Designing and commissioning services for adults with asthma:

A good practice guide

Contents

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Foreword by Professor Martyn Partridge

There are no grounds for complacency with regards to asthma. The United Kingdom has the highest prevalence of asthma in the world. Despite recent declines in death rates and hospitalisation rates, many patients do not lead lives free of symptoms and this is despite the availability of well-constructed guidelines and good medicines. Some parameters have shown a plateauing, suggesting that improvements are not being maintained and information regarding equalities in healthcare suggests that significant differences in outcomes exist between geographical areas. If we are to control asthma's continuing burden we need to look in detail at the services available for those with the condition to ensure optimal configuration of care and services suitable for all. This document provides information for everyone involved in commissioning and delivering care to those with asthma, so that they can work alongside clinicians and patients to improve outcomes.

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1 Executive summary

Asthma is a long-term condition that cannot be cured, but for most people it can be effectively managed. People with asthma live with their condition and should be the primary decision makers in the management of their own health and healthcare. Clinicians should be supporting people to make the right choices to manage their asthma, by giving them information about their condition and providing clinical expertise. Asthma varies from day to day and from person to person, so managing it daily is not a straightforward process. People need help to recognise when their asthma is worsening and when they need access to the expertise of the NHS. When they do have contact with a healthcare professional, the aim must be to make the interaction as productive as possible and this means within a partnership of care based upon a process of shared decision making. Inputs of care must also be integrated across the traditional boundaries of hospital and community-based services. All involved in designing, commissioning or providing services for people with asthma should ensure that services are designed with these principles in mind.

This good practice guide outlines the case for improving outcomes for people with asthma and what the elements of a good service look like.

Commissioners, clinicians, patients and their carers need to work together on the following areas if we are to see the step-change in asthma care that is required for the goals of asthma management to be achieved in most patients.

1. A patient-centred service and shared decision making

Commissioners should not only involve patients in the design of local services, but should also seek evidence from clinicians that they are taking a patient-centred approach to care.

2. Preventing asthma

The causes of asthma are not well understood, so preventing asthma from developing is not possible (except in some instances where factors in the workplace can cause asthma). All efforts should focus on helping patients to lead lives as free of symptoms as possible

3. Accurate and timely diagnosis

Commissioners should ensure that clinicians are adequately skilled to make an accurate diagnosis of asthma and have access to the required diagnostic facilities and expertise.

4. Information for patients

It is important to tailor information to different patients according to their needs.

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5. Supporting self management

Commissioners should ensure that written individualised self-management plans are a key element of asthma care for all patients.

6. Structured review by asthma-trained clinicians

Commissioners should ensure that structured reviews are based on evidence based guidance and there is a regular programme of education for all involved in the care of people with the condition.

7. Optimising medication

Commissioners, clinicians and pharmacists need to consider how to achieve improved outcomes for people with asthma, while minimising wasteful use of medicines.

8. Smoking and asthma

Smoking cessation must be included in any asthma care pathway.

9. Risk assessment and at-risk registers

An asthma population could usefully be stratified according to control so that appropriate interventions can be put in place to ensure their condition remains well controlled.

10. Severe/brittle/difficult-to-control asthma

It is important that expert or specialist services are available for this group, which may comprise only 5-10% of the asthma population, but use up to 80% of the costs of asthma care.

11. Asthma in the workplace

Access to specialists in occupational asthma through a specially commissioned service is essential, so the cause of such asthma is effectively identified and appropriate advice given to patients.

12. Asthma and mental health

There needs to be greater awareness of the need for psychological support to improve outcomes.

13. Managing acute and life-threatening episodes

This requires well-trained staff in emergency departments or other healthcare settings who have access to specialist advice and expertise in managing acute asthma, and good communication between emergency and respiratory departments.

14. Avoiding hospital admissions and emergency department attendances

All healthcare professionals should be working with patients to ensure that loss of asthma control is identified early and appropriate steps are taken to regain control to avoid a full attack developing. Commissioners should ensure that communication between emergency services and primary care are built into asthma care pathways.

15. Following up acute episodes

A full review of the patient to avert future loss of control should be specifically commissioned following an acute attack.

2 Who is this document for?

- **Strategic leaders and commissioners:** Locally, those leading on healthcare services, engaging with clinicians and professionals (including GPs, specialists, nurses, public health, Health and Wellbeing Boards and others) and people with asthma
- **Primary care:** All healthcare professionals working in GP practices and non-clinical staff (eg receptionists) who are often the first person someone with asthma will see during an emergency. Primary care is the cornerstone of patient-centred asthma care
- **Urgent care and hospital care:** Everyone in emergency and urgent care settings (Emergency Departments, ambulances, out of hours, walk-in centres) who are involved in designing and delivering services – whether for emergency, in-patient or out-patient care, including reception staff who are receiving emergencies
- **Community health providers:** Community health colleagues should be involved in the design and delivery of services eg community matrons, respiratory nurse specialists and consultants in integrated respiratory care
- **Other health-care providers:** Staff in walk-in centres, GP-led health centres, out-of-hours services providing support to people with asthma and their families
- **Employers:** Employers need to be aware of the needs of people with asthma. They need to understand the necessity for time off work for some people, to offer support to those whose condition deteriorates during work hours, and understand when it may be necessary to seek urgent medical help. If the asthma is caused by something in the work environment, the employer should work with the individual and specialists in occupational asthma to find ways to eliminate the cause or to distance the person from the causative factor.

Delivering excellent services requires co-operation and partnership between all those involved in the care of people with asthma.

3 Why do we need to improve outcomes for people with asthma?

- Asthma costs the NHS an estimated £1 billion a year.
  - Poorly controlled asthma is more expensive for the NHS than well controlled asthma. [1]A patient whose asthma exacerbates and requires hospital treatment is likely to cost 3.5 times that of a patient who does not [2]
  - The cost of GP prescriptions alone for respiratory disease exceeded £1 billion in 2009/10. Respiratory products have the second highest net ingredient cost per item [3]
  - Research shows that 50% of asthma expenditure is spent on 5% of people with the most severe asthma [4]
  - The cost of hospital admissions is estimated at £61 million and aiming to reduce admissions is good for both patient care and delivers a health economic benefit. Asthma UK has estimated that at least £4.5 million could be saved if PCTs with higher than average admissions for asthma reduced their rates to the national average [5].

- The UK has the highest prevalence of asthma in the world [6].
  - GP records from QOF data, which are almost certainly an underestimate, suggest that 5.9% of the English population, around 3 million people, has asthma (2010-11). However prevalence rates vary from 3.5% to 7.1% across PCTs [7]
  - The Health Survey for England results suggest a higher prevalence of 9-10% for adults (4.68-5.2 million adults) [8].

- Mortality rates for asthma are much higher in the UK than in many other European countries [9]
  - Asthma deaths have preventable factors in up to 90% of cases [10]
  - The number of deaths from asthma has only been falling gradually and appears to have plateaued over the last 5-10 years
  - Around 1,000 people still die from asthma each year in England and Wales, with more than 35% of deaths occurring in people under 75 [11].

- Asthma cannot be prevented or cured, so attention must be focused on helping people with asthma to be free from symptoms and avoid asthma attacks

- Diagnosis may be difficult – it's often delayed and may be wrong
  - In a direct access diagnostic clinic at Charing Cross Hospital, 40% of people referred with definite asthma received a confirmed diagnosis and of those referred with suspected asthma this could be confirmed in only 10% [12]

- Whenever possible the diagnosis should be confirmed before starting treatment, but one-point-in-time investigations are often inconclusive and a definitive diagnosis may necessitate more than one consultation

- People with asthma do not always take their recommended treatment [13]. This may be due to poor communication between healthcare professionals and those with asthma, lack of opportunity to discuss fear of side effects, omission of shared decision making or the patient not feeling in control.

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- When patients do take their medication, many do it incorrectly, which will have an impact on the cost of treatment, and lead to suboptimal outcomes

- Large numbers of clinicians are not following best practice clinical guidelines [14]. This will have a significant impact on patient experience and lead to poor outcomes

- In one survey, 65% of people described having had an asthma attack so severe that they were unable to talk. The Health Survey for England found that 30-40% [15] of people with asthma had had an attack in the previous 12 months [16]

- Hospital admission rates in England are among the highest in the world. There is considerable variation in rate of admissions across the country [17]. The NHS Atlas of Variation 2011 showed you may be six times more likely to be admitted with asthma in some parts of the country than others [18]

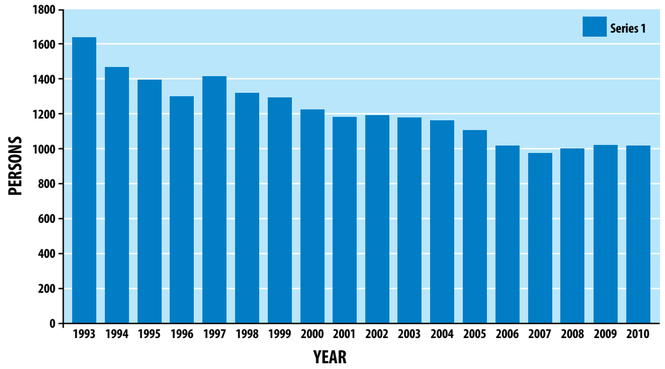
- Quality of life is often impaired [19] and people may have to take time off work
  - One survey found that over a quarter of people with asthma reported having missed time at work because of their asthma in the previous 12 months [20]

- Asthma is responsible for at least 12.7 million lost working days each year [21]

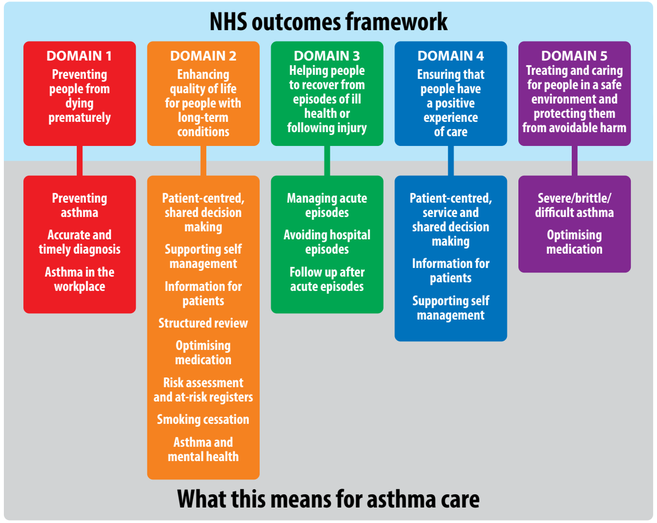
- An international survey of asthma patients found that patients reported that the three most important attributes in a doctor were [22].
  - Listens carefully when I talk about my symptoms and problems
  - Understands clearly what I am trying to express
  - Explains well what asthma is and what problems it can cause.

England deaths from asthma – all ages

Source: ONS data 2010



4 The policy context



NHS Outcomes Framework 2012/13

Respiratory disease is highlighted in domain 1 of the NHS Outcomes Framework[23] – preventing people from dying prematurely. In England, around three people die from asthma every day, yet it is estimated there were preventable factors in most of those deaths.

Asthma also features specifically in domain 2 – enhancing quality of life for people with long-term conditions. Here the aim is to enable people with long-term conditions to lead as normal and as active lives as possible. Loss of control of the condition is clearly detrimental to people with long-term conditions, particularly if it requires hospitalisation. Reducing the time that people with long-term conditions spend in hospital is therefore an improvement area. Reducing the time spent away from work is a key measure for this domain.

While asthma sits predominantly in domains 1 and 2, the different elements of good asthma care are relevant to all five domains of the NHS Outcomes Framework.

Commissioning Outcomes Framework

The NHS Commissioning Board is developing a Commissioning Outcomes Framework (COF)[24] that measures the health outcomes and quality of care (including patient-reported outcome measures and patient experience) achieved by clinical commissioning groups.

The COF will allow the NHS Commissioning Board to identify the contribution of clinical commissioning groups to achieving the priorities for health improvement in the NHS Outcomes Framework. It will also enable CCGs to benchmark their performance and identify priorities for improvement.

There are several indicators in the COF for 2013/14 relevant to the treatment and care of people with asthma, including:

- Under 75 mortality rate from respiratory disease
- Unplanned hospitalisation for chronic ambulatory care sensitive conditions (adults)
- Unplanned hospitalisation for asthma, diabetes and epilepsy in under 19s

An outcomes strategy for chronic obstructive pulmonary disease (COPD) and asthma in England (July 2011)[25]

Linking respiratory disease to the current reforms, this document features a chapter on asthma and outlines how outcomes for people with asthma can be improved. The asthma objective in this strategy is:

To ensure that people with asthma, across all social groups, are free of symptoms because of prompt and accurate diagnosis, shared decision making regarding treatment and on-going support as they self-manage their own condition to reduce the need for unscheduled healthcare and risk of death.

