

Section 4: burden of ill-health: general health

Respiratory disease



a single version of the truth



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Briefing (and hyperlink)	Section
Smoking	Children and young people
Projecting the future burden of disease	Burden of ill-health: general health
Long term conditions	Burden of ill-health: disability and conditions effecting older people
Smoking	Health promotion and preventative services
Drug misuse	Health promotion and preventative services
Transport	Wider determinants of health
Environment	Wider determinants of health

Outcome Frameworks Summary

The Public Health Outcomes Framework for England, 2013-2016¹ outlines the overarching vision for public health as “to improve and protect the nation’s health and wellbeing, and improve the health of the poorest fastest”. The NHS Outcomes Framework² set out how the improvement of healthcare outcomes for all will be the primary purpose of the NHS. The Clinical Commissioning Group Outcomes Indicator set (CCGOIS) measures the health outcomes and quality of care achieved by clinical commissioning groups³. The following indicators from these frameworks are relevant to this section.

Framework	Reference	Indicator
Public Health	1.8	Employment for those with a long-term health condition
Public Health	2.3	Smoking status at time of delivery
Public Health	2.9	Smoking prevalence – 15 year olds
Public Health	2.14	Smoking prevalence – adults (over 18s)
Public Health	3.1	Air pollution
Public Health	3.3 (xiv)	% aged 65+ receiving flu vaccine
Public Health	4.7	Mortality from respiratory diseases
Public Health	4.15	Excess winter deaths
NHS	1.2	Under 75 mortality rate from respiratory disease
NHS	2	Health-related quality of life for people with long-term conditions
NHS	3.2	Emergency admissions for children with lower respiratory tract infections (LRTIs)
CCGOIS	2.2	People with COPD & Medical Research Council Dyspnoea scale ≤ 3 referred to a pulmonary rehabilitation programme

Edition

Edition	Version no.	Changes/Comments
2013/14	1	

Executive summary

Respiratory conditions cause substantial morbidity, premature mortality and disability. Over 2008-10 13.2% of deaths in Wiltshire were due to respiratory conditions⁴. Hospital admissions for respiratory conditions are increasing nationally including in Wiltshire, and are projected to increase in the future due to historical smoking rates. Smoking is the main risk factor for respiratory disease; for information on smoking services in Wiltshire see the [smoking section](#). Modelled estimates⁵ suggest 2.6% of people in Wiltshire have COPD, and this means as many as 10,000 people may be living with the condition undiagnosed. This is particularly relevant if these people are still exposed to smoke inhalation as if they stop even in the early stage of the disease, the severity of the lung damage could be contained.

Why this area is important

Respiratory conditions are the cause of one in ten of all deaths in Europe with smoking the primary risk factor⁶. Due to historical smoking rates respiratory related deaths are set to continue to rise for the next twenty years. We then expect to see a decline in smoking related respiratory disease due to local and national fall in smoking rates. Lung cancer (see section **) and chronic obstructive pulmonary disease (COPD) are the main causes of smoking related respiratory death. It is important to recognise the significant morbidity these diseases carry for sufferers, their families and the wider health and social community.

Chronic respiratory diseases are diseases of the airways and other structures of the lung that tend to be lifelong but with appropriate and timely medical intervention, and where relevant smoking cessation, can be optimised. Common types include COPD, asthma, pulmonary hypertension and occupational lung disease⁷. Non-chronic respiratory disease are typically infections, such as influenza and pneumonia.

Respiratory conditions can cause substantial morbidity, premature mortality and disability. In Wiltshire over 2008-10, 13.2% of deaths were ascribed with respiratory cause, and respiratory disease was mentioned on 33% of death certificates⁸. Both these figures are slightly lower than the England average (13.8% and 34.2% respectively), although not significantly so as the biggest influence are historical smoking rates. Nationally, respiratory diseases are the category for which highest proportion of patients die in hospital (69%) and the lowest proportion die in their own residence (13%)⁹, often because the symptom of breathlessness is very difficult to manage at home and/or because it is difficult for patients and their families to transition from living with a chronic disease to a terminal disease, particularly if they have survived episodes of extremis in hospital in the past. In 2011 the Department of Health published an Outcomes Strategy for people with COPD and asthma in England¹⁰ that sets out national objectives and best practice to achieve these.

