



Respiratory Health

Introduction

The Department of Health published '[Living Well for Longer](#)', 2013, which is about reducing avoidable, premature deaths caused by the big killer diseases. This includes lung disease. 'Premature death' is under 75 years of age and it is intended that in England, premature death rates will become the lowest amongst our European peers. It has been shown that we have a long way to go.

The [Longer Lives website](#) compares overall and specific disease premature deaths against similarly deprived local authorities. It shows that Bedford Borough was ninth out of 15 for premature deaths caused by lung disease compared to similar councils and 63rd of 149 of local authorities overall (1 is the best, 2013-15).

Influenza, pneumonia and COPD are the main reason for emergency admissions in the over 65s for ambulatory care sensitive conditions. These are conditions for which it is possible to prevent acute exacerbations and reduce the need for hospital admission through active management, such as vaccination; better self-management, disease management or case management; or lifestyle interventions.

There are two main conditions affecting the respiratory tract: Chronic Obstructive Pulmonary Disease and Asthma.

Chronic Obstructive Pulmonary Disease (COPD)

Chronic Obstructive Pulmonary Disease (COPD) is an umbrella term that includes chronic bronchitis and emphysema. It is characterised clinically by airflow obstruction and is usually progressive, not fully reversible and does not change markedly over several months. This disease is predominantly caused by [smoking](#) and the prevalence is strongly associated with age. However, other factors, such as occupational exposures, may also contribute to the development of COPD.

What do we know?

National Picture

- An estimated [3 million people](#) have COPD in the UK and, of those, 2 million remain undiagnosed - mainly those with milder symptoms
- COPD is estimated to be the [fifth largest cause of death](#) in the UK. It causes 25,000 deaths per year
- [COPD](#) website including numbers of people diagnosed with COPD, deaths from COPD and emergency hospital admissions
- COPD is often associated with other long-term conditions; 40% of people with COPD also have heart disease and significant numbers have depression and/or an anxiety disorder
- [Smoking](#) is the main cause of COPD and is thought to be responsible for around 90% of cases. The lining of the airways becomes inflamed and permanently



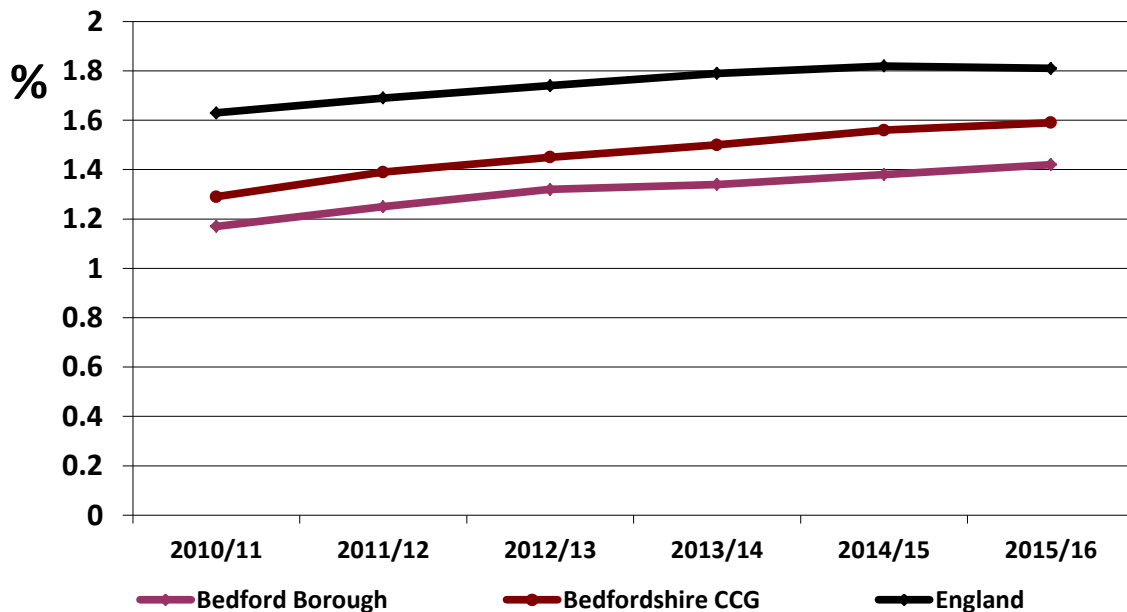
damaged by smoking and this damage cannot be reversed.