The NHS companion document to the outcomes strategy for COPD and asthma (published May 2012) outlined a set of key actions to help implement the strategy, aligned with the domains in the NHS Outcomes Framework.

Quality standard for asthma

The Department of Health has requested that NICE develops a quality standard for asthma and work started on this in March 2012, with a completion date of February 2013. NICE quality standards provide a clear description of what a high-quality service looks like, so organisations can improve quality and achieve excellence. They should support benchmarking of current performance against evidence-based measures of best practice to identify priorities for improvement.

The NHS Atlas of Variation in Healthcare – 2nd edition (November 2011)[26]

This highlighted that there may be as much as a sixfold difference in the likelihood of an asthma admission, depending on which part of the country people with asthma live in.

National review of asthma deaths[27]

In the first project of its kind, work is under way to learn more about why so many people still die from asthma in the UK. Data collection for this piece of work began in February 2012, and for 12 months every death from asthma across England and the other three nations will be systematically investigated. The number of deaths from asthma in England each year has been at a plateau of around 1,000 for several years. The intention is that the learning will help to reduce the number of deaths in the future. The Royal College of Physicians runs the project and is leading a consortium of 13 organisations to try to understand the circumstances surrounding each death, so that learning from the review can be fed back into clinical practice. They expect to be reporting the results of this work in 2014.

5 Role of commissioners in improving outcomes for people with asthma

Commissioners need to be working towards the goal of asthma management just as clinicians and patients are. By working towards freedom from symptoms for patients, they should be able to reduce emergency department attendances and asthma admissions, manage the cost of medication, and achieve improved patient experience and quality of life for the patient.

What do commissioners need to know to design a good asthma service?

- Their local figures and geographical context for prevalence, consultations, attendances in emergency departments, admissions and readmissions, deaths, cost of care, cost of prescribing, smoking prevalence rates and how these vary from national and/or similar areas. This data should be available from:
  - The local public health observatory.
  - The Atlas of Variation and the respiratory atlas[28].
  - The IMPRESS (improving and integrating respiratory services) guide to information on respiratory disease, which provides useful pointers to data sources[29].
  - INHALE (Interactive health atlas for lung conditions in England), which contains valuable information on respiratory disease that can be interrogated at PCT level[30].
- What the main challenges/weaknesses/issues are in managing asthma locally
- What the clinical guidelines say about best practice
- How these translate into service needs for people with asthma
- The experience and expectations of people with asthma and their carers – people with asthma should be invited to become involved in the design and evaluation of asthma services
- What they can build into local service specifications and contracts to improve the quality of care and the patient experience
- Levers for change – the national and local levers that are available to them to drive improvements in quality and outcomes of services (see annex G).

Commissioners are in a strong position to ensure there are good communication systems across different parts of the local NHS so that the asthma patient experiences a joined-up service and potential fragmentation and duplication from multiple providers is avoided

Guidance on good practice: How to use this guide

This guide is not about managing individual patients. Instead it aims to identify the elements of good service that people with asthma need, so that:

- Commissioners know what a good service looks like and commission it
- Providers can see what a good service should comprise and deliver it.

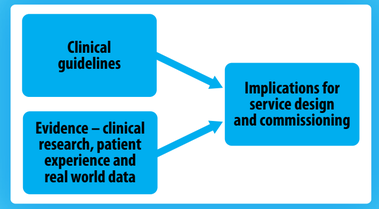
This good practice guide is not prescriptive about where care happens (unless there is clear evidence in the guidelines), so the content will be of value both to people commissioning services from secondary care and to those considering the services that primary care and pharmacy provide.

This publication has been organised around key headings, which set out:

- What the clinical guidelines say about best practice, which is relevant to service design and delivery. The SIGN/BTS asthma guideline 2011 is the source of this material unless otherwise specified [31].
- What the evidence tells us – either from literature or from other studies, audits and surveys on current patterns of care in the NHS and other healthcare systems
- What this means for those who are designing, commissioning and providing services
- Relevant examples of good practice.

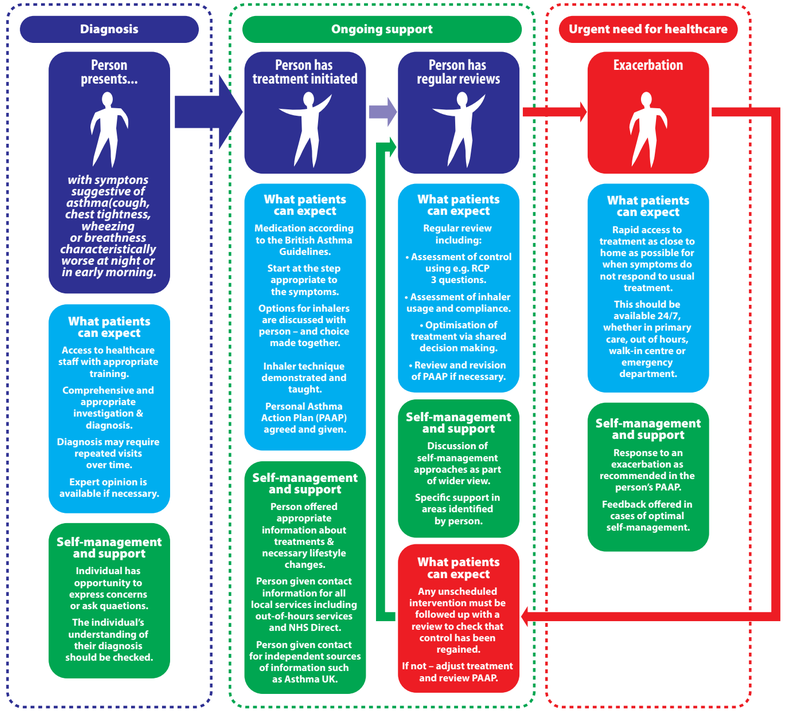
At the end there is a checklist of good practice points that commissioners and providers can use to benchmark their own locality or service against.

This document has been organised around areas of weakness in asthma care, which, if addressed, could make a significant impact in improving outcomes for people who live with this condition. These are the areas that commissioners, and anyone involved in service design, should focus on. There is excellent evidence for these areas and clear guidance in the SIGN/BTS guidelines, yet they are not being translated into practice. It is these areas that this good practice guide will focus on.



The care pathway

The sections follow broadly in the order of the asthma pathway shown here.



7 A patient-centred service and shared decision making

What is recommended in clinical guidelines

- Supporting the patient in understanding and managing their condition is underpinned by Grade A evidence in the clinical guideline resulting in the recommendation that:
  'All patients should be offered self-management education that focuses on individual needs, and is reinforced by a written personalised action plan'.
- Every consultation should therefore be seen as an opportunity to review, reinforce and extend the knowledge and skills of the patient.
- In the context of improving concordance, clinicians should ask open-ended questions to be more patient-centred – such as *'If we could make one thing better for your asthma, what would it be?'*
- Monitoring asthma control is best done by monitoring symptoms, since people with good symptom control have a low risk of exacerbations. So using one of the assessment tools for asthma is good practice – such as the RCP three questions [32] (below), the asthma control questionnaire [33] or the asthma control test [34]. These ask about the impact that asthma is having on the patient's life and their ability to undertake everyday activities.

What the evidence tells us

- An international study including 190 UK patients with asthma reported that patients' greatest needs were to be listened to by their clinicians when talking about symptoms and problems, a need for clear explanations about their condition, and sufficiently long consultations.
  - The areas of greatest disparity between their expressed need and healthcare professionals meeting their need was in receiving clear explanation of possible side effects and risks of prescribed medicine, being consulted in the choice of inhaler and receiving support to self-manage their condition [35].
- Evidence shows that adherence to medication and asthma control are improved if patients are involved in decision making about their treatment [36].
- People with asthma attending DH listening events wanted better trained staff, a more holistic approach where their lifestyle and other conditions are taken into account, to be listened to and given more information, emergency department staff who understand asthma and more joined up services across the healthcare system [37].

The Royal College of Physicians (RCP) three questions

1. *In the last month/week have you had difficulty sleeping due to your asthma (including cough symptoms)?*
2. *Have you had your usual asthma symptoms (eg cough, wheeze, chest tightness, shortness of breath) during the day?*
3. *Has your asthma interfered with your usual daily activities (eg school, work, housework)?*

Note: one 'yes' indicates medium morbidity and two or three 'yes' answers indicate high morbidity.

What does this mean for commissioners and service developers?

- People with asthma should not just be considered as service users but also as co-creators throughout the commissioning cycle, particularly in planning and reviewing services. In practice, this means:
  - Asking patients about the quality of local asthma services
  - Inviting patients to plan, develop and monitor asthma services in their area
  - Consulting with and inviting patients to become members of respiratory working groups to improve local asthma services
  - Involving patients in creating care pathways, so that the perspectives of people with asthma are central to the process
  - All involved in designing services for people with asthma ensuring that patients are treated as equal and expert partners with their healthcare professional at each stage of their treatment and care.
- Commissioners should require providers to produce evidence of shared decision making and should expect to find this in patients' notes. In this context shared decision-making involves:
  - Eliciting the patient's goals for treatment
  - Determining the patient's relative priorities regarding symptom control and regimen convenience
  - Discussing side effects
  - Considering the cost of medications where relevant
  - Sharing with the patient a list of available treatments (both devices and dosing)
  - Patient and physician then coming to a mutual decision regarding the optimal treatment regimen.

Significantly enhanced concordance is seen with such interventions and a reduced need for unscheduled health care.

Examples of good practice

The Royal College of General Practitioners (RCGP) promotes a care planning approach for people with long-term conditions. It moves the focus from the clinician 'doing', to the clinician 'enabling' the patient to manage the challenges of their condition, fully supported by their GP surgery. The RCGP claims that incorporating the model of care planning into daily general practice will not only improve the health outcomes and well-being of patients, but will also save the NHS time and money by reducing hospital admissions, A&E attendance and medication expenditure [38].

Asthma UK, in partnership with other leading health and social care charities has defined good patient-centred care as including:

Co-ordinated care

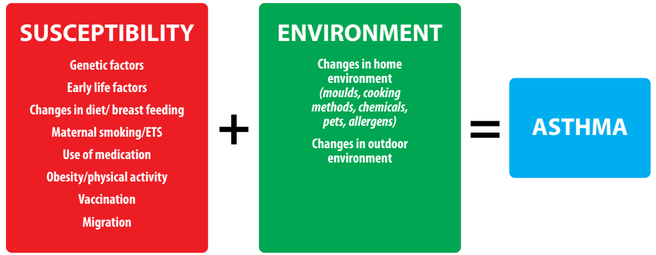
Patients being engaged in decisions about the care

Supported self-management

Prevention, early diagnosis and intervention

Emotional, psychological and practical support [39].

8 Preventing asthma (primary prevention)



What is recommended in clinical guidelines

- The guideline states that there is little evidence for any strategies for preventing asthma from developing in children, though breast feeding may have a potential protective effect in relation to early asthma.
- The guideline suggests that 9-15% of adult onset asthma may be caused by factors in the workplace. This is the only form of asthma that can be eliminated completely if the person can be separated from the sensitiser (for more on asthma in the workplace – see section 15).

What the evidence tells us

- Unfortunately, apart from the avoidance of occupational sensitizers, asthma cannot yet be prevented from developing and cannot be cured [40]. Asthma arises as result of an interaction between a susceptible host and a factor or factors in the environment.

What does this mean for commissioners and service developers?

- There is no value in developing or commissioning services designed to prevent asthma occurring (primary prevention).

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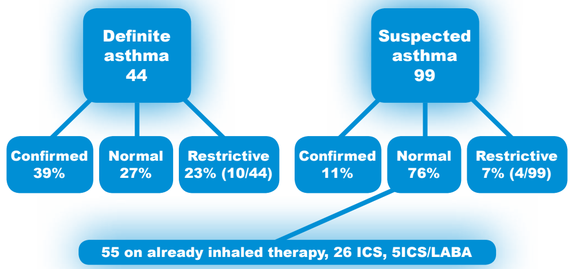
9 Accurate and timely diagnosis

What is recommended in clinical guidelines

- There is no single test to diagnose asthma. More tests need to be done and in difficult cases extra, more sophisticated testing is definitely worthwhile
- There is a well documented method for diagnosis of asthma – based on the probability of the presenting symptoms being asthma
- Initial diagnosis should be based on assessment of symptoms and a measure of airflow obstruction
- Clinicians must aim for objective support for the diagnosis
- Repeated assessment and measurement may be necessary before confirmatory evidence is achieved.