Lung cancer, COPD and asthma constitute the majority of chronic respiratory disease. COPD and asthma form the basis of this chapter. For information on lung cancer please [the cancer section of the Health and Wellbeing JSA](#).

COPD

COPD is a condition characterised by irreversible airflow limitation and is caused by irreversible structural damage to the airways and the lungs from long term smoke inhalation. COPD is the fifth biggest killer in the UK, and the second most common cause of emergency admissions to hospital. Around 3 million people in the UK are estimated to have COPD¹¹.

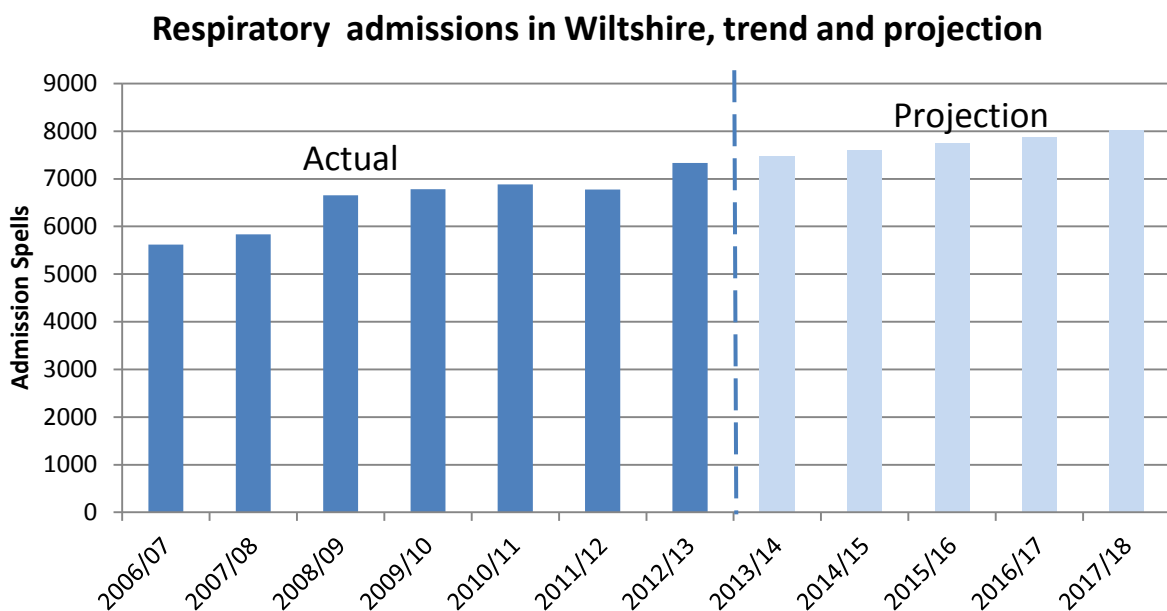
Asthma

Asthma is more common in children than in adults for reasons that are not entirely understood. In asthma there is reversible restricted airway flow at the level of the airways, not the lungs. In the UK asthma has been estimated to cause around 1,000 deaths and at least 12.7 million lost working days per year.

What are the needs of the population?

Admissions for diagnosis of all types of respiratory conditions are rising in Wiltshire (Figure 1), and if they maintain this trend they are projected to reach 8,013 in 2017/18. This represents a 9% increase upon present admissions.

Figure 1:



Source: PHM

The GP population based estimated prevalence of COPD in Wiltshire is 1.55% and has remained in the range 1.3-1.5% since 2006/07. In Wiltshire this represents approximately 7,000 people. The average Wiltshire prevalence is lower than that reported in both the South England commissioning region (1.59%) and England (1.74%)¹² although across GP practices in Wiltshire, prevalence varies from 0.8% to 2.3%.