- **Fumes and dust-** exposure to certain types of dust and chemicals at work, including grains, isocyanates, cadmium and coal, has been linked to the development of COPD, even in people who do not smoke. The risk of COPD is even higher if you breathe in dust or fumes in the workplace and you smoke
- **Air pollution-** according to research, air pollution may be an additional risk factor for COPD. However, at the moment it is not conclusive

Local picture

The prevalence of COPD in Bedford Borough was 2,490 (1.4%) and Bedfordshire CCG was 466,465 (1.6%) in 2015/16, an increase since 2010/11 (**Figure 1**). This is mainly due to the population ageing as COPD is strongly associated with age. The prevalence of COPD over the next 3-5 years in Bedford Borough and nationally are forecast to show a slow increase of about 0.05% per year.

Figure 1 Percentage of Practice Populations on register for COPD, trend 2010/11-2015/16



Source: QOF, 2016

[NHS RightCare Commissioning for Value- respiratory focus pack](#) compares Bedfordshire CCG with the best five of 10 similar CCGs¹ for a number of indicators. Amongst these are:

- COPD patients who have had flu immunisation (2014/15, p57)
Bedfordshire CCG was statistically significantly better than the best five
- COPD patients with a record of FeV1² in the preceding year (2014/15, p59)
Bedfordshire CCG was statistically significantly worse than the best five

¹ Mid Essex, West Essex, East and North Hertfordshire, Nene, Basildon and Brentwood, Dartford, Gravesham and Swanley, West Kent, Wiltshire, Chiltern and Southern Derbyshire

² Forced Expiratory Volume passed in 1 second



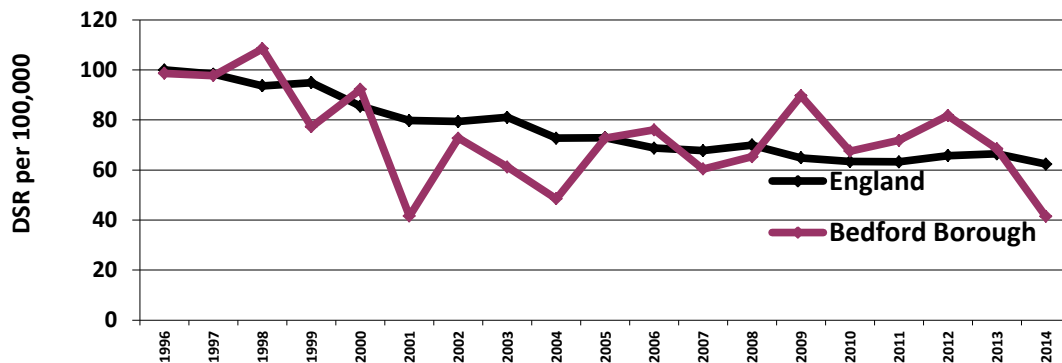
Local Bedford Borough's figures were, QOF, 2015/16:

- 75.4% patients with COPD had the FeV1 checked in the previous 12 months; this proportion was higher to that of Bedfordshire CCG (73.4%) and England (72.1%)
- 82.3% COPD patients had vaccination against seasonal flu; this proportion was higher than that of Bedfordshire CCG (82.9%) and England (79.9%)
- 78.9% of known COPD patients had a review within the preceding 12 months; this figure was similar to Bedfordshire CCG (78.9%) and slightly lower than England (79.3%)