GP diagnosis or suspected diagnosis and outcome in patients referred to the Charing Cross Open Access Diagnostic Unit



What the evidence tells us

- Diagnosis can be difficult – there is no single diagnostic test so it may be confused with other lung conditions
- Delayed or mis-diagnosis of respiratory conditions may be common in primary care due to underuse of spirometry or poor spirometric technique [41]
- Diagnosis needs to happen efficiently – if patients are started on treatment before full diagnostic investigation, then they may not appear to have asthma [42] because their treatment is already controlling it, or they may be being treated for a condition they do not have
- Rapid and systematic diagnosis by trained staff may help to reduce consultation rates, since delays in diagnosis are associated with more consultations
- Examination of existing asthma registers in primary care suggests there are patients taking asthma medication who do not have a formal diagnosis of asthma in their notes. And when diagnosis is checked, some prove to have asthma while others are found to have COPD.

What does this mean for commissioners and service developers?

- There should be access to quality assured spirometry in any setting where diagnosis of asthma takes place and it should be carried out by staff trained to perform and interpret the results of spirometry
- Healthcare professionals diagnosing asthma need to be aware and have an understanding of differential diagnosis and co-morbidity with other respiratory conditions. This is particularly important in the differential diagnosis of asthma and COPD
- Access to a comprehensive diagnostic service is required, with all appropriate tests available – eg bronchial hyperreactivity, sputum eosinophil count, exhaled nitric oxide concentration (FENO), mannitol challenge, response to trial of steroid, exercise challenge test, treatment trials and specific occupational challenge
- Community-based or community-accessed diagnostic services may enable more efficient diagnosis [43]
- People with asthma have a higher risk of associated allergic conditions such as eczema and allergic rhinitis. Recognition of the coexistence of these conditions is important clinically and those configuring services for adults with asthma should ensure high awareness of the coexistence of allergy and asthma and the need for access to investigations and prompt treatment, and configuration of services which facilitates liaison between GP practices and specialist allergy services
- Auditing GP practice records may help to identify whether a practice is taking a long time to diagnose asthma or that there are patients receiving asthma medication who do not have an asthma diagnosis or have been misdiagnosed
- Patients should be given information at point of diagnosis which is relevant, easy to understand and in an accessible format. They should be referred to reputable online information sources such as NHS Choices and Asthma UK
- The new medicines services introduced in October 2011 as a new element of the pharmacy contract, is an ideal opportunity for GPs and pharmacists to work together to improve the service given to adults who have just been diagnosed with asthma and are starting new medication
- Considering an occupational cause for asthma in adults is important. It provides the only realistic chance of cure and if it is missed then any treatment is likely to be ineffective – and other investigations pointless. See separate section on work-related asthma (section 16).

Examples of good practice

In a south east coast clinical commissioning group with 18 practices, interrogation of GP registers found more than 2,500 patients taking asthma medication without a recorded diagnosis of asthma. The list of patients was validated and relevant patients were called for diagnosis. Some were found to have COPD and other respiratory conditions, while others received a recorded asthma diagnosis and had medications optimised accordingly.

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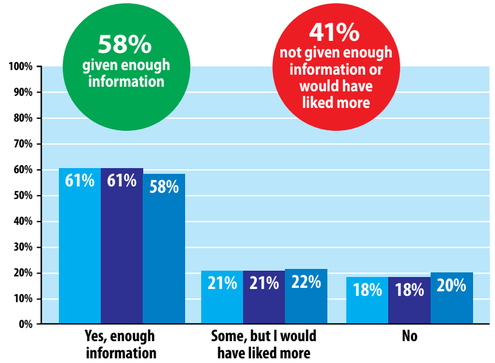
10 Information for patients

What is recommended in clinical guidelines

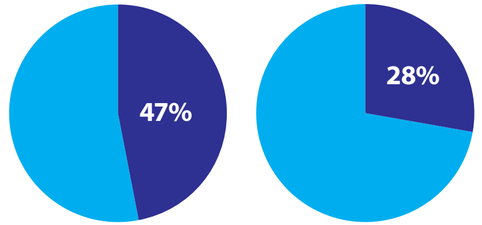
- Every consultation is an opportunity to review, reinforce and extend knowledge and skills
- Information about recognising loss of control should be part of a self-management programme
- Simple verbal and written instructions and information on drug treatment should be provided to patients and carers.

What the evidence tells us

- Giving information is an important component of any partnership approach to a long-term condition, as set out in Equity and Excellence: Liberating the NHS, and patients should be given information according to their needs and preferences
- A good understanding of their condition and the situations and triggers which may bring on symptoms is key to a patient managing their asthma effectively. This is important at diagnosis when a patient may find the diagnosis hard to accept, but should also be a feature of ongoing care as the patient's needs change
- Patients want to receive information about their medicines and potential side effects. One study found that only 58% of asthma patients in primary care felt they were given enough information about potential side effects of medication, whereas 41% said they were not given enough or would have liked more. In contrast only 37% of patients receiving new medicines in a hospital setting felt they were given enough information about side effects [44]
- The same survey suggested that patients are particularly concerned that they do not get sufficient information about side effects
- GPs are giving out less information than specialists. In one study, 47% of patients with asthma reported that they were given written information by specialists, but only 28% said they received information from GPs [45]
- Information given in a way that is appropriate to the level of the patient's health literacy enabled patients who had impaired health literacy to achieve the same degree of improvement in outcomes as those with higher health literacy [46]
- Giving information in isolation is not sufficient in asthma. It needs to be accompanied by structured self management support and shared decision making about treatment [47,48].



Information on asthma received by patients



What does this mean for commissioners and service developers?

- Provision of information could be incorporated into an asthma care pathway so there is discussion and agreement about appropriate and consistent information for patients, which will avoid patients receiving conflicting information
- Commissioners should expect providers to demonstrate that they are providing patients with information tailored to their asthma as an individual, which encourages them to be active partners in their care
- Clinicians should be providing information to patients in a format appropriate and understandable to them, taking account of issues such as language and levels of health literacy [49]. Commissioners can expect to see evidence of this in clinical practice. This sharing of information could include signposting patients to a range of sources including:
  - Reputable organisations such as Asthma UK and the British Lung Foundation
  - NHS sources such as NHS Choices
  - Relevant helplines
  - Self-management courses
  - Local self-support groups
  - Other community support resources, including local physical activity groups
  - Voluntary sector organisations
  - Other sources of information about asthma.

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11 Supporting self management

What is recommended in clinical guidelines

- Self-management plans have been recommended in asthma guidelines since 1990 and are supported by Grade A evidence
- Patients with asthma should be offered self-management education that focuses on individual needs and be reinforced by a written personalised action plan
- Personalised action plans should be introduced as part of a structured educational discussion
- A hospital admission represents a window of opportunity to review self-management skills. Before hospital discharge, patients should receive written personalised action plans, given by clinicians with expertise in asthma management.

What the evidence tells us

- A survey undertaken by DH into attitudes to self management in the population, found that 90% of people with long-term conditions are interested in being more actively involved in their care and more than 75% would feel more confident about self management if they had help from a healthcare professional or peer [50]
- Self management is about making therapeutic, behavioural, and environmental adjustments in accordance with advice from healthcare professionals [51]. Motivational interviewing may be necessary within consultations to encourage those with asthma to take control of their own condition
- People with self-management plans have better control of their asthma, compliance with medication and outcomes and fewer serious events. [52] They show fewer hospitalisations, emergency dept visits, unscheduled visits to the doctor, days off work and fewer nighttime symptoms [53]
- Research in 2007 found that only 23% of people with asthma had a self-management plan. [54] This was consistent with a UK study of over 500 patients, which found that 80% of people with asthma did not have a self-management plan, yet 68% of these indicated they would be comfortable following one. [55] The reasons why health professionals do not implement guideline advice regarding self management has been studied and may include:
  - Doubt about the evidence base and relevance to primary care
  - A lack of knowledge, skills and misconceptions
  - Practical issues (time and resources)
  - Poor teamwork [56].
- Trained and paid lay educators may be able to support patient education, develop self-management plans with patients and have the same impact on outcomes, for a third of the price of a nurse [57]
- Successive Cochrane reviews have demonstrated clearly the value that self management support brings to patients and the NHS and that regular clinician review is no more effective at maintaining control of symptoms than the patient taking a self-management approach [58].

What does this mean for commissioners and service developers?

- Commissioners should stipulate in contracts that every patient should receive tailored information about their asthma, and have an asthma action plan, so they can respond appropriately to symptoms and particularly to any worsening of control
  - Evidence of written asthma action plans should be available in patients' notes and commissioners should actively check for this.
- Commissioners should know the percentage of patients in their locality that have written asthma action plans
- Commissioners should ensure that no patient with asthma leaves hospital without a written self-management plan, developed jointly by the clinician and patient, and a discussion about how to avoid future exacerbations. This should be communicated to the patient's practice and pharmacist, so they can reinforce the content of the plan, and give consistent advice. This includes patients who have been in-patients and those who have attended an emergency department. This could be incorporated into a CQUIN or discharge bundle.

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Examples of good practice

See examples of self-management plans in Annex E.

Asthma UK has a range of resources to support patients in understanding their condition and in managing their own asthma. This includes a checklist of the information they need, and the actions they need to be able to take in the event that their asthma worsens. The Be in Control pack is available from its website, and includes a personal asthma action plan, a medicine card, a peak flow diary and a copy of Making the Most of Your Asthma Review.

http://www.asthma.org.uk/all_about_asthma/controlling_your_asthma/resources_to_help_you/index.html

12 Structured review by asthma trained clinicians

What is recommended in clinical guidelines

- Proactive regular reviews have been shown to improve clinical outcomes such as reducing exacerbation rates, improving symptom control and reducing attendance at emergency departments and time off work. People most at risk of fatal or near-fatal asthma are those who do not participate in regular review
- Regular reviews are most effective when they include discussion and use of a written action plan
- Outcomes are probably similar regardless of whether it is a practice nurse or GP that undertakes the review, but clinicians trained in asthma management achieve better outcomes for their patients
- Exact frequency of the review will vary according to the severity of the condition, but should be at least annually
- Reviews by telephone may be as effective as face-to-face consultations, unless asthma control is poor or there are problems with inhaler technique
- It is recommended that an audit is undertaken of the percentage of clinicians who have undertaken a suitable educational update on asthma in the previous two years.

What the evidence tells us

- As early as 1991, research showed that regular structured review can improve symptom control, reduce exacerbations and reduce time lost from work [59]
- Regular review is most effective when combined with self management support [60]
- Regular review should include specific morbidity questions, possibly using one of the recognised assessment tools to establish symptom levels, examination of frequency of use of short-acting bronchodilators (quantity may indicate poor control) and recent history of acute attacks. Adherence to treatment, inhaler technique, smoking status, trigger factors and concomitant rhinitis should all be checked [61]
- There is increasing evidence that regular review carried out by a telephone consultation may be as effective as a face-to-face consultation. It may enable more people to receive a review, and may take a shorter time, with no loss of clinical efficacy or patient satisfaction [62]
- The Quality and Outcomes Framework in the GMS contract recommends that all patients with asthma are reviewed every 15 months. Since April 2012, it is expected that clinicians will ask patients specific questions about waking at night, symptoms during the day and whether asthma interferes with daily activities (known as the Royal College of Physicians (RCP) three questions - see page 18)
- Healthcare professionals who have received asthma training are better equipped to manage asthma. A survey in 2009 found that less than half of primary care healthcare professionals who responded to an online survey answered questions on British asthma guidelines correctly, with scores lower among GPs than practice nurses [63].

What does this mean for commissioners and service developers?

- Commissioners should ensure that regular reviews are being undertaken by a nurse or GP who has received training in asthma management and commission education and training accordingly
- Commissioners should check the quality of the regular reviews being conducted and whether the detail of what a review should comprise, as outlined in the QOF guidance notes, is being followed by practices
- Where there are high QOF exception rates for asthma reviews, pharmacists can play an important role in encouraging people to attend their GP practice for regular review. The new targeted medicines use review (MUR) service introduced in October 2011, which aims to encourage MURs in respiratory conditions, presents an ideal opportunity for pharmacists to discuss medication issues and improve concordance, and should be actively encouraged by commissioners. Commissioners should ensure that pharmacists have adequate asthma training
- Practices with high numbers of asthma patients excepted from the QOF indicator for regular review should be investigated and encouraged to find ways of reviewing them. This may require the commissioning of good communication between practices and pharmacists
- Audit the number of primary care clinicians who have received specific education in asthma in the previous two years.

Examples of good practice

A clinical commissioning group of 19 practices in the south east coast convened a multi-disciplinary clinical group to create an asthma review template for completion by nurses with asthma patients in all practices with read codes for separate parts of the review eg inhaler check and self-management plan issued. This ensures standard training and work for staff undertaking the reviews and equality of treatment for an asthma patient having a review in any practice, which can be easily monitored.