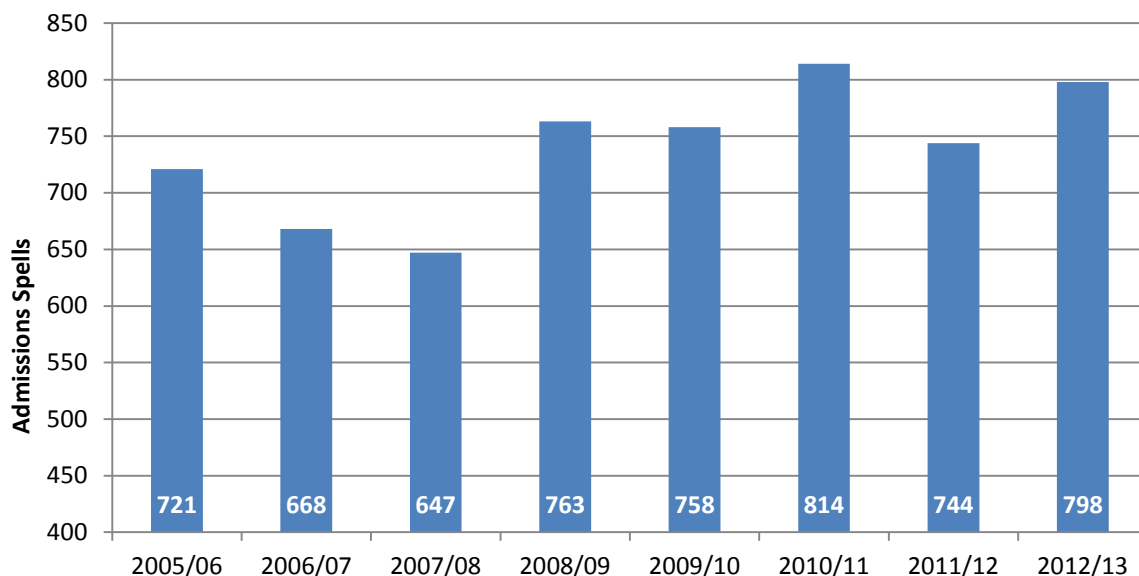
However there is thought to be substantial under-diagnosis across the UK, affecting over two thirds of people living with the condition¹³. Reflecting this, modelled estimates for 2011 report a higher 2.6% prevalence in Wiltshire, with a range of 0.9% to 3.2% by GP practice¹⁴. If these estimates are applied to the most recent population data¹⁵ then as many as 10,000 people in Wiltshire could be living with undiagnosed COPD.

To investigate this further 2010/11 QOF prevalence was compared to COPD hospital admission data for each GP practice in Wiltshire. 8 (out of 55 analysed) GP Practices were in the lowest 2 QOF prevalence quintiles, but the highest 2 admission quintiles (standardised for age, sex and deprivation). Of these, 2 practices, Cricklade Surgery and Purton Surgery, had Standardised Admission Ratios significantly higher than would be expected from the England average. This may be linked to under-diagnosis of COPD at individual practice level, although further investigation would be required to explain the differences observed.

As might be expected from the consistent prevalence over time, COPD admissions appear to have stayed fairly constant since 2004/05. Admission episodes have varied between 647 and 814 per year, with inter-year variation more likely to be explained by chance than to be reflective of any underlying trend (Figure 2).

Figure 2:

