnosis</td>
</tr>
<tr>
<td>- recent spirometry</td>
</tr>
<tr>
<td>- relevant medical history including co-morbidities</td>
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<tr>
<td>- MRC dyspnoea score</td>
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<tr>
<td>- oxygen saturation if available</td>
</tr>
<tr>
<td>- clinical tests if recent, relevant and available e.g. blood culture or arterial blood gas results</td>
</tr>
<tr>
<td>- drug management</td>
</tr>
</tbody>
</table>

In addition the PR Provider shall consider the following elements, which may impact upon the time, location or booking process required to enable the patient to attend the appointment:

- special mobility needs
- special access needs,
- any oxygen requirements identified
- literacy needs
- vision or hearing needs, e.g. large print communication and educational material

The PR Provider shall undertake an individual comprehensive assessment based on all the information provided and the face to face assessment including:

- comprehensive medical review of patient to include respiratory history, exacerbations, hospital admissions, and all major co-morbidities,
- current drug management
- social circumstances
- smoking status and onward referral to smoking cessation services
- MRC dyspnoea score review
- assessment of exercise capacity with correct number of repeat tests to achieve validity (6 minute walk tests or shuttle walk tests) with measures of oxygen saturation and breathlessness
- assessment of peripheral muscle strength
• assessment of quality of life, anxiety and depression using (a) validated measure(s)
• assessment of functional status using a validated measure
• base line observations – heart rate, blood pressure, height, weight,
• nutritional assessment (including BMI)
• oxygen requirements – if further assessment identified, to be referred on to appropriate services
• screen to identify those at potential risk of drop out – e.g. where there are musculoskeletal, motivation and/or medication issues
• literacy, language and cultural needs
• education needs (Lung information questionnaire).

• The PR Provider shall refer any medical issues identified at the assessment that need addressing prior to starting the programme back to primary care or secondary care as necessary

• The PR Provider shall refer any other issues identified at the assessment that need addressing, onto the appropriate services

• The PR Provider shall assess the patient’s needs in line with standards for pulmonary rehabilitation. The PR Provider shall retain the results of the baseline assessment, and with regard to the specific Quality of Life and function and mood measures and, exercise capacity test use the results to benchmark the patient’s progress, by repeating these again at the end of the programme.

• Patients who demonstrate any musculo-skeletal problems that impact on their ability to perform the exercise capacity tests will not be excluded from the programme, unless their problems actually prevent them from participating in any form of exercise. This may require consideration when reporting upon their individual progress at the end of the programme.
APPENDIX D Stage 3 – Deliver a comprehensive Pulmonary Rehabilitation Programme

### Stage 3 Deliverables

<table>
<thead>
<tr>
<th>The minimum content and requirements of any Pulmonary Rehabilitation Programme is as follows:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• The Provider shall be able to offer all eligible patients a place on a PR programme within 10 weeks of receiving the initial referral, unless the patient cannot attend within that time frame for individual reasons. This will include the time taken to perform the assessment.</td>
</tr>
<tr>
<td>• The Provider shall ensure that the pulmonary rehabilitation programme contains individually prescribed physical exercise training, self-management advice and multi-disciplinary education.</td>
</tr>
<tr>
<td>• The Provider shall ensure that goals are agreed with the patient and education needs are identified for all patients.</td>
</tr>
<tr>
<td>• The Provider shall ensure that every patient has a training diary with written descriptions of endurance and strength exercise training at the highest tolerated intensity (and detailing the frequency during the week the patient is expected to do this) with a requirement for incremental progress.</td>
</tr>
<tr>
<td>• The Provider shall deliver the pulmonary rehabilitation programme with a minimum of two supervised classes a week for a minimum of 6 weeks using a multidisciplinary team and include supervised exercise sessions with additional home training as recommended by current guidelines.</td>
</tr>
<tr>
<td>• The Provider shall perform assessments of individual progress by the use of appropriate assessment and outcome measures (including health status and functional exercise capacity).</td>
</tr>
<tr>
<td>• The Provider shall ensure that all patients have discussed and agreed a personalised maintenance plan prior to discharge from the pulmonary rehabilitation programme.</td>
</tr>
<tr>
<td>• The Provider shall demonstrate evidence of risk assessment, programme quality assurance and patient improvement.</td>
</tr>
<tr>
<td>• The Provider shall develop and maintain a governance structure for the programme, with an individual identified as holding responsibility for the quality and delivery of the programme.</td>
</tr>
</tbody>
</table>
Staff

- The Provider shall ensure that the programme is delivered by a multi-disciplinary team of specialists experienced in chronic respiratory care and behaviour change.