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13 Optimising medication

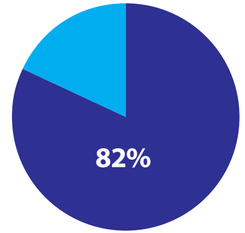
What is recommended in clinical guidelines

- A step-wise approach to asthma medication is now well established, according to the degree of control of asthma
- Patients are more likely to under-use than over-use medication. Patient self-reporting and clinician assessment both overestimate regular use of prophylactic medication
- Good asthma control is associated with little or no need for short-acting bronchodilators
- Frequency of use of short-acting bronchodilators and oral steroids are indicators of poor control. Heavy or increasing use of short-acting bronchodilators is associated with asthma death
- Before initiating a new therapy, clinicians should recheck adherence, inhaler technique and eliminate trigger factors
- Inhaled steroids are the most effective preventer drugs for adults for achieving overall treatment goals. They should be prescribed to any patient using their short-acting bronchodilator treatment three times a week or more
- Inhaled steroids should be considered in any patients who have had a course of oral steroids in the previous two years
- No patient should leave hospital without being on an inhaled steroid
- Combination products of inhaled steroids and long-acting bronchodilators are considered to aid compliance in asthma care and ensure that long-acting bronchodilators are not taken without inhaled steroids, in line with Medicines and Healthcare products Regulatory Agency (MHRA) guidance on safety.
- Regular review should be conducted in order for appropriate stepping down of treatment to be initiated if control is good
- Simple verbal and written instructions and information on drug treatment may help to improve concordance and may be incorporated into a self-management plan.

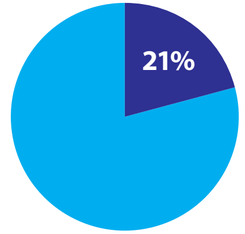
What the evidence tells us

- Pharmacological treatment is the mainstay of asthma management
- Regular use of low dose inhaled steroids is associated with a reduced risk of death from asthma [64]
- Poor concordance with treatment is a significant issue in asthma management. People with asthma don't always take their medicines as prescribed or fully appreciate the level of control they can have over their asthma. They need help understanding that the benefits of medicines far outweigh the risk of side effects. Concerns about the safety of treatment are often at the root of poor adherence
- Poor concordance may be linked to suboptimal doctor patient communication, lack of opportunity to discuss side effects, omission of shared decision making and not feeling in control
- In a study of patients with severe asthma, 82% admitted to not adhering to treatment after initial denial, and only 21% actually collected all their prescriptions. [65]And in a study across five countries, over half the asthma patients reported adjusting their regular treatment according to how they feel [66].
- Poor inhaler technique is common and can lead to patients not getting the benefit they should from their medication. Inhalers should only be prescribed after a patient has received training in the use of that specific device and inhaler technique should be checked and demonstrated as part of regular review
- Though it is critical that concordance with current treatment, inhaler technique and elimination of trigger factors are checked before any changes are made to treatment, this is generally not done systematically in practice
- The step-wise asthma guidelines are not being followed by many clinicians. Combination treatments should only be used after inhaled corticosteroids are found to provide inadequate levels of control. In a study looking into the patterns of prescribing leading up to initiation of a combination (steroid/long acting bronchodilator) treatment, only 52% of patients had been prescribed an inhaled corticosteroid on its own in the 12 months before receiving a combination treatment for the first time [67]. Considerable savings could be made if inhaled corticosteroids are used first and are sufficient to achieve control of patients' asthma.

Study of patients with severe asthma



Not complying with treatment after initial denial



Actually collected all their prescriptions

What does this mean for commissioners and service developers?

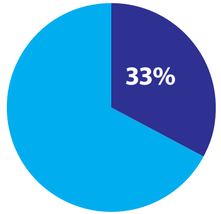
- Practices can be asked to audit their asthma register to determine the number of prescriptions for short-acting bronchodilators, since this is an indicator of poor control. Use of a short-acting bronchodilator three times a week or more is an indication that treatment should be stepped up. All patients using more than two canisters a month (or 10-12 puffs a day) should be called for review, because such high usage is a marker of poorly controlled asthma
- Prescribing records can be examined to ensure that no long-acting bronchodilators are being prescribed without inhaled corticosteroids, following a review in 2007 by and safety advice from the MHRA
- Prescribing records can be audited to check whether inhaled steroids have been tried on their own and whether control can be achieved, before stepping up to combination treatment. Considerable savings may be possible
- Patients on doses of inhaled corticosteroids greater than 1,000mcg beclometasone (or equivalent) whether as monotherapy or as part of combination therapy should be reviewed and stepped down or referred for specialist assessment. There is a real opportunity to reduce the cost of prescribing. Auditing use of high dose inhaled steroids may enable the dose to be reduced, which may reduce side effects and produce savings. Asthma is different from many other long-term conditions where there is deterioration over time and escalation of treatment.
- Patient notes could be audited to see whether there has been any documented discussion of stepping down treatment
- The new medicines service (NMS) and medicines use reviews (MURs) are both tools in the pharmacy contract (October 2011) that can help people get the best from their medicines and improve adherence to medication. They are targeted to respiratory patients, and both pharmacists and GP practices should see that these services are offered to their patients with asthma
- Primary care arrangements for the supply of repeat asthma medications should be optimised and every person encouraged to get repeat supplies when they start using their last full inhaler(s), so that exacerbations do not develop simply because supplies of medication run out.

Examples of good practice

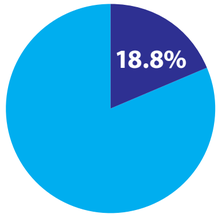
Asthma patients under the Durham and Easington Clinical Commissioning Group are now signposted to local pharmacists offering the medicines use review service if they are on high- dose steroids, have not attended an annual review or have used more than six blue inhalers within the past 12 months. A pharmaceutical company that works with the CCG has trained pharmacists to conduct thorough face-to-face reviews. They have also received a template to undertake the review (including the asthma control test), which can be returned to the patient's local GP for their healthcare records to be updated.

14 Smoking and asthma

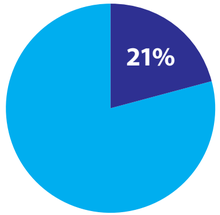
Smoking related to patients attending hospital for urgent asthma care



Current smokers



Had previously been smokers



Smoking prevalence in the general population

What is recommended in clinical guidelines

- Direct or passive exposure to cigarette smoke adversely affects quality of life and lung function and affects the need for rescue medications for acute episodes of asthma
- Current and previous smoking reduces the effectiveness of inhaled steroids, which may result in higher doses being required to achieve control. Inhaled steroids are the mainstay of preventer therapy for asthma
- Stopping smoking needs to be vigorously encouraged for all patients with asthma who smoke (guidelines from Global Initiative for Asthma – GINA)[68].

What the evidence tells us

- Of people with asthma attending hospital for urgent asthma care 33% were current smokers and 18.8% said they had previously been smokers.[69] In contrast, current estimates of smoking prevalence in the general population are around 21%[70]
- International studies have found that large numbers of people with asthma are current or past smokers.[71] One study found that 39% of people with asthma in Europe are current smokers and concluded that the high prevalence of smoking remains a major barrier to combating the global burden of asthma[72]
- An analysis of admissions from over 8,000 practices found that for every 1% increase in smoking prevalence in a local area, asthma admissions rise by 1%[73].

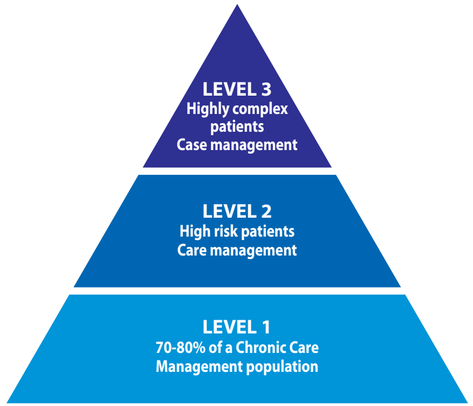
What does this mean for commissioners and service developers?

- Commissioners should know how many patients on asthma registers are current smokers
- Commissioners should expect every patient with asthma to be encouraged to stop smoking and offered the appropriate support to do so
- Commissioners should ask hospitals to gather data on the number of patients with asthma who attend emergency departments or are admitted, and are current or past smokers
- A hospital attendance provides an opportunity to refer a patient with asthma who smokes to a stop smoking service. Commissioners should build this into contracts with secondary care
- Stop smoking services should have specific and compelling messages for people with asthma who smoke, to spell out the benefits of stopping to themselves and their children
- Maternity hospitals should have specialist support services to help women to stop smoking during pregnancy.

Examples of good practice

The National Centre for Smoking Cessation and Training has an excellent training module on how to deliver very brief advice on quitting smoking.

15 Risk assessment and at-risk registers



Stratifying patients according to need continues to be a vital component of the Long Term Conditions (LTC) generic model and key to the delivery of good LTC management. By using a risk prediction approach it is possible to identify those people who are the most regular users of hospital services (and are at risk of re-admissions), then stratify them according to complexity of need and commission cost effective interventions to meet those needs.

Stephen Johnson, Deputy Director
- Head of Long Term conditions, DH August 2011

What is recommended in clinical guidelines

- Patients with poor lung function and with a history of exacerbations in the previous year may be at greater risk of future exacerbations, so may need more frequent monitoring than an annual review
- Specifically identifying patients with high risk asthma (eg those with frequent admissions) in an effort to target more detailed input is logical but supported by limited evidence.

What the evidence tells us

- The risk of an asthma attack increases with each increasing treatment step of the BTS/SIGN asthma guideline. Therefore early identification of factors associated with the risk of an attack could contribute to better management [74]
- The NHS has developed a range of tools to help to profile people with long-term conditions according to their risk status. These enable a greater focus on those most at risk, so that resources and interventions can be targeted to them accordingly [75]
- The long-term conditions pyramid highlights that stratifying patients into three categories according to the degree of resource and attention that they need is a useful approach for all long-term conditions. So around 70-80% of people with a condition may be managed appropriately by supporting them to self manage and providing them with sufficient information about their condition. At the top, a smaller number will be living with more complex conditions, which require more intensive interventions using a case management approach.

What does this mean for commissioners and service developers?

- Patients at risk of future exacerbations should be put onto a high risk register and offered more frequent reviews and encouraged to attend. This includes those with poor lung function, a history of exacerbations or course of oral steroids in the previous six months, using a bronchodilator more than five times a day, concomitant allergic rhinitis, food allergy or psychosocial problems
- Commissioners can expect practices to have identified their high risk asthma patients. Those who have had an attack in the previous 12 months are likely to cost 3.5 times as much as someone who has not had an asthma attack [76].

Examples of good practice

Triple A test: avoid asthma attacks: Asthma UK has developed the triple A asthma test – an online test that people with asthma can take to check whether they are at risk of an asthma attack. By answering eight questions about their medication, other conditions and recent asthma control, their risk of an asthma attack is assessed and they are advised about any action they should take. Asthma UK is collecting the data from this test and will be publishing the results and undertaking further work to develop a validated risk-assessment tool tailored for commissioners, clinicians and people with asthma.

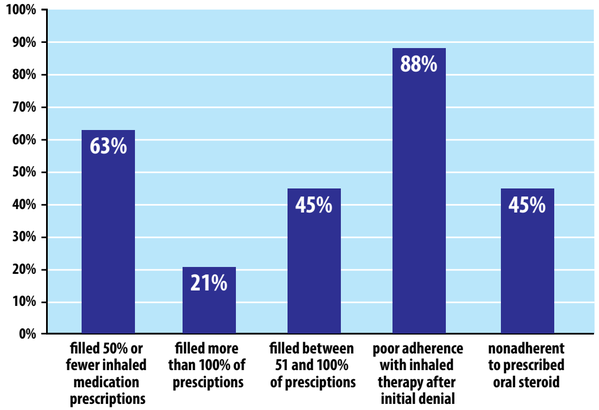
http://www.asthma.org.uk/all_about_asthma/triple_a_test_avoid.html

ESyDoc Clinical Commissioning Group stratified adult asthma patients with a confirmed diagnosis (read-code recorded) into three key cohorts. The most at risk cohort was defined as 18 years or over, with asthma diagnosis in QOF, one read code of exacerbation and one read code of hospitalisation within the past 12 months. All patients within the three cohorts were called for nurse-led clinic review over a six month period and over the course of the year-long project admissions reduced by 21% from the previous year.