COPD admissions, all ages, 2005/06 to 2012/13

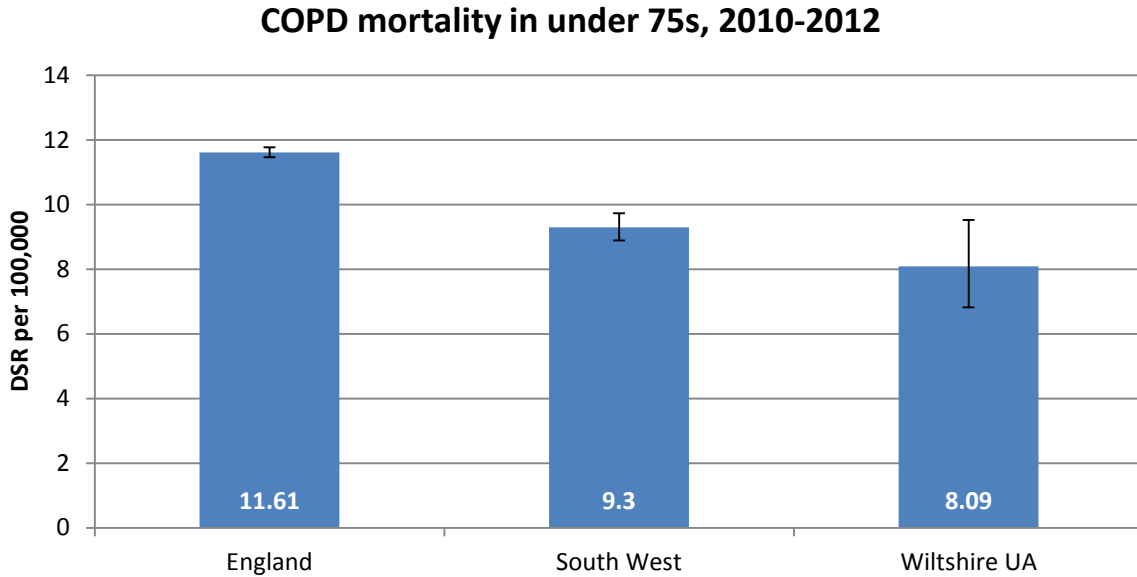


Source: PHM

Non-elective admissions make up over 94% of total hospital admissions, and in Wiltshire over 2012/13 there was 756 non-elective admissions. This gives a rate of 159 per 100,000, lower than both the South West (213 per 100,000) and England (242 per 100,000). Average length of stay for a COPD admission was 7.0 days, only slightly longer than the England average of 6.9 days.

The burden of COPD is lower in Wiltshire than elsewhere, reflected by its lower premature mortality rate when compared to the South West, and England (Figure 3). However, across all ages COPD still is stated as the cause of death for around 150 people in Wiltshire per year.

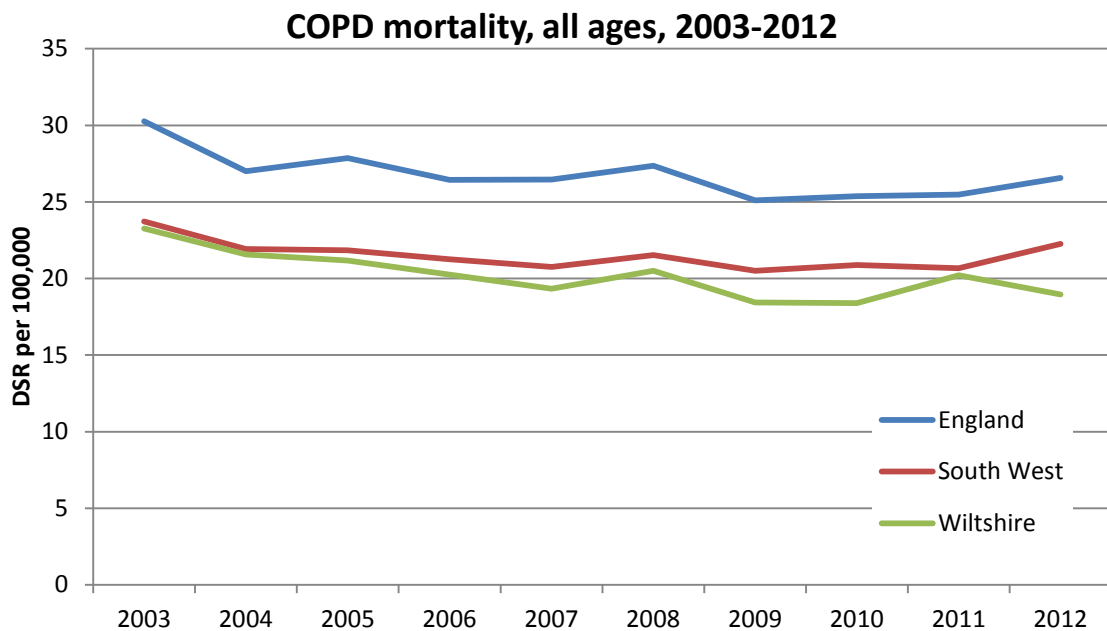
Figure 3:



Source: Health & Social Care Information Centre

The trend has been of decreasing all age mortality across Wiltshire, the South West and England (Figure 4). In Wiltshire there was a 19% mortality rate reduction from 2003 to 2010.

