Summary

- There is one death every 20 minutes from Chronic Obstructive Pulmonary Disease (COPD) in England.
- The total annual cost to the NHS of COPD is over £800 million.
- Up to 90% of cases of COPD are caused by smoking and so are preventable.
- Most people with COPD do not know they have this problem and so are not receiving treatment and support. Early diagnosis is important because treatment early in the disease slows the rate of progression and extends the period of active life.
- There are 18,779 people in Hampshire diagnosed with COPD and we estimate this is only 60% of those who have COPD.
- COPD is strongly related to deprivation. Incidence and mortality rates are higher in lower socio-economic groups, largely linked to higher smoking rates.
- In Hampshire there is a marked gradient in mortality and in emergency admissions between the most and the least deprived fifth of the population. People in the most deprived fifth are three times more likely to die from their COPD and five times more likely to be admitted to hospital as an emergency than those in the least deprived fifth.
- Hampshire had 5,956 emergency admissions between 2009/10 and 2011/12 for people with COPD and almost half were in people aged under 75 years. We could do more to reduce the number of admissions and improve the quality of life for people with COPD.

Recommendations

- We need to continue to focus on preventing the development of COPD through a comprehensive tobacco control strategy which includes stopping people start smoking as well as smoking cessation services.
- We need to improve the diagnosis of COPD, which should include a focus on areas of high prevalence where there is a low diagnosis rate.
- We need to ensure that people with COPD who are still smoking are enabled to stop. We need better information about the proportion of people with COPD who continue to smoke.
- CCGs should continue to review their COPD services with a view to ensuring that they are commissioning, or working towards commissioning a true integrated service.
- CCGs should review the arrangements for supporting people with COPD in primary care as part of their role in improving quality of primary care.
- CCGs should ensure that they are commissioning adequate pulmonary rehabilitation services.
- The anomaly in the rate of elective admissions in West Hampshire warrants addressing.
1. Introduction

Chronic obstructive pulmonary disease is a lung disease that is gradual in onset and progressive. It is characterised by airflow limitation that interferes with normal breathing. Once established the lung damage is irreversible and, if it is not identified and treated early, leads to disability and premature death. There is one death every 20 minutes from COPD in England - 23,000 deaths every year.¹

Most cases of COPD (90%) are caused by smoking² (see JSNA Tobacco Control chapter). Other factors include workplace exposure, genetic make-up and general environmental pollution. Passive smoking increases the lung's total burden of inhaled particles and gases, and case-control studies have found a trend towards increased risk of COPD with passive smoking.³

The symptoms of COPD are breathlessness on exertion, chronic cough with sputum production and frequent winter ‘bronchitis’ or wheeze. It includes people who have chronic bronchitis and emphysema but not those who have asthma and bronchiectasis. People with COPD often experience exacerbations when there is rapid and sustained worsening of symptoms.

There are around 900,000 people in England diagnosed with COPD with an estimated 2,200,000 people living with COPD who are not aware that they have the disease.⁴ Under diagnosis is across the spectrum of disease severity. More than 50% of people with moderate disease have not been detected and around 20% of those with severe or very severe disease. Up to 10% of people with COPD are only diagnosed when they are so unwell that they need to be admitted to hospital.

Cigarette smoking – the major risk factor for COPD - is more prevalent in lower socioeconomic groups. Almost half of the people with undiagnosed COPD in England are thought to be from the Routine and Manual occupational group. Men in unskilled manual occupations are around fourteen times more likely to die from COPD than men employed in professional roles⁵.

In England health outcomes for people with COPD are poor. Premature mortality from COPD in the UK in 2008 was almost twice as high as the European average.⁴ If the whole NHS were to deliver services in line with the best around 7,500 lives could be saved each year.

COPD is often associated with another health condition – for example about 40% of people with COPD have heart disease and significant numbers have depression and so joined up care is vital.