16 Severe/brittle/difficult-to-control asthma

Measurements and main results (182 patients assessed)

Source: Gamble Non-adherence in difficult asthma



What is recommended in clinical guidelines

- The guideline defines difficult asthma as persistent symptoms and/or frequent exacerbations despite treatment at step four or five of the treatment pathway
- Poor adherence, psychosocial factors and concomitant conditions are associated with difficult asthma, so a comprehensive approach to assessment, diagnosis and management is key
- Patients with difficult asthma should be systematically evaluated – to confirm diagnosis, to identify the mechanism of persisting symptoms and assessment of adherence
- Patients need a dedicated multidisciplinary difficult asthma service by a team experienced in the assessment and management of difficult asthma
- Patients with brittle asthma or who have had near-fatal asthma should be under specialist supervision indefinitely.

What the evidence tells us

- Estimates of the burden of patients with difficult asthma range from 5% of patients being responsible for 50% of asthma costs [77] to 20% of patients accounting for 80% of expenditure [78]
- Non-adherence is an important issue to address in patients with severe asthma and may deliver as significant a benefit as an expensive novel treatment. [79] In a study exploring medicine-taking in these patients, 88% admitted to poor adherence after initial denial and 45% were non-adherent with oral steroids, which are taken when asthma is severe [80]
- There are seven centres in the UK which provide support for severe asthma. This network submits data to a national registry to gather information about this group of patients.

What does this mean for commissioners and service developers?

- Commissioners should ensure that services are available in their area for those with difficult asthma, as this has traditionally been a very poorly served subgroup of the asthma population. Special clinics for this group are currently not available in all parts of the country
- Commissioners may wish to encourage all large departments of respiratory medicine to consider appointing one respiratory physician to have special responsibility for asthma in the same way that there are usually leads for lung cancer, TB and COPD
- Such services need to have specialist diagnostic and monitoring methods available so that treatment is finely tailored to the needs of patients. They should also offer treatment and support from psychologists, dieticians and physiotherapists as well as specialist doctors and nurses in respiratory disease and allergy
- People with difficult asthma may need help continuing to work or may be eligible for disability benefit. Many patients do not get this level of recognition and support which a multidisciplinary holistic service can provide
- Commissioners should ensure that newer treatments are available for people with severe asthma. NICE has issued guidance on omalizumab and bronchial thermoplasty, which would both be indicated for initiation by specialist severe asthma clinics for appropriate patients. New biologics are also becoming available and would be trialled by these centres.

Examples of good practice

Asthma UK has published a useful document on the challenges and issues faced by patients with severe asthma – Fighting for breath: the hidden lives of people with severe asthma [81].

17 Asthma in the workplace

What is recommended in clinical guidelines

- It recommends a high degree of suspicion in adults presenting for the first time with symptoms of asthma and appropriate investigation by someone with experience and detailed knowledge in this field. [82] The 'Standard of Care' recommends asking adults what they do for a living as a minimum, to determine whether occupational asthma is unlikely or possible
- Someone with possible work-related asthma should be referred quickly to a chest physician or occupational physician with a particular interest in occupational asthma. These specialists are all members of the group of occupational respiratory disease specialists (GORDS) and are listed on the GORDS website [83]. They are also the people best placed to offer appropriate employment (and compensation) advice
- The diagnosis of occupational asthma should be confirmed by a specialist in this field and should not be based solely on the medical history. Objective information from tests is needed, given the overall importance of diagnosis [84,85]
- If work-related asthma is diagnosed, they recommend removing the worker from exposure or reducing exposure where removal is not practical or acceptable, as soon as possible.

What the evidence tells us

- Work-related asthma is the commonest occupational lung disease in the developed world. Several hundred agents have been reported to cause occupational asthma [86]
- Generally occupational asthma has a poor prognosis and is likely to persist and deteriorate unless identified early and effectively [87]
- Unemployment may be result of diagnosis in around a third of cases and this proportion of cases may still be out of work up to six years after diagnosis [88].

What does this mean for commissioners and service developers?

- Commissioners should ensure that services are available to investigate patients and workers. These should identify workplace allergens that may be causing asthma which develops in adults, where there is a high suspicion that the cause may be allergens in the workplace. Investigation should first confirm a diagnosis of asthma, then confirm the relationship between asthma and work exposure, and finally identify the specific cause. Once a diagnosis is made, appropriate advice should be given to workers. It is also important to exclude a diagnosis where possible as this will allow workers to continue to work safely
- A clear pathway should be in place to ensure that patients can be referred quickly to specialist services.

Common agents and jobs related to occupational asthma (OA)

Source	Agent or job
Most commonly reported agents causing (OA)	Isocyanates, flour and grain dust, colophony and fluxes, latex, animals, aldehydes, adhesives, metals, resins and wood dust
Workers most commonly reported to surveillance schemes of (OA)	Animal handlers, bakers and pastry makers, chemical workers, food processing workers, hairdressers, paint sprayers, nurses and other health professionals, timber workers and welders
Workers reported from population studies to be at increased risk of developing asthma	Bakers, chemical workers, cleaners, cooks, electrical and electronic production workers, farm workers, food processors, forestry workers, healthcare workers, laboratory technicians, mechanics, metal workers, painters, plastics and rubber workers, storage workers, textile workers, waiters, welders and wood workers.

18 Asthma and mental health

What is recommended in clinical guidelines

- People with severe and difficult-to-control asthma tend to have a high level of psychological morbidity
- Assessment of co-existent psychological morbidity should be performed as part of a difficult asthma assessment.

What the evidence tells us

- Psychological conditions such as anxiety and depression may be up to six times more common in people with asthma [89] and may be associated with poor control
- People with asthma who also have depression or anxiety experience more asthma symptoms and have worse outcomes in terms of higher use of healthcare resources, increased healthcare costs, less successful emergency treatment and increased hospitalisation [90]
- Poorly controlled asthma can also be a cause of poor mental health in itself and patients with severe asthma have more psychological distress and difficulty coping with their disease, both emotionally and behaviourally, compared to patients with moderate asthma
- Psychological issues may be responsible for some of the risk-taking behaviours of people with asthma, such as not taking their medication and smoking [91].

What does this mean for commissioners and service developers?

- Commissioners should ensure that psychological support is available and easily accessible for people with asthma
- Services for severe asthma should have psychological assessment and support as a core part of their service and included as part of a commissioned pathway.

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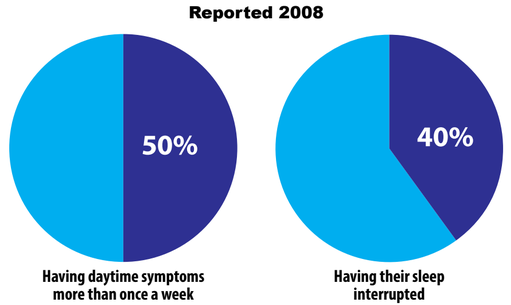
19 Managing acute and life-threatening episodes

What is recommended in clinical guidelines

- Mild to moderate exacerbations should be treated by a short acting bronchodilator in a standard inhaler (pressurised metered dose inhaler) with spacer
- All possible initial contact personnel such as practice receptionists, ambulance call takers and NHS Direct should be aware that asthma patients complaining of respiratory symptoms may be at risk and should have immediate access to a doctor or trained asthma nurse
- The guideline articulates clear criteria for when patients with acute asthma should be admitted and discharged
- Nebulised beta agonist bronchodilators, where indicated, should preferably be driven by oxygen, not air-driven compressors
- The guidelines provide clear guidance for the assessment and treatment of acute asthma in general practice, the accident and emergency department and in hospital (see annexes 2- 8 of the British asthma guideline). Guidelines also mention that if clinical staff fail to assess severity of an acute exacerbation by objective measurement and under-use of corticosteroids it can lead to poor outcomes including avoidable deaths.

What the evidence tells us

- It was reported in 2008 that 57% of people with asthma were poorly controlled. Over 50% were having daytime symptoms more than once a week and almost 40% were having their sleep interrupted [92,93]
- There is a six-fold variation between PCTs in the number of acute admissions for asthma in adults around the country. The range is from 30.1 to 193.0 admissions per 100,000 adult population. Some variation may be due to local population characteristics, but much is unwarranted and due to differences in the quality of asthma care and the support people receive to manage their condition [94]
- Emergency hospital admissions are extremely costly and account for £61 million of the estimated £1 billion cost of asthma to the NHS each year. However, it has been estimated by Asthma UK that at least £4.5 million could be saved if PCTs with higher than average admissions for asthma committed to reducing their rates to the national average [95]
- Around 75% of asthma admissions are considered to have preventable factors
- Many emergency departments are still using nebulisers to deliver short-acting bronchodilators for emergency care, but a standard inhaler with a spacer device has been shown to be as effective, for all except those with severe asthma or life threatening asthma.
- As much as a third of the cost of managing asthma may be related to emergency attendances, hospitalisation and death, with hospitalisation accounting for between 20 and 25% of the overall cost. There is significant scope for reducing costs by improving disease control [96]
- When direct and indirect costs are taken into account, as much as 75% of the cost of asthma may be attributable to suboptimal control.



What does this mean for commissioners and service developers?

- Since poorly controlled asthma is costly, the efforts of commissioners should be firmly focused on achieving and maintaining good control in as many patients as possible
- Acute attendances and admissions may have their roots in prior care in the community and in patient self management, so a system-wide approach will be needed to address poor control
- Ambulance staff may be the first healthcare professionals people will encounter in an emergency. They need to have the right skills and training to provide support before they can reach more specialist treatment. They also need to be able to distinguish between people who need hospitalisation and those who could safely be redirected to community services
- Commissioners should ensure that all NHS staff involved with patients experiencing an exacerbation have appropriate training in arranging rapid assessment, including receptionists, in all healthcare settings which patients may attend in an emergency
- Out-of-hours and walk-in centres are increasingly the first port of call for people experiencing an exacerbation. Staff in these settings need to be as well trained as in all other settings and in particular need to have close communication with primary care to ensure prompt and appropriate follow-up after the episode. It is particularly important that out-of-hours services are aware of people at greatest risk of having an attack, are knowledgable and competent in dealing with asthma attacks
- There is overuse of nebulisers in acute situations. Delivery of short acting bronchodilators by nebuliser instead of by standard inhaler with spacer can encourage a reliance on hospital care. It can lead to repeat hospital attendances by patients, when delivery using an inhaler and spacer may be adequate. Commissioners are advised to ensure that emergency departments are not using nebulisers routinely for treatment of acute attacks, except where appropriate
- Commissioners should ensure that oxygen driven rather than air-driven nebulisers are used when nebulisers are considered necessary. This will prevent oxygen desaturation that can occur with air-driven compressors
- Commissioners should ensure that each person admitted with asthma receives a detailed assessment by a respiratory specialist before discharge
- Patients who are admitted should be nursed in a ward where nurses have adequate experience in monitoring the acutely ill patients and are proficient at administering medications
- Every acute unit should have an individual who is responsible for ensuring that their asthma care across all departments conforms to British asthma guidelines and keeps records and audits processes and outcomes
- Commissioners should consider setting up a CQUIN for acute asthma care to encourage adherence to best practice guidelines.

Examples of good practice

NHS Yorkshire and the Humber has developed a CQUIN for the management of asthma in emergency departments. This clearly sets out the components of good asthma care that commissioners expect to see implemented in emergency care. They expect that 'by providing the correct assessment, education and support, re-attendance rates will be reduced, admissions prevented and patient outcomes improved.' See annex B for the full CQUIN.

St Guy's and St Thomas' Teaching Hospitals NHS Foundation Trust introduced an asthma proforma for use with all asthma related A&E attendances, supported by continual training and awareness sessions from the asthma specialist nurse. The form ensures a standard approach for staff to all asthma patients and is fully compliant with the BTS-SIGN guidelines, which will also help compliance with future BTS audits. It also contains a section on good practice discharge actions eg a follow-up letter for patient to take to their local GP.

Asthma UK has produced an emergency asthma care pack to assist all healthcare professionals (including pharmacists) who come into contact with people with asthma at the time of an attack. This is to develop good quality care from when the person first presents through to their discharge and follow-up arrangements.

Deaths from asthma

- Although it is a highly prevalent condition, asthma has a low mortality rate. However, deaths do occur and are often sudden and unexpected
- Bereavement services are required for the families of people who die from asthma. Families are often not involved in significant event analysis and do not have the opportunity to ask questions about why their family member died. Proper services should be provided to support them following the death of a family member.