Figure 4:



Source: Health & Social Care Information Centre

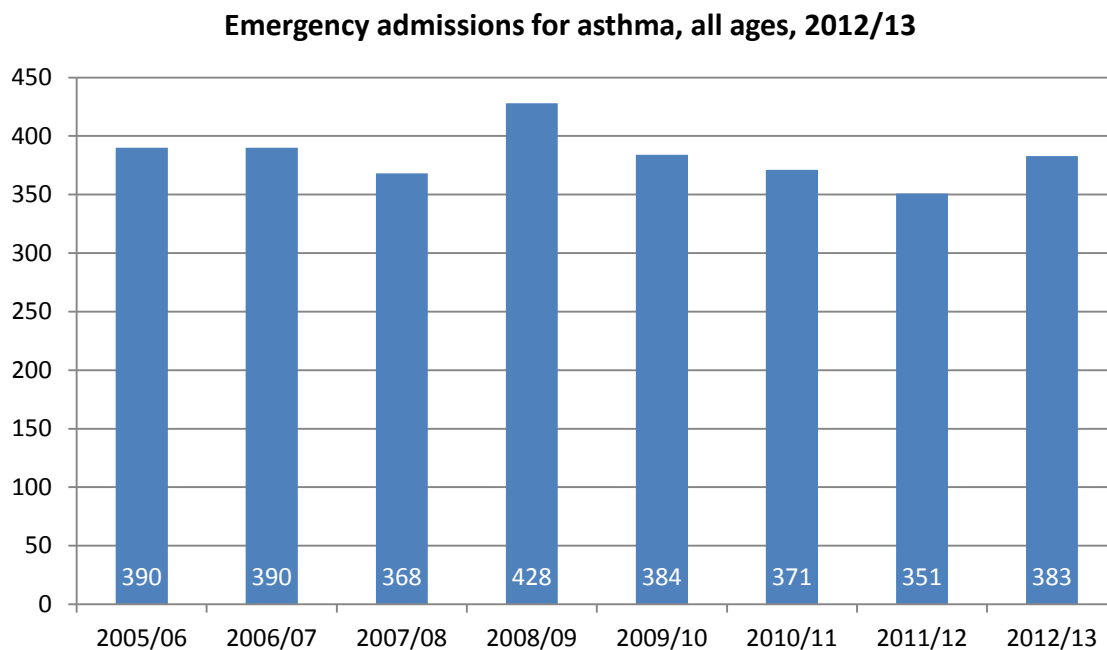
Asthma

The prevalence of asthma in England is amongst the highest in the world. In Wiltshire, prevalence among the GP registered population is 6.3%, higher than the South of England commissioning region (6.1%) and England (6.0%)¹⁶. Prevalence in Wiltshire has risen from 5.8% in 2006/07. Amongst respondents to the national Health Survey for England 2010 the prevalence of lifetime doctor-diagnosed asthma was 17% among boys and 12% among girls.

Over 2012/13 there was 466 asthma hospital admissions in Wiltshire, a rate of 98.2 per 100,000 which is lower than either the South West (109.0 per 100,000) or England (130.4 per 100,000). Emergency admissions make up the vast majority of these, 82%. The overall number of asthma admissions in Wiltshire rose again after a falling trend (Figure 5).

Average length of stay for an asthma admission was 3.2 days, slightly greater than the England average of 2.7 days.

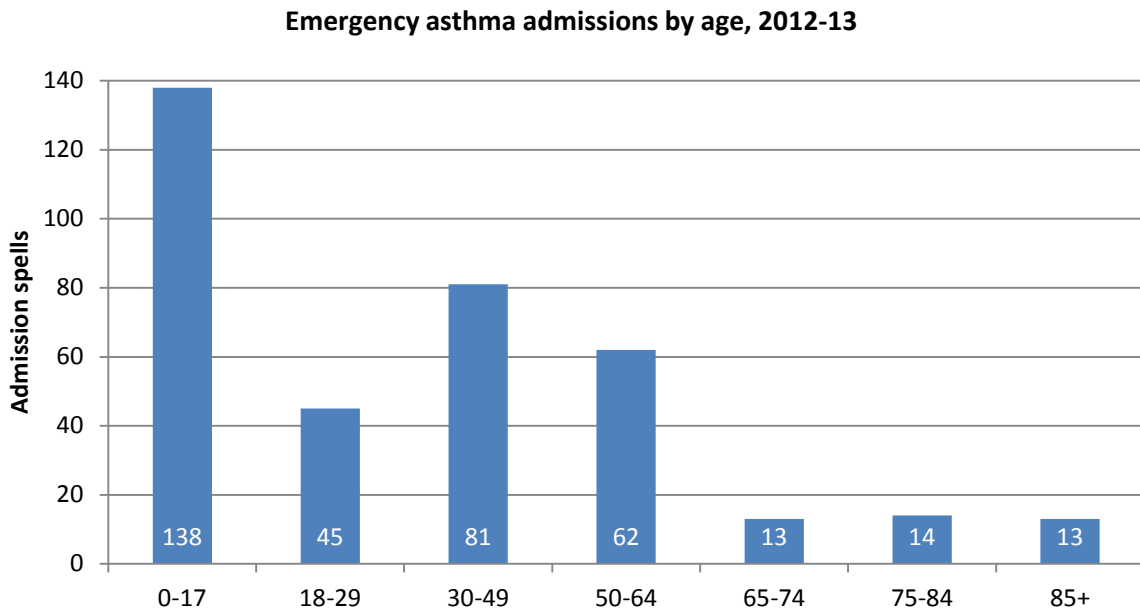
Figure 5:



