How to prevent readmission to hospital after an exacerbation of chronic obstructive pulmonary disease

Exacerbations are common complications of COPD that diminish quality of life, accelerate the decline in respiratory function and are associated with higher mortality. They were responsible for the admission to hospital of approximately 95,000 persons in 2011, with 43% of patients readmitted within six months.

Key points

- Effective interventions while in hospital to reduce the risk of readmission are:
  - patient education, which must be continued after discharge;
  - implementation and verification of useful actions, on the basis of a checklist;
  - the appointment of a manager to oversee the preparations for and organisation of discharge and to ensure continuity of care in particular.
- While the patient is in hospital, it is advisable to telephone his/her normal healthcare providers and, where appropriate, his/her pulmonologist.
- At the time of discharge, the discharge manager must ensure that the patient has received and understood the documents necessary for continuity of care.
- After discharge:
  - pulmonary rehabilitation reduces the risk of readmission;
  - the organisation and coordination of the care pathway after a stay in hospital can reduce the number of readmissions. This means more than just simple nursing care at home and requires the mobilisation of a primary care team and appropriate support functions. Studies need to be carried out to determine the most efficient methods for achieving this and the patients able to benefit.

What you need to know

An avoidable hospitalisation is an unplanned admission to hospital for reasons related to chronic obstructive pulmonary disease (COPD) occurring within three months of discharge. It is considered avoidable if:

- treatment during the previous stay in hospital and, in particular, the organisation of discharge had been optimal;
- the patient had understood and complied with the treatment plan and advice given during the previous stay in hospital;
- the situation could have been managed through other primary care options.

Any person admitted to hospital on account of a COPD exacerbation has a risk of readmission. Some patients are, however, at higher risk of readmission and in greater need of the care options described in this guide. Quality of care for patients can be improved through coordination of everyone involved in all these stages. Since the organisation of primary health care varies according to region (nursing homes and health centres, care network or separate practices for the different professionals, etc.), the individuals involved must take account of the local situation when organising this coordination.

What needs to be done in health care structure

Stage 1: On admission to hospital

- Consult a pulmonologist at the hospital or by remote consultation if there isn’t one in house.
- Routinely call the patient’s general practitioner (and his/her pulmonologist where appropriate) to establish how long he/she has had COPD, his/her baseline condition, comorbidities, any history of exacerbations, lifestyle, need for social services, and any relevant risk factor implicated in this admission to hospital.


Stage 2: During the patient’s stay in hospital, two actions are essential:

- Start or resume patient education (PE), which is the only means of reducing the number of admissions to hospital of patients with COPD. The evaluation of the patient’s needs and expectations (educational assessment) is the basis for defining a personalised PE programme with the patient (Annex 1).
- Check with the patient:
  - that he/she has undergone the actions necessary for quality care,
  - that the essential points of his/her aftercare have been explained to him/her and that he/she understood them well.

A questionnaire containing a checklist of actions to be executed and which may be used by all experienced health professionals is given in Annex 2.

Stage 3: Before and during discharge, to ensure continuity of care

This requires the involvement of a hospital discharge manager: this person may be a nurse, a health professional with training in this coordination role or a member of a support body. The practicalities of returning home and potential support from the patient's family need to be taken into account here (does he/she live alone or with a spouse, have children, need a home help, etc.?).

The four main tasks to be fulfilled by this discharge manager are:

1. **Ahead of discharge**: check with the patient that he/she has been briefed and provided with any necessary explanations (see Stage 2, Annex 2);
2. **Before discharge**: with the patient’s consent, contact the health professionals involved in his/her care to notify them of his/her discharge and schedule appointments:
   - call the general practitioner to make an appointment for the week following discharge;
   - make an appointment with the pulmonologist (the patient’s usual pulmonologist, otherwise a pulmonologist from the hospital where she/he has been staying) for the following weeks, in coordination with the general practitioner;
   - make sure that the patient is visited by a nurse in the days following discharge;
   - inform the pharmacist of the treatments received while in hospital and of the discharge prescription;

- if necessary, contact the patient’s usual physiotherapist, the network coordinator and the service provider.