20 Avoiding hospital admissions and emergency department attendances

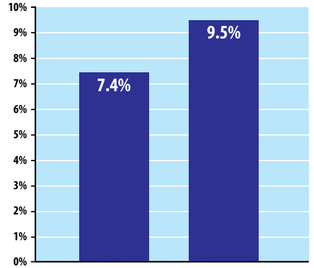
What is recommended in clinical guidelines

- Most attacks of asthma severe enough to require hospital admission develop relatively slowly over a period of six hours or more. So there's enough time for effective action to reduce the number of attacks requiring hospitalisation
- Steroids reduce mortality, relapses, subsequent hospital admissions and requirement for Beta-2 agonist therapy. The earlier they are given in an acute attack the better the outcome
- Before discharge, trained staff should give asthma education. This should include inhaler technique, a symptom and peak-flow based action plan, which allows the patient to adjust their medication within recommendations. These measures have been shown to reduce morbidity after exacerbation and reduce relapse rates
- A respiratory specialist should follow up patients admitted with severe asthma for at least a year after the admission
- A register of patients at risk may help primary care health professionals to identify patients who are more likely to die from their asthma, and therefore such a register may also help to identify those most likely to seek emergency hospital care.

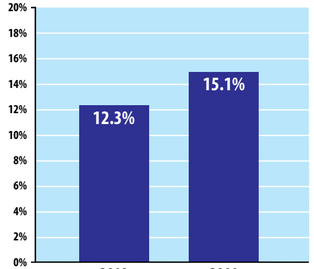
What the evidence tells us

- An analysis of ED attendances for acute asthma identified that 30-40% had been admitted in the previous 12 months, and a quarter had attended an emergency department in the previous three months [97,98]
- The British Thoracic Society acute asthma audit in 2011 showed that 9.5% of people admitted for asthma had also been admitted in the previous month. This figure has been relatively static in recent years, though was lower in 2010 (7.4%). There was a rise in the numbers of patients re-admitted between three and 12 months following discharge – 15.1% in 2011 compared with 12.3% in 2010 [99]
- Most patients with asthma have symptoms for several days/nights before attending an emergency department, so there is time for interventions to prevent the asthma attendance happening [100]
- Many aspects of managing acute attacks is not being carried out in accordance with the guideline.Initial assessment is suboptimal. Peak flow readings are not being taken on presentation or after bronchodilator treatment, although this is a key step in determining severity and informs the decision as to whether to admit [101]
- Early use of steroids is key for managing acute asthma, yet only 46% of patients have steroids started within an hour of arriving in hospital or before arriving in hospital [102]
- Patients with self-management plans have fewer asthma events, [103] and the Cochrane review noted that they show fewer hospitalisations, emergency department visits and unscheduled visits to the doctor [104].
- The estimated probability of having an exacerbation in any week is higher the more uncontrolled the asthma is the previous week [105]
- Follow-up after an acute admission, which is important to prevent future re-admissions is a significant area of weakness in asthma management (see next section).

The British Thoracic Society acute asthma audit 2011



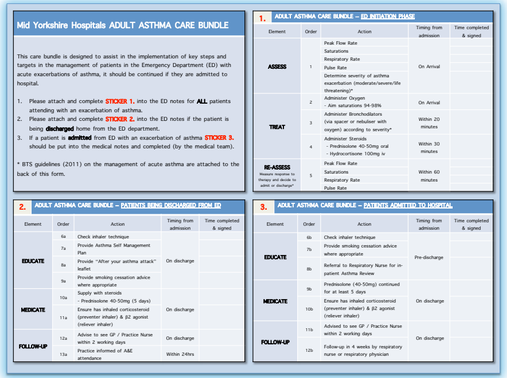
Admissions for asthma who had also been admitted in the previous month



Number of patients readmitted between 3 and 12 months following discharge

What does this mean for commissioners and service developers?

- Since it is usually possible to identify deterioration in symptoms before this happens and prevent emergency department attendances and admissions, commissioners are advised to focus on initiatives that will help to achieve this, for example identifying the people who have attended once or more in previous 12 months are at-risk patients (see sections 13 and 14). This creates the opportunity to:
  - Review these patients' management in detail
  - Support patients in their understanding of how deterioration happened
  - Put written asthma management plans in place
  - Give patients a number to call for urgent advice should symptoms deteriorate
  - Ensure practices give priority appointments to these patients when they seek a consultation
  - Alert ambulances to these patients to explore whether a member of the community team can attend
  - Recall such patients for review in primary care more frequently than annually and see them in their home if necessary
- Commissioners should require emergency departments to audit the extent to which they are delivering care in line with the guidelines, and to compare their own performance in the British Thoracic Society acute asthma audit with the national findings
- Commissioners should consider setting up a CQUIN for acute asthma care to encourage adherence to best practice guidelines.



Mid Yorkshire Hospitals ADULT ASTHMA CARE BUNDLE

This care bundle is designed to assist in the implementation of key steps and targets in the management of patients in the Emergency Department (ED) with acute exacerbations of asthma, it should be continued if they are admitted to hospital.

1. Please attach and complete **STICKER 1.** into the ED notes for **ALL** patients attending with an exacerbation of asthma.
2. Please attach and complete **STICKER 2.** into the ED notes if the patient is being **discharged** home from the ED department.
3. If a patient is **admitted** from ED with an exacerbation of asthma **STICKER 3.** should be put into the medical notes and completed (by the medical team).

* BTS guidelines (2011) on the management of acute asthma are attached to the back of this form.

1. ADULT ASTHMA CARE BUNDLE – ED INITIATIVE PHASE

Element	Order	Action	Timing from admission	Time completed & signed
ASSESS	1	Peak Flow Rate Saturations Respiratory Rate Pulse Rate Determine severity of asthma exacerbation (moderate/severe/life threatening)*	On Arrival	
TREAT	2	Administer Oxygen - Aim saturations 94-98%	On Arrival	
	3	Administer Bronchodilators (via spacer or nebuliser with oxygen) according to severity*	Within 20 minutes	
	4	Administer Steroids - Prednisolone 40-50mg oral - Hydrocortisone 100mg iv	Within 30 minutes	
RE-ASSESS Reassess response to therapy and decide to admit or discharge*	5	Peak Flow Rate Saturations Respiratory Rate Pulse Rate	Within 60 minutes	

2. ADULT ASTHMA CARE BUNDLE – PATIENTS BEING DISCHARGED FROM ED

Element	Order	Action	Timing from admission	Time completed & signed
EDUCATE	6a	Check inhaler technique	On discharge	
	7a	Provide Asthma Self Management Plan		
	8a	Provide "After your asthma attack" leaflet		
	9a	Provide smoking cessation advice where appropriate		
MEDICATE	10a	Supply with steroids - Prednisolone 40-50mg (5 days)		
	11a	Ensure has inhaled corticosteroid (preventer inhaler) & β2 agonist (reliever inhaler)		
FOLLOW-UP	12a	Advise to see GP / Practice Nurse within 2 working days		
	13a	Practice informed of A&E attendance	Within 24hrs	

3. ADULT ASTHMA CARE BUNDLE – PATIENTS ADMITTED TO HOSPITAL

Element	Order	Action	Timing from admission	Time completed & signed
EDUCATE	6b	Check inhaler technique	Pre-discharge	
	7b	Provide smoking cessation advice where appropriate		
	8b	Referral to Respiratory Nurse for in-patient Asthma Review		
MEDICATE	9b	Prednisolone (40-50mg) continued for at least 5 days	On discharge	
	10b	Ensure has inhaled corticosteroid (preventer inhaler) & β2 agonist (reliever inhaler)		
FOLLOW-UP	11b	Advised to see GP / Practice Nurse within 2 working days	On discharge	
	12b	Follow-up in 4 weeks by respiratory nurse or respiratory physician		

Examples of good practice

St Guy's and St Thomas' Teaching Hospitals NHS Foundation Trust identified a high proportion of 28-day re-attenders within its A&E department. It aimed to reduce re-attendances by 20% by targeting this cohort with an A&E proforma which included a comprehensive discharge checklist. Patients were also given information on other out-of-hours providers (as many cited lack of awareness of provision such as pharmacists as a reason for re-attendance) and a letter to take to their GP within 48 hours to secure a follow-up appointment in primary care. The trust 28- day re-attenders have now reduced by 45% compared to the previous year.

Mid Yorkshire Hospitals NHS Trust targeted re-admissions by introducing an asthma three-sticker bundle. The first sticker was for A&E staff (supported by a CQUIN requiring a 75% adherence) and included actions for discharge from A&E and the third sticker related to a checklist for actions on discharge from an admission.

ESyDoc Clinical Commissioning Consortia validated its asthma registers by calling for review patients with diagnosed asthma and patients with asthma meds but no diagnosis. It reviewed several hundred patients in nurse-led clinics over a six month period using a standardised template among the 19 constituent practices. The template included a meds review, self-management plan and inhaler technique check. ESyDoc admissions have decreased by 21% compared with the previous year. EsyDoc also worked collaboratively with Sussex and Surrey Hospitals NHS Trust to identify admitted patients who were registered with their practices to try and avoid readmissions. The hospital respiratory consultant's team notified the practice of patients on discharge who were then followed up with a letter or call to offer a post-discharge primary care appointment.

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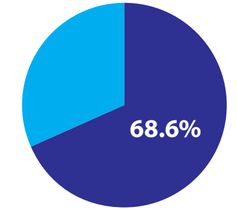
21 Following up acute episodes

What is recommended in clinical guidelines

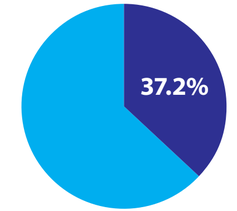
- The GP practice should be informed within 24 hours of a patient's discharge from the emergency department or hospital following asthma exacerbation. Ideally this should be directly with a named individual responsible for asthma care within the practice by fax or email
- There should be a GP follow-up within two working days – and ideally arranged before discharge, and a follow-up appointment in the respiratory clinic within four weeks
- A respiratory specialist should follow up patients admitted with severe asthma for at least one year after the admission
- A careful history should elicit the reasons for the exacerbation and explore possible actions the patient could take to prevent future emergency attendances. Inhaler technique should be checked and corrected and the importance of adherence to prescribed medication discussed. Medication should be optimised and the patient provided with an asthma action plan aimed at recognising their asthma is worsening, preventing relapse, optimising treatment and preventing delay in seeking assistance in the future.

What the evidence tells us

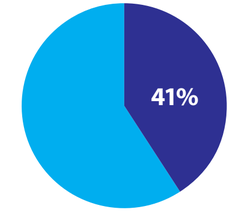
- Follow-up after an acute admission, which is important to prevent future re-admissions is a significant area of weakness in asthma management
- The BTS adult asthma audit 2011 showed that while 68.6% people had a further hospital review within the recommended four weeks following discharge, only 37.2 % were advised to attend their GP surgery within the following week and only 41% of people had their action plan reviewed or were provided with an asthma action plan [106]
- Less than 50% of patients had documented evidence of inhaler technique review
- Only 41% had an asthma action plan on discharge – which would help them to recognise any deterioration in control in future and take appropriate action
- Some repeat attenders need emergency care, but many delay seeking help and are under-treated and/or under-monitored [107].



Further hospital review within the recommended 4 weeks following discharge



Advised to attend their GP surgery within the following week



Action plan reviewed or were provided with an asthma action plan

BTS adult asthma audit 2011

What does this mean for commissioners and service developers?

- Commissioners should require secondary care providers to demonstrate that they are following the guidelines for education before discharge and for following up these patients after an exacerbation, as they represent a high risk group of patients. Follow up should be specifically commissioned
- Commissioners should ensure there are systems in place between secondary care providers, GPs, practice nurses and pharmacists to communicate effectively and promptly about a patient's attendance or admission, so that appropriate follow-up can take place in the practice. Secondary care needs to be aware of and have confidence in the services available in the community
- Practice systems should enable patients who have had an exacerbation to access a nurse or GP for a follow-up after a discharge as recommended
- Commissioners should consider setting up a CQUIN for acute asthma care to encourage adherence to best practice guidelines.

Examples of good practice

St Guy's and St Thomas' Teaching Hospitals NHS Foundation Trust implemented a proforma for managing adult asthma patients who attend at A&E to ensure equal and standard care. A comprehensive discharge checklist within the proforma must be completed by staff which involves demonstration of inhaler technique, giving an After Your Asthma Attack leaflet and a printed letter for the patient to take to their GP within 48 hours to book a follow-up appointment. The patient is also telephoned by the hospital asthma nurse specialist within 48 hours of discharge for a follow-up check

A checklist approach could be used after each episode of uncontrolled asthma. One example is shown on the right.

The Emergency Management of Asthma.
A checklist for use after an Emergency attendance or admission because of asthma.

Note that every episode of uncontrolled asthma represents a potential failure of previous management.