Source: PHM

As Figure 6 shows, the majority of admissions for asthma occur in younger people, with the highest number of admission spells in those aged 0 to 17 and 30-49. However, in spite of this, admissions in these age ranges do not usually result in death; in 2012 there were less than 5 deaths from asthma in Wiltshire, and the majority of these were in people over 50 years old.

Figure 6:

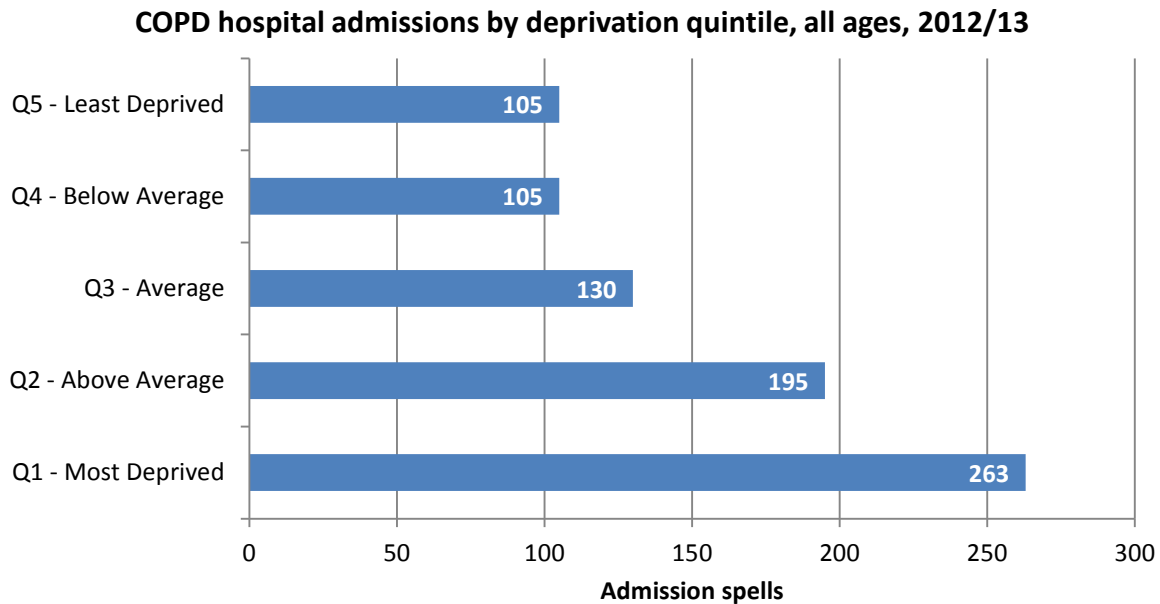


Source: PHM

Population at risk

The main risk factor for respiratory disease is smoking, and Wiltshire's adult smoking prevalence was estimated at 17.1% over 2011/12, lower than the South West (19.2%) and England (20.0%). For information on smoking please see the [smoking section](#). Other risk factors include air pollution and occupational risk, for example from exposure to chemicals⁷.

As with smoking prevalence, there is a strong link with deprivation and household income¹⁷. The number of admissions in the most deprived Wiltshire quintile was more than twice as many as the least deprived, and there is a clear trend of increasing COPD admissions with increasing deprivation.