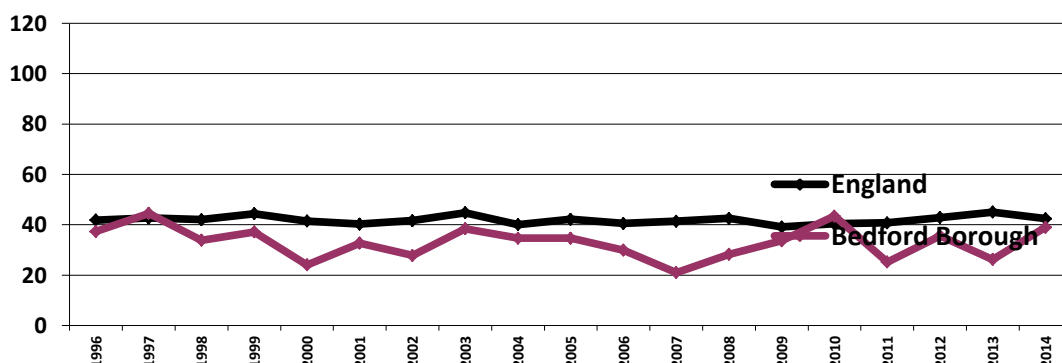
Figure 2 shows the directly age-standardised mortality rate (DSR) for COPD in Bedford Borough. The mortality rate for males was higher than females, though the gap between them has reduced over time as the smoking prevalence decreases. Women mortality rates were lower compared to England and male rate is roughly the same over the time period.

Figure 2 All age mortality rates for bronchitis, emphysema and chronic obstructive pulmonary disease in Bedford Borough by sex and year (Directly standardised)

Male



Female





Source: NHS Digital, 2016

Figure 3 shows COPD premature deaths (up to age 75 years) in males and females. Premature deaths among females in Bedford Borough were lower for men and women compared with England but not significantly.

Figure 3 Premature deaths from bronchitis, emphysema and other COPD (DSR, pooled data), 2012-14

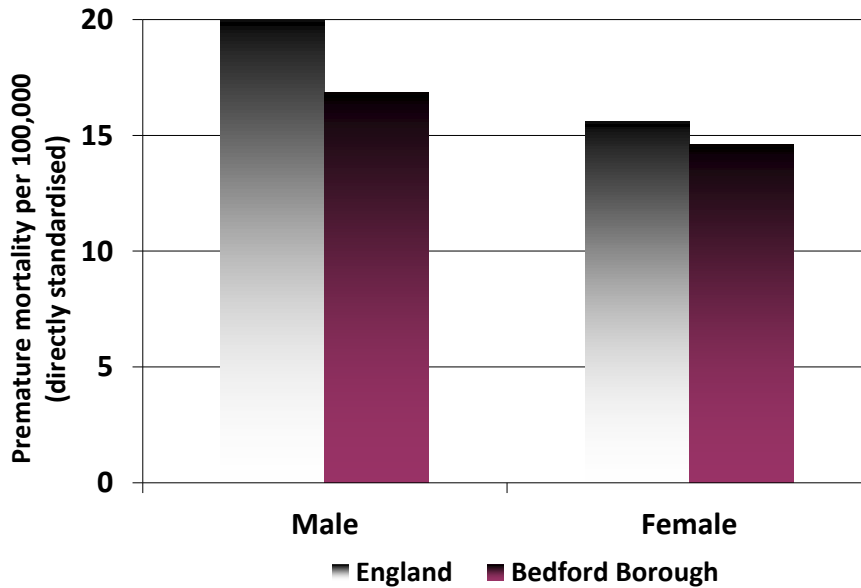
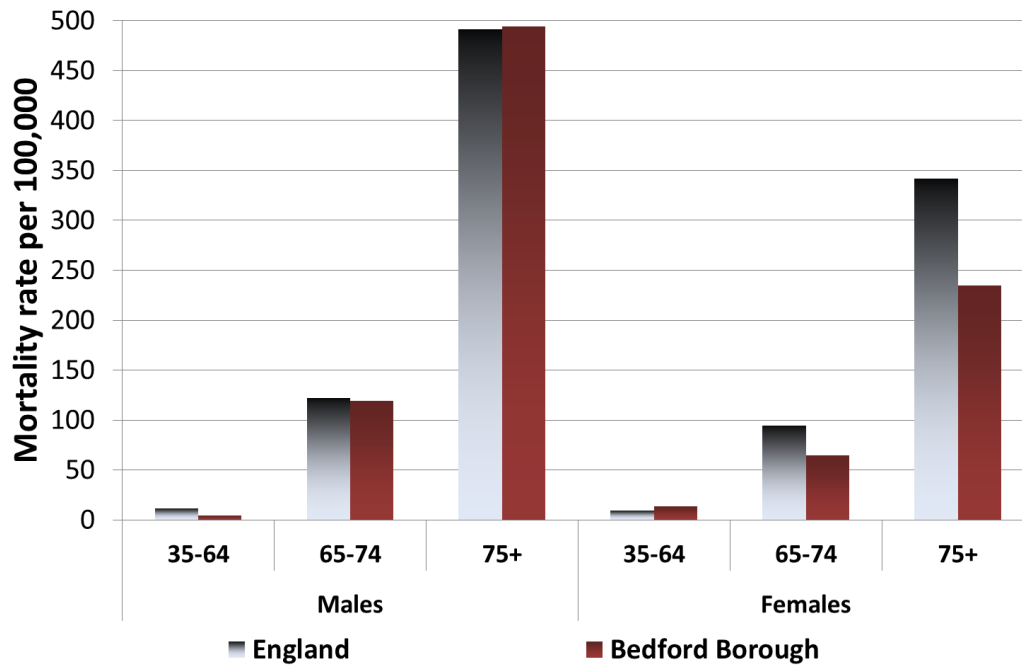