3. **At the time of discharge**: check that all the documents necessary for continuity of care have been issued to the patient:
   - the discharge document: this must be sent to the general practitioner and to the pulmonologist, if possible by secure messaging;
   - the aftercare document designed to ensure continuity of care, including the list of educational goals (Annex 1), and to inform the patient about the range of local support options (Annex 3);
   - the document describing what to do in the event of an acute exacerbation;
   - prescriptions, including any necessary physiotherapy, oxygen therapy, pulmonary rehabilitation.

   It is essential that the patient is fully informed about the content of these documents and about the aftercare plan.

4. **In the 24 to 48 h after discharge**: telephone the patient to ensure that the scheduled actions have been carried out.

What needs to be done when patients return home from hospital (Stage 4)

1. **The following is essential for all patients**:
   - stopping smoking and sticking to this: in addition to input from primary care professionals (general practitioner, pharmacist, nurse, physiotherapist) and from the pulmonologist, it may be necessary for the patient to see a smoking cessation specialist;
   - pulmonary rehabilitation: offered to the patient on the basis of the evaluation carried out while he/she was in hospital and tailored as necessary to his/her needs;
   - ongoing therapeutic education: all health professionals involved in the care of the patient can participate here. Support from patients’ associations can also be offered;
   - ongoing drug therapy, including oxygen therapy, noninvasive ventilation, inhalers, as appropriate;
   - the elaboration of and adherence to a personal care plan under the direction of the general practitioner, to plan these care, support and educational interventions. The goals to be

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2 A standard discharge document will be published by HAS in 2014.
4 Haute Autorité de Santé [French National Authority for Health], How to institute pulmonary rehabilitation for patients with chronic obstructive pulmonary disease Saint-Denis La Plaine: HAS; 2014.

THE ORIGINAL FRENCH VERSION IS THE LEGALLY BINDING TEXT

May 2014
achieved are tailored to the patient’s needs, age and comorbidities; the patient’s family is involved in aftercare and monitoring. It is recommended that the professional software under development alerts the general practitioner to scheduled aftercare appointments.

2. Options to be offered to some patients on a trial basis

- **Home nursing care** to facilitate coordination of care, promote patient education, provide social support, and ensure early identification of any deterioration in the patient’s respiratory status. However, although such aftercare allows quality of life to be improved, it has mixed results on mortality and on hospital admission rates.

- **An “integrated care” approach** comprising at least three months of a systematic multi-domain approach (focus 1). This should be instituted and coordinated with the patient by a specially trained health professional (e.g. nurse or physiotherapist) acting in support of his/her GP. Experience in other countries has demonstrated a decrease in the number and duration of hospital stays, an improvement in the distance patients are able to walk each day, and improved quality of life.

- **Telemonitoring trials** in COPD have been reported in other countries.

The currently available data do not allow formal identification of patients likely to benefit from this integrated aftercare. The most promising candidates may be patients with one of the following risk factors:

- FEV ≤ 50%;
- persistent smokers;
- an acute exacerbation of COPD (AECOPD) in the past year;
- severe baseline dyspnoea (mMRC stage ≥ 2);
- a significant comorbidity, in particular cardiac (left or right heart failure, coronary artery disease) or diabetes.

Other risk factors have also been described, including long-term use of oral corticosteroids, long-term use of oxygen therapy and presence of disease for more than five years.

What to avoid

- Failure to call the GP and usual care providers of patients admitted to hospital on account of a COPD exacerbation.
- Failure to contact the patient’s GP and other care providers before his/her discharge from hospital.
- Allowing a patient to be discharged without:
  - having evaluated the indication for pulmonary rehabilitation and, where appropriate, having offered this to him/her;
  - having provided him/her with a document describing what to do in the event of an acute exacerbation.

Conditions to be met

- Establishment of an explicit procedure for the organisation of discharge from public or private hospitals. This includes the appointment of a professional to manage this task during hospitalisation and at the time of discharge.