- The Provider shall ensure that the specialists in chronic respiratory care are supported by staff with qualities/competencies appropriate to the needs of the programme with experience of chronic lung conditions, exercise physiology and exercise assessment and the appropriate psychological inputs. This also includes administration duties to be performed by an appropriate level of staff (i.e.: not necessarily clinical staff).

- The Provider shall ensure that all sessions are supervised by a professional experienced in the management of chronic respiratory conditions and the delivery of aerobic and strength exercise training, with suitable expertise to adapt exercises for co-morbidities and breathlessness. They will endeavour to ensure continuity of care by ensuring that patients have the same trainer for the majority of their programme and measure this as part of the patient feedback survey\(^7\).

- The Provider shall ensure that staffing/skill levels match the case mix of the patients taking part, the type of venue used and the rehabilitation programme ensuring safety to exercise

- The Provider shall adhere to staffing ratios recommended in the UK for pulmonary rehabilitation supervision of exercise classes (1:8) and (1:16) for education sessions, with a minimum of two supervisors in attendance one of whom must be a respiratory physiotherapist to supervise the exercise component (NB: greater staff: patient ratio is required if oxygen users are included).

- The Provider shall ensure that there are sufficient numbers of staff available to allow for annual leave, training, sickness and maternity leave.

- The Provider must ensure that all staff attend updates and training sessions as needed to maintain their competencies and continue professional development.

\(^7\) [http://www.ihi.org/knowledge/Pages/Measures/CareTeamMemberPatientContinuityPatientReport.aspx](http://www.ihi.org/knowledge/Pages/Measures/CareTeamMemberPatientContinuityPatientReport.aspx)
**Equipment**

The Provider shall provide suitable and safe equipment for use as part of the pulmonary rehabilitation programme and shall ensure that all equipment is maintained in a safe condition, according to the manufacturer’s recommendations. The following essential equipment is required:

- Oximeters, BP monitor, Weight scales, Height chart,
- Stop watches (for assessments, one for each patient)
- Weights and resistance equipment
- Music player, 2 bright cones, 10 metre tape measure for shuttle walk tests
- Chairs
- Telephone access
- Emergency equipment – oxygen, oxygen delivery devices, nebuliser & compressor, drugs for nebulisation.
- Laptop / Projector/ Flip Charts / White Boards for educational sessions.

In addition it is desirable that the Provider has appropriate aerobic exercise equipment.

**Exercise Sessions**

The Provider shall ensure that supervised exercise sessions including aerobics and strength training are performed at least twice a week for a minimum 6 weeks with encouragement to undertake additional home training. The Provider shall ensure that every individual has a written prescription of endurance and strength exercise training at the highest tolerated intensity, (above 60% peak performance/VO2) with evidence of increments and progress. The provider shall adhere to the following exercise prescriptions:

**Aerobic exercise** – walking is the most accessible form of exercise, but other forms of exercise can be considered. This can be completed either supervised or unsupervised at home.

**Intensity of aerobic exercise** – wherever possible, prescribed at the highest possible level, progressed and monitored: a minimum of 60% and up to 85% of an individual’s maximum exercise capacity.
**Frequency of aerobic exercise** – twice weekly supervised exercise as a minimum, supported by a minimum of two additional home exercise sessions per week, to total a minimum of four sessions per week overall.

**Duration of aerobic exercise** – initially aiming for 20-30 minutes of continuous exercise in each session, then increasing intensity once achieved; this may be comprised of two or more bouts of shorter time periods until the patient is able to achieve the desired 20-30 minutes continuous aerobic exercise. An essential minimum of 6 weeks, with no maximum upper duration.

**Strength training** – both upper and lower limbs.

**Education Sessions**

- The Provider shall ensure that baseline education needs are identified as part of developing the pulmonary rehabilitation patient plan.
- The Provider shall ensure that tutors are competent to deliver high quality and appropriate education sessions and are familiar with chronic respiratory disease patient’s needs.
- The Provider shall carry out educational sessions/courses that cover a range of issues including:
  - Normal Respiratory Physiology and mechanics;
  - Understanding COPD/chronic respiratory diseases their pathophysiology causes and treatment;
  - How to equip the individual to improve confidence, self efficacy and self management,
  - The roles of exercise and relaxation;
  - Medicine management and exacerbations;
  - Psychological impacts and minimising their effects;
  - How to manage breathlessness - Smoking and smoking cessation services if appropriate;
  - The benefits of regular physical activity and exercise and how to undertake physical activity and exercise safely and effectively;
Nutritional advice and eating strategies, including nutritional supplements where appropriate.