Figure 4 shows mortality rates of COPD by age and sex. The majority of deaths were in the over 75 year age group; few were recorded in the 0-34 year age group.

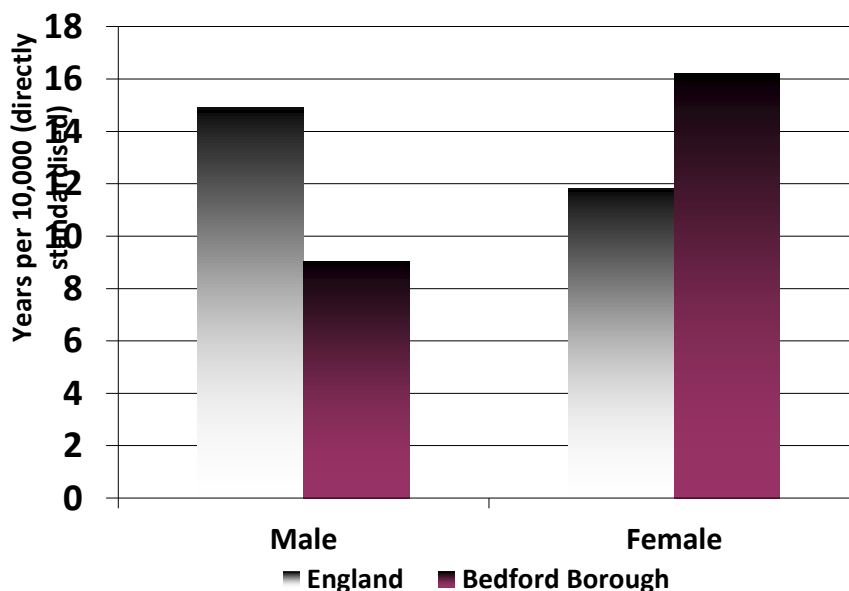
Figure 4: Age specific death rates from bronchitis, emphysema and other COPD (pooled 2012-14)



Source: NHS Digital, 2016

Years of Life Lost (YLL) measures the number of years a person would have lived if they had not died prematurely at an age of less than 75 years. **Figure 5** shows years of life lost due to COPD premature death. Bedford Borough figures were significantly lower than England for males but not significantly higher than England for females.