- Issuing the patient on the day of discharge with a discharge document and sending this simultaneously to the general practitioner and to the pulmonologist, if possible by secure messaging.

- Arranging for patients to have access to pulmonary rehabilitation.

- Developing the organisation of discharge and post-discharge aftercare as a Regional Healthcare Project of the Regional Healthcare Agencies.

- Exploring integrated care approaches in primary healthcare teams coordinated by a health professional trained in this role.

Proposed practice indicators

- Number of patients admitted to hospital on account of a COPD exacerbation who were interviewed based on the checklist of actions to be carried out while in hospital, as a percentage of the number of patients hospitalised on account of COPD.

- Number of patients readmitted to hospital on account of a COPD exacerbation in the year, as a percentage of the number of COPD patients in the patient base.

- Number of patients readmitted to hospital in the year who had or had not undergone pulmonary rehabilitation after the first exacerbation.

Examples of projects carried out or still ongoing

- As part of its COPD programme, the Nord-Pas de Calais Regional Healthcare Agency (ARS) is planning to trial a home telemonitoring device for COPD patients who have been hospitalised at least once on account of an exacerbation\(^6\).

- The Moulins-Yzeure Hospital Centre has begun a trial examining telemedicine in the management at home of patients with chronic respiratory failure

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(HOSPITADOM). Telemonitoring in these patients aims to reduce readmission rates, the number of hospital admissions and the length of stay and to anticipate and prevent exacerbations.

- The ARS and the Lower Normandy Regional Association of Private Doctors (URML) are planning to set up three trials based on the establishment of local support coordinators for the management of patients in whom the situation is complex.

- A home care support programme (PRADO) for patients in hospital on account of an acute exacerbation of COPD is being developed by National Health Insurance.

- Memos containing the definition of an exacerbation and the elements of its management are being elaborated as part of the COPD DataSet project.
Annex 1: List detailing the principal educational goals/liaison document

The educational goals necessary in order to meet the patient’s needs and expectations can be selected by going through this list with him/her. The purpose of this is to build a personalised PE programme that allows the patient to acquire skills and to keep up acquired changes in behaviour in the long-term.

<table>
<thead>
<tr>
<th>Educational goal</th>
<th>Explained to the patient</th>
<th>Achieved</th>
<th>On the way to being achieved</th>
<th>Not achieved</th>
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<tbody>
<tr>
<td>Understanding the disease and the importance of lasting changes in behaviour</td>
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<td>Understanding the benefit of base treatment and crisis treatments</td>
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<td>Mastery of the techniques for inhaling medicinal products</td>
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<td>Understanding the importance of adhering to the treatment (compliance)</td>
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<td>Recognizing that tobacco dependence is a chronic disease</td>
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<td>Understanding the reasons for starting a smoking cessation programme and the treatment involved</td>
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<td>Knowing what options are available for help giving up smoking</td>
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<td>Understanding the need for vaccination against influenza and pneumococcal infection</td>
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<td>Recognising the onset symptoms of a COPD exacerbation</td>
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<tr>
<td>Knowing what to do in the event of onset symptoms of an acute exacerbation of COPD: When to take the prescribed medications? When to call his/her general practitioner or pulmonologist? When to call A&amp;E?</td>
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<td>Assessing functional impairment in the execution of daily activities (washing, shopping, cleaning, etc.)</td>
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<tr>
<td>Choosing and executing suitable daily physical activity for 30 to 45 minutes (in a single session or in more than one, ideally for at least 10 minutes each time), three to five times a week at moderate intensity (without becoming out of breath)</td>
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<td>Knowing and assessing the expected benefits of daily physical activity</td>
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<td>Knowing about dietary needs and making dietary changes</td>
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<td>Understanding the importance of scheduling aftercare appointments with the general practitioner, physiotherapist, pulmonologist, etc. and of keeping them in the long term</td>
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<tr>
<td>Understanding the benefit of oxygen therapy and noninvasive ventilation and knowing how to use this</td>
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<tr>
<td>Managing leisure activities and travel</td>
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Annex 2: Checklist of actions to be carried out during the patient’s stay in hospital

This is based on a list of questions drawn up by British professionals on the basis of international recommendations, a literature review and the advice of a workgroup.