- The Provider shall ensure that written information is made available with consideration for literacy or language issues.
- The Provider shall ensure that the quality of education is assessed through patient satisfaction surveys or through validated questionnaires.

Safety

- The Provider shall be aware of the importance of patient safety and ensure that appropriate safety facilities are available. The Provider shall ensure that resuscitation facilities are available and that staff have had recent training and in the case of emergency, suitable interventions administered that are appropriate to the location.
- For patients who desaturate on exercise and require ambulatory oxygen, the prescription of which has been determined by an ambulatory oxygen assessment, the Provider shall ensure that these patients attend PR with their own ambulatory supply. If a temporary increase in the prescription is required for the PR programme, the Providers will liaise with the local oxygen service to arrange. Oxygen will be part of the Emergency equipment provided.

APPENDIX E Stage 4 – Final assessment and discharge

Stage 4 Deliverables

Stage 4.1 Final assessment of patient and recording outcomes

The Provider shall re-assess the patient by repeating an individual comprehensive assessment at the end of the programme, reviewing the patient’s attendance and completion of the programme and recording all goals attained.

The Provider shall ensure that the same tools for assessment are used throughout the programme and appropriate assessment measures should be used to record final outcomes (as per guidelines).

With regard to the specific Quality of Life Questionnaire and exercise capacity tests these should be used to benchmark the patient’s progress.
Stage 4.2 Comparing the final results to baseline assessments and patient set goals

- The Provider shall record the patient’s achievement against the baseline assessment and patient set goals.
- The Provider shall record the patient’s achievement against the pulmonary rehabilitation programme goals.

Stage 4.3 Analyse and report outcomes

- The Provider shall record process and quality measures to evaluate the performance of the pulmonary rehabilitation programme.
- The Provider shall collate the results and report achievement against the following outcomes every six months (bi annually):
  
  Service Outcomes and the number of patients referred to PR:
  
  - The number of patients who have been offered Pulmonary rehabilitation and as a % of the original referrals
  - The number of eligible patients who have completed pulmonary rehabilitation as per completion definition
  - The number of eligible patients who have declined pulmonary rehabilitation and collate reasons for this to improve service and uptake
  - The percentage of patients satisfied with the service they received for pulmonary rehabilitation
  - Patient attendance and dropout rates at all stages – Referral to Assessment; Assessment to Programme; within Programme

Intervention Outcomes – short term include:

- Improvements in walking distance;
- Improvements in health related quality of life as reflected in the validated QoL questionnaire;
- Improvement in functional status using validated measure
• Reduction in anxiety and depression using (a) validated measure(s);
• Improvement in knowledge and understanding of condition using a validated measure / questionnaire.

Expected long term outcomes include:

• Reductions in A&E attendance and hospitalisations for chronic respiratory conditions including COPD exacerbations over 12 months
• Improved exercise capacity although the effects of pulmonary rehabilitation diminish after a year;
• Improvement in patients’ knowledge and awareness of their condition and their ability to self manage.

The Provider is invited to submit proposals on how best to record and monitor the long term outcomes of the Pulmonary Rehabilitation Service.

Stage 4.4 Confirming maintenance programme to maintain effects of pulmonary rehabilitation

• The Provider shall ensure that an exit plan clearly outlining the maintenance options are agreed with the patient before he/she leaves the pulmonary rehabilitation programme accessed through the health and well-being agenda.
• The Provider shall promote the importance of continuing exercise to the patient (e.g. walking in the park, joining a leisure centre or other independent exercise).
• The Provider shall endorse and recommend suitable maintenance exercise options. Exercise classes should be led by a specialist exercise instructor trained on a COPD specific course (level 4 register of exercise professional’s course). This should include a home training programme of aerobic and resistance training (with the aim of achieving at least 30 minutes of exercise 5 days a week) but only after a thorough assessment by the exercise instructor.
• The Provider shall ensure that as part of the maintenance programme there is ongoing access to education (e.g. Space for COPD, support groups, leaflets, Breath Easy and through the internet and select websites).

Stage 4.5 Produce PR completion letter

• The Provider shall send the maintenance plan and the pulmonary rehabilitation programme completion letter to the patient and referrer.
Stage 4.6  Sign post patient to relevant services

- The Provider shall refer all patients to long-term management providers, patient groups and support networks and shall identify voluntary and commercial lifestyle and exercise opportunities and shall encourage the patient to take up such opportunities.

Stage 4.7  Send patient service feedback survey

- The Provider shall send each patient an appropriate objective feedback survey that will request feedback about the patient’s experience of the service.


- The Provider shall discuss the results of the summary report with the co-ordinating commissioner and implement improvements to the service based on the feedback received.