- Was this potentially fatal asthma?
- Was the patient's inhaler technique satisfactory?
- Prior to the attack were they on, and were they taking sufficient preventive therapy?
- Was there an avoidable precipitating cause eg aspirin use, alcohol, allergen exposure or occupational cause?
- Was this a genuine sudden severe (brittle) attack and do they need to be taught the special first aid measures needed by this group?
- Is the patient a poor perceiver of severity?
- Did the patient react appropriately to the impending attack, and did they have a written personal asthma action plan?

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A Annex A – A patient-centred asthma service checklist

The following checklist can be used to help commissioners identify whether the patients in their area have the services they need, whether best practice guidelines are being followed, and whether different sectors of the NHS are working effectively together to deliver seamless care.

An integrated care pathway for asthma that encompasses all healthcare settings, so the patient journey is supported by good communication between professionals who are aware of the role of other parties and all are working to best practice in the British asthma guidelines	☐
Good understanding of the burden of asthma locally to provide a sound basis for a local asthma strategy to improve outcomes – prevalence rates, outcomes in primary and secondary care, deaths and so on	☐
All patients with suspected asthma have access to a professional appropriately trained in performing diagnostic level spirometry and the basis upon which the diagnosis of asthma was made is recorded in the clinical records	☐
A lead health professional for asthma in each practice who co-ordinates services in accordance with the British asthma guideline and local care pathways	☐
At least one practice nurse in every practice is trained in managing asthma (ie holds a recognised certificate of competence eg an asthma diploma)	☐
Routine use of personalised asthma action plans for all people with asthma – developed by professionals in collaboration with patients, who are competent in the skills required to support patients in self management	☐
Regular reviews of all with asthma, at least annually and definitely after any need for urgent healthcare in any part of the healthcare system	☐
Primary care practices are performing well against the asthma indicators in the Quality and Outcomes Framework	☐
Audits of medication in primary care undertaken to ensure that medication is being optimised and in line with the British asthma guideline	☐
A system for stratifying patients with asthma according to risk, so that appropriate interventions are available to those at higher risk of acute attacks and high cost care	☐
High quality information sources (eg Asthma UK and BLF materials/websites) are made available to all people with asthma and their families at diagnosis and regular review to encourage understanding of asthma and support self care	☐
Systematic approach to help patients with asthma to quit smoking in routine consultations and as part of treatment of an acute episode	☐
A named lead for respiratory emergencies in emergency departments is responsible for ensuring that appropriate emergency care is given	☐
Access to a respiratory specialist and respiratory nurse specialists in place in each setting or hospital facility that cares for those with exacerbations of asthma	☐
Robust systems of communication and follow-up are in place for those with asthma who have received care in out-of-hours services, ambulances, hospitals, walk-in centres or other urgent health care settings	☐
Adults with late onset of asthma have access to specialist services to investigate potential causes in the workplace and receive advice and support	☐
Specialist services for people with severe/brittle/difficult asthma are available and accessible to patients who need a comprehensive multidisciplinary approach to asthma care	☐
Monitoring and audit arrangements to ensure all levels of care are available and delivered according to the British asthma guideline	☐

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B Annex B – Good asthma services checklist from Asthma UK

Good Asthma Services Checklist

Asthma UK calls on healthcare decision-makers to ensure that every child and adult with asthma:

- ✓ receives a quick and accurate diagnosis of asthma, through the most appropriate methods, with referral to a respiratory specialist if required.
- ✓ has a Personal Asthma Action Plan, in an appropriate format, that they have discussed and agreed through a face-to-face consultation with their healthcare professional.
- ✓ has access to appropriately trained healthcare professionals who follow the British Guideline on Management of Asthma and who work across organisational boundaries.
- ✓ has access to effective emergency and out-of-hours services when experiencing an asthma attack or worsening of their condition with follow up appointments arranged prior to discharge.
- ✓ has access to specialist healthcare professionals and services that meet individual needs, including specialist wards and centres.
- ✓ has their condition managed in an appropriate manner, with particular recognition given if they are a young person moving into adulthood.
- ✓ and their parent/carer has access to a range of local services including education, social care and housing that also meet their social, emotional and psychological needs.
- ✓ and their parent/carer is empowered to be actively involved in the local planning, delivery, development and evaluation of services to meet the diverse needs of **all** people with asthma.
- ✓ has access to easy-to-understand high quality asthma information in a format and language they can understand as part of an effective health inequalities strategy.
- ✓ benefits from an integrated approach between local government and health services to tackle the wider social and economic factors of health inequalities with an emphasis on targeting 'seldom heard' groups.

To pledge your support for the *Good Asthma Services Checklist* contact Asthma UK's Supporter & Information Team (08456 03 81 43; info@asthma.org.uk).

Asthma UK, Summit House, 70 Wilson Street, London EC2A 2DB
T 020 7786 4900 F 020 7256 6075

asthma.org.uk
info@asthma.org.uk

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C Annex C – CQUINS: Commissioning for quality and innovation

Examples of CQUINS for asthma

NHS Yorkshire and the Humber CQUIN for management of asthma in emergency departments

Local contract ref.	
Goal number	
Goal name	**Respiratory**
Indicator number	
Indicator name	**Asthma in emergency department (ED) 7**
Indicator weighting	
(% of CQUIN scheme available)	
Description of indicator	Improving management of patients presenting with asthma in ED
Numerator	a. Number of patients (under 18) attending ED with asthma discharged home/not admitted with completed care bundle b. Number of patients (over 18) attending ED with asthma discharged home/not admitted with completed care bundle The care bundle reflects College of Emergency Medicines standards and BTS/Sign guidelines and includes all of the following measures: 1. Vital signs measurement and recording – peak flow, O_2 saturation, pulse and respiratory rate measured and recorded on arrival in ED 2. Beta 2 agonist administration in ED within 20 minutes of arrival 3. Steroid administration in ED within 30 minutes of arrival 4. Repeat vital sign measurement and recording – peak flow, O_2 saturation, pulse and respiratory rate measured and recorded in ED before discharge 5. Inhaler technique checked and explanation of action 6. Discharge prescription of oral steroids – oral prednisolone 30-50mg for five days for adults, oral prednisolone 20mg for three days for under fives, oral prednisolone 30-40mg for three days for children over five 7. Appropriate follow-up arrangements within primary care * Written symptom based and peak flow based self-management plan given, which allows patients to adjust therapy within recommendations * Information about what to do if they have another asthma attack/how to recognise deterioration, for example given a copy of After your Asthma Attack or After your Child's Asthma Attack leaflet from Asthma UK * Advised to see GP/practice nurse within two working days of ED attendance * Practice informed of ED attendance by fax within 24 hours
Denominator	a. Number of patients (under 18) attending ED with asthma who are discharged home/not admitted b. Number of patients (over 18) attending ED with asthma who are discharged home/not admitted
Rationale for inclusion	One in four people who have attended ED because of an asthma attack receive no information about follow-up treatment and only 35% of those with asthma know what they need to do after an attack (Asthma UK). One in six people who have received emergency treatment for an asthma attack need treatment again within two weeks. Those attending ED often do not receive the same level of information and follow-up as those admitted to a ward, even though this is a crucial time to deliver that education to patients and their carers. By providing the correct assessment, education and support re-attendance rates will be reduced, admissions prevented and patient outcomes improved.
Data source	Identify and audit 50 consecutive attendances diagnosed as asthma during the previous quarter – at least 20 to be aged 18 or over. Only measures v. and vii. are applicable for patients presenting with mild symptoms. Patients presenting with acute severe or life threatening symptoms and those admitted to hospital are excluded from the audit.
Frequency of data collection	Twice yearly
Organisation responsible for data collection	Provider
Frequency of reporting to commissioner	Twice yearly report (quarter two and quarter four)
Baseline period/date	2012/13 Q2
Baseline value	to be added
Final indicator period/date (on which payment is based)	Quarter two Quarter four
Final indicator value (payment threshold)	75% of all measures
Rules for calculation of payment due at final indicator period/date (including evidence to be supplied to commissioner)	Completed audit report required for quarter two and quarter four to be submitted to the commissioner by the end of the month following the quarter end.
Final indicator reporting date	Quarter two – 31 October 2012; Quarter four – 30 April 2013.
Are there rules for any agreed in-year milestones that result in payment?	No
Are there any rules for partial achievement of the indicator at the final indicator period/date?	No

D Annex D – The Quality and Outcomes Framework

QOF indicators for asthma

The QOF indicators for asthma in 2012/13 are:

Indicator	Points	Payment stages
Records		
ASTHMA1: The practice can produce a register of patients with asthma, excluding patients with asthma who have been prescribed no asthma-related drugs in the preceding 12 months	4	
Initial management		
ASTHMA8: The percentage of patients aged eight and over diagnosed as having asthma from 1 April 2006 with measures of variability or reversibility	15	45-80%
Ongoing management		
ASTHMA10: The percentage of patients with asthma between the ages of 14 and 19 in whom there is a record of smoking status in the preceding 15 months	6	45-80%
ASTHMA9: The percentage of patients with asthma who have had an asthma review in the preceding 15 months that includes an assessment of asthma control using the 3 RCP questions	20	40-70%

Information on exception reporting and true population coverage

Under the QOF scheme, GPs are rewarded for achieving an agreed level of population coverage for each indicator. In calculating coverage, practices are allowed to except appropriate patients from the target population such that they are not penalised for factors beyond their control, eg when patients do not attend for review despite repeated invitations, or if a medication cannot be prescribed due to a contra-indication or side-effect. It is this exception-adjusted population coverage that is reported annually.

However, patients not seen for review are at high risk of not receiving appropriate active chronic disease management and therefore of experiencing worse outcomes than patients who do receive a review.

Magnitude of variation

For PCTs in England, the percentage of patients with asthma who have had an asthma review in the preceding 15 months based on 2010/11 data:

- **For exception-adjusted reporting**, it ranged from 75.2% to 86.6% (1.2-fold variation); when the five PCTs with the highest percentages and the five PCTs with the lowest percentages are excluded, the range is 76.1-82.4%, and the variation is 1.1-fold;
- **For actual coverage**, it ranged from 75.1% to 86.5% (1.2-fold variation); when the five PCTs with the highest percentages and the five PCTs with the lowest percentages are excluded, the range is 76.0-82.2, and the variation is 1.1-fold.

Although there are legitimate reasons for exception-reporting, the degree of variation observed suggests that some practices are more effective than others at reaching the local asthma population and thereby influencing patient outcomes. Actual population coverage for systematic chronic disease management in people with asthma is considerably lower than the reported QOF achievement indicates. Patients not reached for chronic disease management are more likely to have worse outcomes than patients who receive chronic disease management. It is possible that many of the people not attending for regular review are among the more poorly controlled and high-risk patients. Novel and creative strategies may be needed to reach these patients to optimise their asthma control.

Local commissioners could assist GP practices to increase the local population coverage of their chronic disease management in asthma by considering the interventions in the box to the right.

For further information see the respiratory atlas of variation 2012. See **http://www.rightcare.nhs.uk/index.php/nhs-atlas/**

Increasing local population coverage of chronic disease management in asthma

- **Calculate the actual chronic disease management coverage of registered asthma patients by including excepted patients in the denominator**
- **Benchmark and share local exception-reporting data**
- **Identify systems used by the best-performing practices to maximise patient reach**
- **Support local practices with high exception rates to implement best-practice systems and improve patient outcomes through systematic chronic disease management; this should help more practices to become effective at reaching the entire asthma population through a regular review.**

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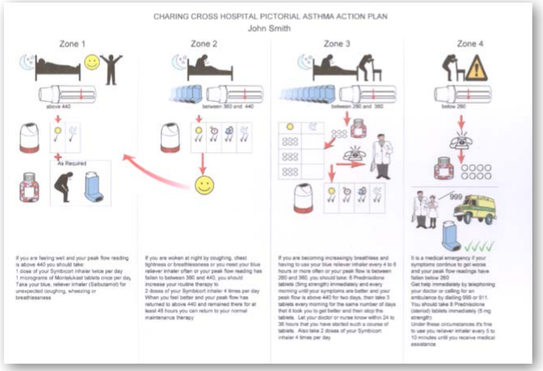
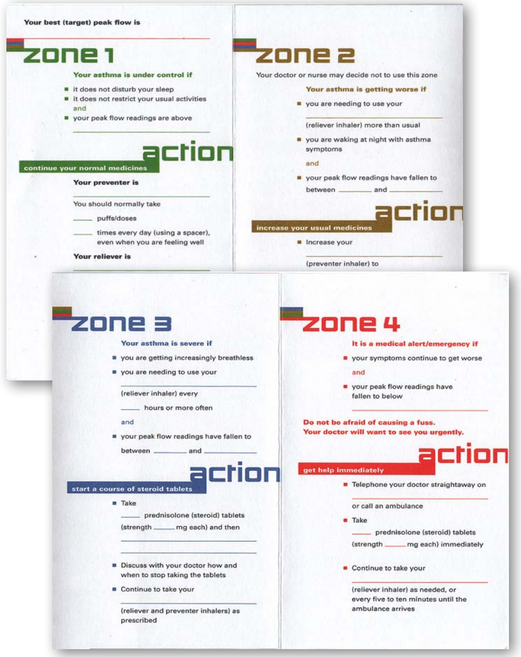
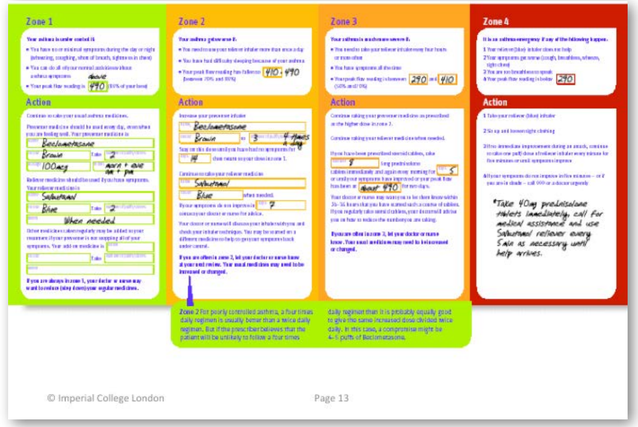
E Annex E – Examples of self-management plans

An action plan should contain three action points advising the person when to:

- Increase their usual therapy - early adjustments to treatment by a confident patient can avoid or reduce the severity of an exacerbation
- Start steroid tablets
- Seek urgent medical attention.