Before you go home, go through this list with a health professional and, if you are unable to tick all the boxes, he/she will take action to address the shortcomings:

<table>
<thead>
<tr>
<th>Action</th>
<th>Yes</th>
<th>No</th>
<th>Not applicable</th>
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<tbody>
<tr>
<td>You have no difficulty using the inhalers that you use to take your medicines.</td>
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<td>You feel able to take your medications, including corticosteroids, without difficulty.</td>
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<td>The nurse, doctor or physiotherapist has watched you use your inhaler(s) and made sure you are using it/them correctly.</td>
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<td>The benefits of pulmonary rehabilitation have been explained to you and you have been given the option of a course of this after leaving hospital.</td>
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<td>If you smoke, you have been offered help giving up smoking.</td>
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<td>You have received literature explaining COPD, its treatments, the course of the disease and its daily management.</td>
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<td>You are aware of the need to plan ahead for situations where you will not be within reach of health professionals.</td>
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<td>You are aware of the aftercare available to you after discharge and of the consultations planned with your general practitioner and pulmonologist.</td>
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<td>You have been provided with a document describing what to do in the event of an acute exacerbation.*</td>
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<td>You have all the telephone numbers that you need for your aftercare: your GP, pulmonologist, physiotherapist, nurse, pharmacist, A&amp;E department, patients’ association, etc.</td>
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Annex 3: Aftercare document designed to ensure continuity of care

When you get home:

- Your condition should continue to improve steadily. If you are feeling worse and shortness of breath is preventing you from sleeping, contact your doctor or the health professional who is monitoring you, whose name you will have been given (Mr or Ms ...: nurse, network coordinator, other health professional), making sure you show him/her this discharge document.

- If you have been prescribed a course of antibiotics or corticosteroids, it is important that you finish this, even if you are feeling better.

- You must see your general practitioner no later than one week after discharge and your pulmonologist no later than three months afterwards.

- The hospital discharge manager (Mr or Ms ...) will contact you a few days after your discharge, to check that everything is fine.

- The patients’ association ___________________________ will help you continue with your physical activity.

### Telephone numbers

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<td>General practitioner</td>
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<td>Nurse</td>
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<td>Pharmacist</td>
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<td>Pulmonologist or hospital pulmonology clinic</td>
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<td>Physiotherapist</td>
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<td>Coordinating professional</td>
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<td>SAMU/SMUR [emergency medical services]</td>
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<td>Network</td>
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<td>Provider</td>
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<td>Patients’ association</td>
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<td>Support organisations*</td>
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### Appointments

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<td>General practitioner</td>
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<td>Physiotherapist</td>
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* Pulmonary rehabilitation centres/facilities, including physiotherapists**: centres offering suitable physical activities and facilities providing COPD patient education programmes outside pulmonary rehabilitation centres. Patients may be provided with the SPLF [French-speaking society for pulmonology] “Pulmonary rehabilitation” leaflet where appropriate: [http://www.splf.org/s/spip.php?article776](http://www.splf.org/s/spip.php?article776)
Focus: Elements of integrated care for COPD

1. Promoting compliance with treatment
2. Making sure consultations with healthcare providers take place at the required intervals, organising regular checks of blood gases and spirometry
3. Self-management of the disease through patient education aimed at achieving the identified objectives (Annex 1)
4. Support in undertaking regular physical activity
5. Stopping smoking and sticking to this
6. Encouraging patients to eat a balanced diet
7. Motivational interviewing
8. Help in managing exacerbations: being watchful for the onset of symptoms and for signs of a severe exacerbation and knowing what to do if symptoms get worse
9. Psychosocial care tailored to the needs of the patient: assessment of the impact on daily life (family, work) and meeting needs for social and financial assistance and personal needs
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