Figure 7:

Similarly, asthma admission were higher in the most (119) than the least (62) deprived population quintiles in Wiltshire over 2012/13. The Health Survey for England also reported that, nationally, those living in households with lower income were more likely to report lifetime asthma, or current symptoms¹⁷.

Current service provision

Effective diagnosis for COPD is vital and spirometry is considered the gold standard. Wiltshire's percentage of COPD diagnosis confirmed by this method is 93.3%, slightly higher than the South West (91.6%) and England (91.3%)¹⁸. Respiratory disease also forms an important part of end of life care service planning.

A COPD pathway is currently in development in Wiltshire, and will emphasise the importance of primary and secondary prevention. Preventing people taking up smoking, and encouraging them to quit, are the two main factors that will affect mortality and morbidity from COPD in the longer term. See [smoking section](#) for details of smoking services in Wiltshire.

What works and what resources are there?

Health Survey for England - 2010: Respiratory health and lung function formed the key focus of the 2010 Health Survey for England, and findings provide a baseline against which future progress can be measured. For the results see:

<http://www.ic.nhs.uk/statistics-and-data-collections/health-and-lifestyles-related-surveys/health-survey-for-england/health-survey-for-england--2010-respiratory-health>

NICE - NICE guidelines on the management of COPD were published in 2010. They outlined thirteen quality standards for management and treatment.

<http://www.nice.org.uk/nicemedia/live/13029/49425/49425.pdf>

COPD and Asthma outcomes strategy – In 2011 the Department of Health published an Outcomes Strategy for people with COPD and asthma in England. The document outlines COPD and asthma as national priority outcome areas, and lists 6 objectives to improve quality and outcomes for people with either condition.

http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_127974

PHO Resources & analysis: <http://www.erpho.org.uk/topics/copd/copd.aspx>

Deaths from Respiratory Diseases: Implications for end of life care in England

– **NCIN June 2011** – This report presents the latest data on place of death for those with respiratory disease and how this varies with gender, age, socioeconomic deprivation and place. <http://www.endoflifecare-intelligence.org.uk/view?rid=154>

NHS Atlas of Variation in Healthcare for People with Respiratory Disease – An analysis of the variation in the quality of care and outcomes experienced by people with respiratory disease in different parts of England.

<http://www.rightcare.nhs.uk/index.php/atlas/respiratorydisease/>

Challenges for consideration

- The importance of effective management and treatment following national guidance, to reduce hospital admissions and associated morbidity and mortality.
- The unexplained variation in COPD prevalence between GP practices, and whether this is linked to a lack of effective diagnosis at GP level. This is especially important in light of the fact there are up to 10,000 people living with undiagnosed COPD in Wiltshire, based on modelled estimates.
- The high prevalence rate of Asthma in Wiltshire compared to the South West and England.

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¹ Department of Health

http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_132358]

² NHS Outcomes Framework 2012/13, Department of Health, 2011.

³ Clinical Commissioning Group Outcomes Indicator Set (CCGOIS) 20013/14, NHS Commissioning Board, December 2012. url: <http://www.nice.org.uk/aboutnice/cof/cof.jsp>

⁴ Wiltshire End of Life Care Profile, 2008-10 data

⁵ ERPHO COPD Prevalence Estimates 2010/11-Adapted with ONS 2012 mid-year estimates

⁶ <http://ersnet.org/>

⁵ Wiltshire End of Life Care Profile, 2008-10 data

⁸ Wiltshire End of Life Care Profile, 2008-10 data

⁹ Deaths from Respiratory Diseases: Implications for end of life care in England, NCIN, 2011

¹⁰ <https://www.gov.uk/government/publications/an-outcomes-strategy-for-copd-and-asthma-nhs-companion-document>

¹¹ Health Survey for England, 2010

¹² QOF, 2012/13

¹³ Health Survey for England, 2010

¹⁴ ERPHO COPD Prevalence Estimates 2010/11

<http://www.apho.org.uk/resource/item.aspx?RID=111122>

¹⁵ ONS 2012 Mid-year estimates

¹⁶ QOF, 2012/13

¹⁷ Health Survey for England, 2010-11

¹⁸ QOF, 2012/13