F Annex F – Pathway diagrams

The following diagrams have been included here as resources for use in documents. They can be enlarged and used as slides in presentations or in documents.

Fig 1 Asthma: The patient journey
Asthma is diagnosed

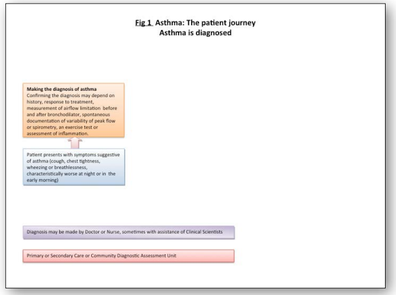


Fig 2 Asthma: The patient journey
Fig 2 Treatment is recommended

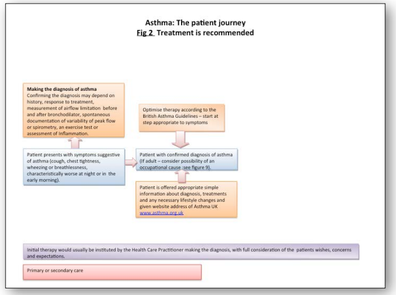


Fig 3 Asthma: The patient journey
Fig 3 Review

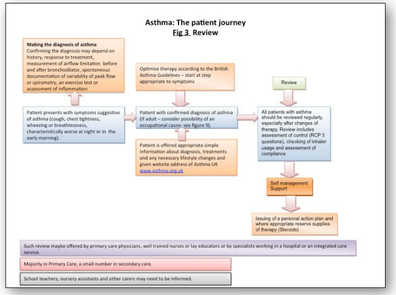


Fig 4 Asthma: The patient journey
Fig 4 Further review after treatment change

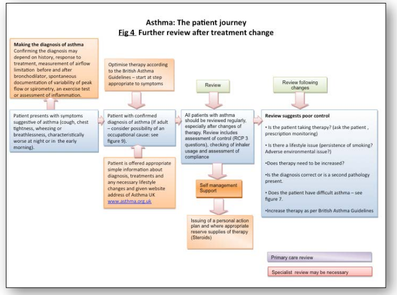


Fig 5 Asthma: The patient journey
Exacerbations of asthma

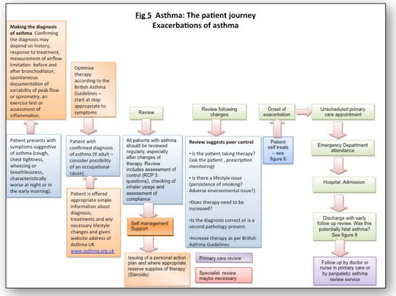


Fig 6 Asthma: The patient journey
Self treatment and self management support

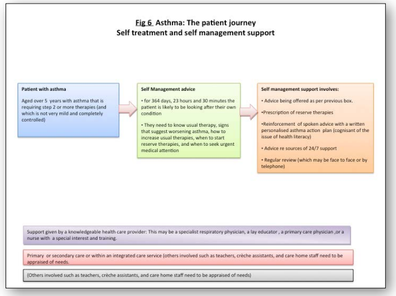


Fig 7 Asthma: The patient journey
Difficult asthma

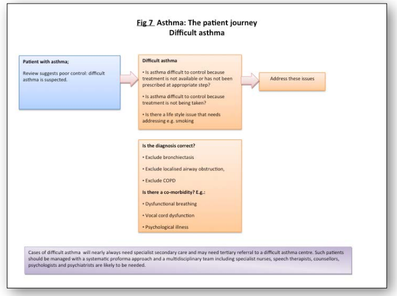


Fig 8 Asthma: The patient journey
Potentially fatal asthma

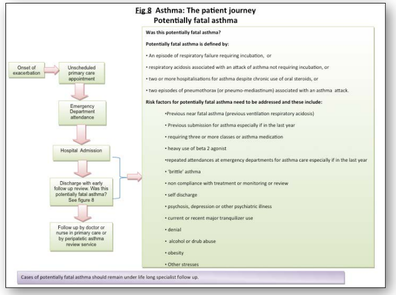
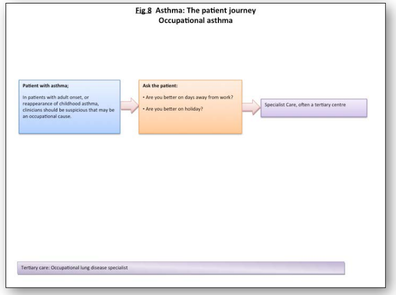


Fig 8 Asthma: The patient journey
Occupational asthma



G Annex G – Levers for change

Driving changes in practice is essential if improvements in the quality of asthma care are to be achieved. There is a range of levers available in the NHS to drive improvements.

National

- The NHS Outcomes Framework and the Commissioning Outcomes Famework set a high level priority on specific outcomes at a national level. As already outlined in Chapter 4 'The policy context', reducing deaths from respiratory disease is a key improvement area for the NHS and puts respiratory disease firmly on the national agenda.
- The Quality and Outcomes Framework (QOF) rewards GP practices for systematically providing high quality care for their patients. Asthma has featured in the QOF from the start of the new GMS contract in 2004, and the indicators have developed over time to become more outcomes focused and to reinforce guidelines-based good practice. This will continue to be an important tool for driving improvements in the quality of primary care.
- The quality standard for asthma will provide an important lever to drive up standards of care when it is available in February 2013. Also under discussion are the health premium and the quality premium, though details of how these will work are still in development.

Local

- Quality accounts have been used since 2010 by NHS organisations to help providers identify and focus on the issues that will make the biggest difference to the quality of care they provide. They articulate to their commissioners, patients and the public which issues have been prioritised and how the organisation will address them. This is a key mechanism for reporting on how services for asthma are being improved.
- Commissioning for Quality and Innovation (CQUIN) – this payment framework enables commissioners to reward excellence by linking a proportion of acute providers' income to the achievement of local quality improvement goals. This is therefore an excellent tool to drive specific quality improvement initiatives with providers. CQUINS are already being used to good effect in various ways for respiratory disease and examples are given within this document and in Annex C.
- Local enhanced service (LES) – This is a mechanism within the GMS contract to drive improvements in primary care services. Enhanced services plug a gap in essential services in primary care or deliver higher than specified standards. Enhanced services expand the range of services to meet local need, improve convenience and extend choice. A local enhanced service is one that is set up locally to meet specific health needs of relevance to the local population. This can be a useful lever to encourage improvements in the management of specific areas of care in primary care. Ultimately, gains made by local enhanced services or other resource allocation programmes need to be embedded into mainstream service payments to ensure that gains made are not subsequently lost following disinvestment.

Reviewing quality through audit

A regular programme of review and audit should be established to ensure that all relevant services – clinical and non-clinical – are providing the most appropriate service and support to people with asthma. The British asthma guideline contains a section on clinical audit, which may also be useful.

As a minimum, local areas should be clear about the extent to which services are delivering against requirements such as:

- Number and proportion of practices with a named asthma lead GP
- Number and proportion of practices with at least one nurse with additional accredited training in asthma care
- Number and proportion of primary care and community nursing teams completing additional accredited training in asthma care each year
- Number and proportion of adults on asthma registers with evidence of having been given a written personal asthma action plan
- Number of urgent care units with a clinician trained in urgent asthma care
- Number of people needing urgent care for asthma who see a respiratory specialist
- Number of people leaving hospital after urgent care for whom proactive follow up in primary care has been arranged
- Number of deaths from asthma in adults.

H Annex H – Partner organisations

Partner organisations

The Asthma Steering Group was formed in 2009 to support the respiratory team at the Department of Health for England in developing its asthma work. Chaired by Professor Martyn Partridge, this group comprises doctors, nurses and people with asthma who have been charged with shaping and contributing to the asthma work programme. They have contributed to a range of initiatives including the asthma chapter in the COPD and asthma outcomes strategy, developing the Quality and Outcomes Framework indicators for asthma, reviewing asthma information on NHS Choices and importantly, developing this good practice guide. Three organisations have representatives on this steering group and we would like to thank both the members of the group and these organisations for their commitment and support.

Asthma UK

Asthma UK is the charity dedicated to improving the health and well-being of the 5.4 million people in the UK whose lives are affected by asthma. It aims to substantially reduce the number of asthma attacks that result every day in preventable hospital admissions and deaths. It also aims to encourage the development of new treatments that will give more people control over their asthma. Asthma UK pursues its goals by funding world-class medical research, providing practical and life-saving services and giving people with asthma a strong voice in public policy and local care delivery. Its resources for patients and health professionals have won prestigious medical awards and are independently accredited. These include a free adviceline service (0800 121 6244), a comprehensive website, self management plans, an active Facebook site and a range of targeted materials for both adults and children with asthma and their healthcare professionals.

www.asthma.org.uk

British Thoracic Society

The BTS is a professional body and registered charity. Its members include doctors, nurses, respiratory physiotherapists, scientists and other professionals with an interest in respiratory disease. The society had 2,797 members at 1 July 2012. BTS' main charitable objective is to improve the care of people with respiratory and associated disorders, which is achieved in various ways:

- By promoting optimum standards of care and developing tools for quality improvement: treatment best practice guidelines; clinical audit tools; the development of the BTS lung disease registry and the forthcoming work on care bundles
- By promoting and advancing knowledge about the causes, prevention and treatment of respiratory diseases
- By promoting and disseminating research (through the winter meeting as well as the journal Thorax).

www.brit-thoracic.org.uk

The Primary Care Respiratory Society UK

The Primary Care Respiratory Society UK (PCRS-UK) is a membership-led charity supporting primary care health professionals. Its mission is to give every member of the primary care practice team the confidence to deliver quality respiratory care, improve the quality of life for patients with respiratory disease, and help practices hit their Quality and Outcomes Framework (QOF). Through practice and individual membership schemes, PCRS-UK offers a wealth of practical resources for primary care health professionals, whether they are relatively new to respiratory medicine or a respiratory expert.

- The PCRS-UK respiratory leaders programme also provides primary care health professionals with training workshops, policy updates and IMPRESS resources, to enable them to take the lead, motivate and inspire best practice within their locality.
- The PCRS-UK quality award sets out the principles that best define high quality respiratory care in primary care and provides a developmental framework that can be used at practice, local and national level to promote, support and reward quality respiratory care in the primary care setting.

www.pcrs-uk.org

Annex I – Asthma steering group

Professor Martyn Partridge – chair

	Representing	Role
Jan Gould	Asthma UK	Lay representative
Mary Fletcher	Asthma UK	Lay representative
Professor Mike Thomas	Asthma UK	Professor of primary care respiratory research
Professor Ian Pavord	Asthma UK	Chest physician
Vikki Knowles	Asthma UK	Community respiratory nurse
Dr Bernard Higgins	British Thoracic Society	Chest physician
Dr Duncan Keeley	Primary Care Respiratory Society UK	GP
June Roberts	Primary Care Respiratory Society UK	Respiratory nurse consultant
Dr Jon Couriel		Respiratory paediatrician
Fiona Fowler		Lay representative
Dr Robert Winter	Department of Health	Joint national clinical director, respiratory disease
Bronwen Thompson	Department of Health	Asthma programme lead

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