Figure 5 Years of life lost due to mortality from bronchitis, emphysema and other COPD, 2012-14 (pooled) to the age of 75y



Source: NHS Digital, 2016

The proportion of COPD patients that are registered and the mortality rates at Bedford Borough appear favourable compared to England. However, some management



indicators for COPD (Bedfordshire CCG) and premature mortality rates for lung disease (Bedford Borough) are worse than average when compared with similar local authorities (9th out of 15).

Asthma

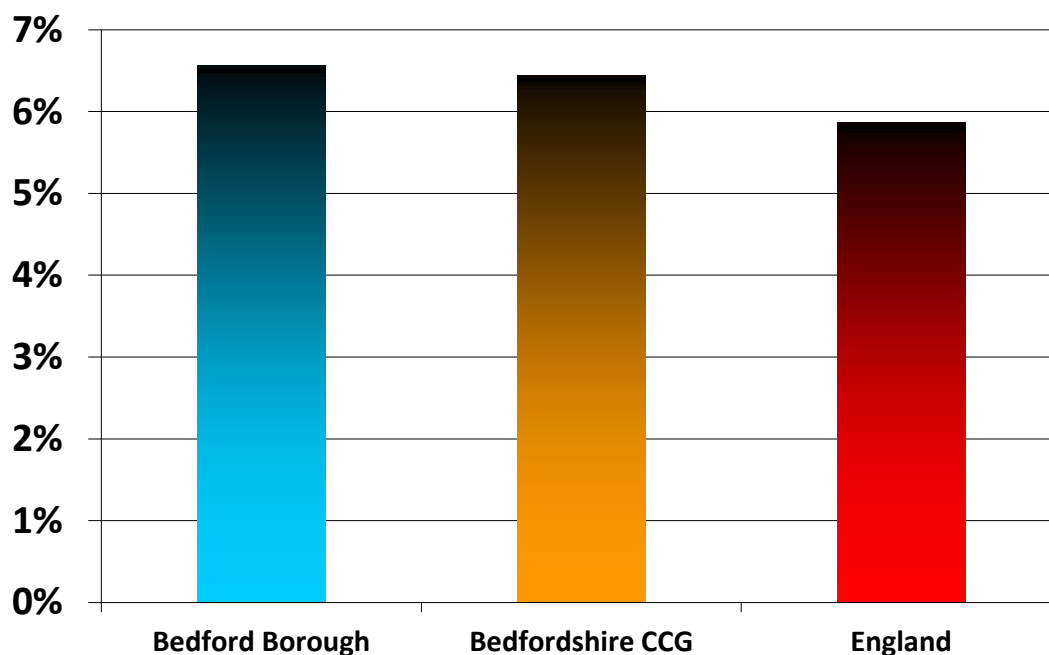
Asthma is a chronic inflammatory disorder of the airways with reversible airway obstruction. There is an increase in airway resistance to certain triggers, for example animal hairs, exercise and cold air. Obstruction is usually [reversible spontaneously or with treatment](#). In England, 5.9% of adults had asthma in 2015/16.

What do we know?

Facts, Figures, Trends

In Bedford Borough there were 11,535 patients and Bedfordshire CCG there were 30,049 registered with their GPs who had been prescribed an asthma medication within the previous 12 months, 2015/16, see **Figure 6**

Figure 6: Registered Asthma Patients, 2015/16



Source: QOF, 2015/16

It is difficult to define what constitutes asthma. However, most studies think that there has been an [increase in the prevalence of asthma in the UK](#) since 1991, possibly with a reduction in children in recent years.



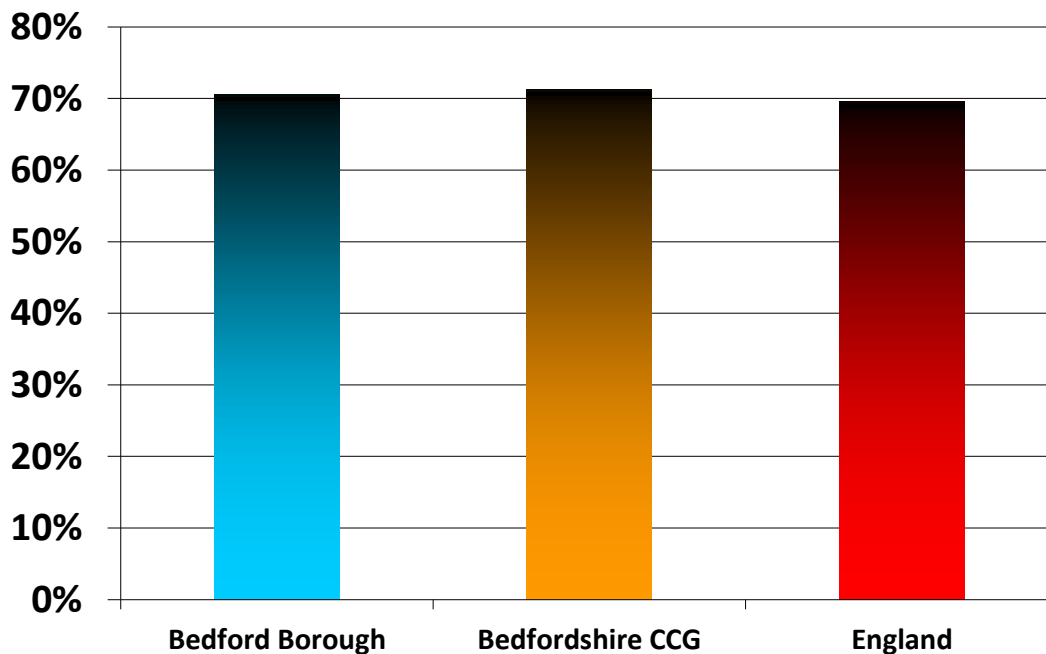
[NHS RightCare Commissioning for Value- respiratory focus pack](#) (2016) compares Bedfordshire CCG with the best five of 10 similar CCGs³ for a number of indicators. Amongst these are:

- Emergency admissions by children (p51)
Statistically significantly higher than the best 5
- Asthma patients who have had a review (p61)
Statistically significantly better than the best 5

Local Bedford Borough's figures were, 2015/16:

- 70.6% patients with asthma had an asthma review in the preceding 12 months that includes an assessment of asthma control; this proportion was lower to that of Bedfordshire CCG (71.3%) but higher than England (69.6%)

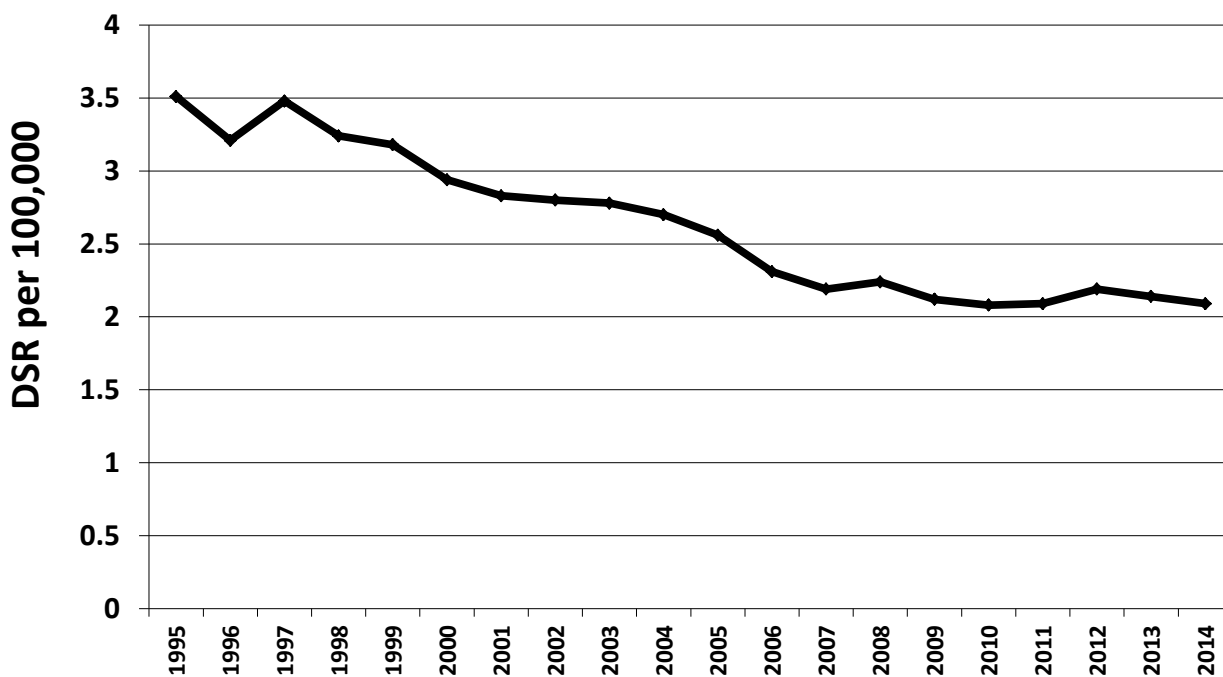
Figure 7 The percentage of patients with asthma who have had an asthma review in the previous 12 months that includes an assessment of asthma control



As asthma deaths are unusual, it is only with a big geographic area it can be seen that it has decreased although since 2009 the decrease may have become less, see **Figure 8**.

Figure 8 Asthma mortality in England, directly standardised, 1995-2014

³ Mid Essex, West Essex, East and North Hertfordshire, Nene, Basildon and Brentwood, Dartford, Gravesham and Swanley, West Kent, Wiltshire, Chiltern and Southern Derbyshire



Source: NHS Digital, 2016

- [Psychological conditions](#) such as anxiety and depression may be up to six times more common in people with asthma than in the general population; depression may be present in 14% to 41% of those with asthma

Current programmes & pathways

COPD

- COPD is mainly primary-care led and a community team service giving flexible provision. Smoking cessation with patients who have COPD as part of their treatment is part of the contract with Bedford Hospital and Luton and Dunstable Hospital (L&D)
- The Acute Respiratory Assessment Service (ARAS) was set up in April 2012 to provide a facility where GPs and Community Matrons can refer patients who experience a flare up of their COPD
- [Stop smoking with pharmacotherapy](#) is a cost effective treatment at £2,000 per QALY
- Although Community Matrons have a role in informal admission avoidance for exacerbations, there is no specialist service available
- Breathe Easy support group helps patients self-manage
- Public Health England has produced a web-tool called [Inhale](#) which brings together much of the information discussed here, both for COPD and asthma
- Service for home oxygen assessment and pulmonary rehab

Asthma

- GP diagnose most of the asthma cases and largely manage the patients within



the practice with the help of a practice nurse

- An asthma treatment pathway has been produced, both for adults and children and young people aged 5-12, which includes Bedfordshire CCG Medicine Formulary recommendations. This is to comply with British Thoracic Society and SIGN guidelines on asthma in which a stepwise approach to asthma treatment is advised
- Bedford Hospital and Luton & Dunstable Hospital see patients with uncontrolled asthma and either Addenbrooke's Hospital or the Royal Brompton Hospital for specialist asthma
- The patients have a self-management tool on leaving hospital

Local Views

COPD

A mapping event took place in January 2010 and there were patient and third sector representatives there. They contributed fully to the event and the priorities that came out included:

- Education both for Health Care Professionals and patients
- Communication across all agencies including links with social care, intermediate care and out of hours
- Pulmonary Rehab, including patients that are hard to reach, and personal health plans

Impact & effectiveness

[Respiratory focus pack](#) for NHS Bedfordshire CCG is produced by RightCare. It is an in-depth look at our spend, activity, quality and outcomes.

National & Local Strategies (Current best practices)

COPD

- [NHS Outcomes Framework](#) includes reducing premature death rate from under 75 from respiratory disease
- [An Outcomes Strategy for Chronic Obstructive Pulmonary Disease \(COPD\) and Asthma in England](#) (July 2011) :
 - 25% of Disability Adjusted Life Years (DALYS) are attributable to risk factors common to respiratory disease. Minimising the risk of contracting COPD either by not starting, or stopping smoking, avoiding and controlling risks in the environment and workplace will decrease the cost of healthcare (see chapter on Tobacco Control)
- [NHS Companion Document to the Outcomes Strategy for COPD and Asthma](#) – this describes what the NHS specifically can do to help meet the objectives in the Outcomes Strategy. The document describes the key interventions and actions that commissioners and providers can take to improve outcomes in that area
- NICE (2012). [Commissioning guide for people with Chronic Obstructive Pulmonary Disease \(COPD\)](#) contains tools concentrating on pulmonary rehabilitation, assisted discharge, supportive & palliative care, commissioning



and key clinical and quality issues

- NICE (2010). [Chronic obstructive pulmonary disease - Management of chronic obstructive pulmonary disease in adults in primary and secondary care](#) (partial update):
 - *Opportunistically testing by primary care*: late diagnosis has a substantial impact on symptom control, quality of life, clinical outcome and cost because undiagnosed people receive inappropriate or inadequate treatment. NICE has estimated the costs and benefits of opportunistically testing smokers or ex-smokers who present at the GP with a chronic cough. It found that opportunistically testing increased the life-time cost by £35.49 more than not testing and that the cost per QALY⁴ was £814.56. This was a crude calculation and the model is quite sensitive to some of the parameters and assumptions. All costs are for the year 2000/01
 - *Exacerbations*: Long-Acting Muscarinic Antagonists (LAMA) or Long-Acting β -Agonists together with Inhaled Corticosteroids (LABA+ICS) were found to be the most cost-effective strategy. The results indicate fairly low uncertainty within individual analyses. However, the fact that between analyses there is a disagreement about the most cost-effective option indicates considerable uncertainty based on the available clinical evidence
 - NICE advises against:
 - routinely using mucolytic drugs to prevent exacerbations in people with stable COPD
 - anti-cough therapy for the management of stable COPD
- In January 2015, NHS England published [three handbooks](#) to support commissioners and practitioners in planning services for people with long term conditions (LTCs), in order to achieve more effective, personalised care for this group. The handbooks are: case finding and risk stratification, personalised care and support planning and multi-disciplinary team (MDT) working

Asthma

Recently, the [Scottish Intercollegiate Guidelines Network](#) published a document on the management of asthma (SIGN 153, 2016)

What is this telling us?

What are the key inequalities?

COPD

- COPD is predominantly caused by smoking hence the main key inequalities are the same for smoking. Smoking has a higher prevalence in deprived communities (see chapter on 'Tobacco Control')
- Deprived populations have the highest prevalence and the highest under-diagnosis of COPD. In the [Segment Tool \(Chart 5\)](#) the major cause of the life

⁴ Quality-Adjusted Life Year



expectancy gap between the most and least deprived was 26% in men and 17% in females, 2012-14.

- Nationally, there are ethnic disparities with black men in deprived urban areas having particularly high risk

Recommendations

Bedfordshire CCG is currently reviewing all clinical pathways, using a RightCare approach, and the review will not be complete until early/mid 2017. At this point, a full analysis of service provision, gaps and service needs will be summarised and shared with system partners.

This chapter links to the following chapter in the JSNA:

Tobacco Control and Smoking