¹ COPD Commissioning Toolkit
³ COPD-NICE Clinical Knowledge Summary http://cks.nice.org.uk/chronic-obstructive-pulmonary-disease#backgroundsub:2
⁴ An outcomes strategy for people with chronic obstructive pulmonary disease (COPD) and asthma in England - Publications - Inside Government - GOV.UK
Chronic Obstructive Pulmonary Disease (COPD)

The total annual cost to the NHS of COPD is over £800 million and it is nearly ten times as costly to treat severe disease as mild disease.

The annual cost of lost productivity to employers and the economy because of COPD has been put at £3.8 billion. Some 25% of people with COPD are prevented from working.

A British Lung Foundation survey found that 90% of people with severe COPD were unable to participate in socially important activities such as gardening, 66% were unable to take a holiday because of their disease and 33% had disabling breathlessness. This can lead to social isolation and poor mental health.

2. Level of need in the Hampshire population

2.1 Risk factors

Current and ex-smokers are most at risk of COPD. In Hampshire 17.2% of adults smoke – lower than the English average of 20.7%. Smoking rates are higher in lower socio economic groups who are at increased risk of COPD. The JSNA chapter on Tobacco Control describes the patterns of smoking in the Hampshire population and who is at highest risk. Some people who have been exposed to dust and gases or who have an inherited genetic problem may develop COPD.

2.2 Incidence and prevalence of COPD

- During 2011/12 there were 18,779 people recorded on Hampshire GP disease registers as having COPD (figures 1&2). This is 1.4% of the 16+ population, below the national average of 1.7% but similar to the average in the previous South Central SHA area of 1.3%.
- Both the incidence and prevalence of COPD are higher in lower socio economic groups and so we would expect prevalence in Hampshire to be lower than the national average. The higher rates of COPD in lower socio economic groups have been generally thought to be related to the higher smoking rates in these groups. The Global Initiative for Chronic Obstructive Lung Disease (GOLD) has suggested that the situation is more complex and that the pattern may also be due to exposure to air pollutants, poor nutrition, overcrowding or other factors related to deprivation.
- The Hampshire prevalence has increased marginally from 1.3% in 2009/10 to 1.4% in 2011/12 with a rise in the number of people diagnosed with COPD of over 10% from 16,799 to 18,779.
- In line with population socioeconomic status, South Eastern Hampshire CCG has the highest rate of 1.7%. This is the same as the national average.
- Figure 2 shows that Havant has the highest prevalence (1.8% - above the England average) which accounts for the high prevalence in South Eastern CCG. This is likely to be related to the high smoking rate (21.7%) and deprivation in Havant.
- Prevalence has increased across Hampshire, except Fareham where there has been no increase, since 2009/10.

6 GOLD - the Global initiative for chronic Obstructive Lung Disease
Chronic Obstructive Pulmonary Disease (COPD)

- The increase in prevalence is likely to be due to the increasing age of the population, improved identification and diagnosis of COPD, as well as a change to the diagnostic threshold for COPD recommended by NICE in 2010.7 8
- Over the past decade, nationally the prevalence has levelled off in men but has increased in women. This reflects the long term health effects of the increase in smoking amongst women beginning in the 1950s.5
- The expected prevalence of COPD (in people all ages) in Hampshire is 2.45%. This suggests that only half the people with COPD in Hampshire have been diagnosed and as many as 13,500 are unaware that they have the condition and are not benefitting from appropriate management.
- Figures 2 and 4 compare the rate of recorded COPD to the modelled expected rate. For each CCG the recorded rate is lower than the expected rate – South Eastern and Fareham and Gosport CCGs have the lowest ratio of recorded to expected prevalence with only about 45% of people with COPD diagnosed. Figure 3 shows that Havant has the highest proportion of people with COPD who have not been diagnosed.
- The prevalence of COPD increases with age with the highest prevalence in adults aged 75 years and older.10

Figure 1: QOF recorded prevalence of COPD by CCG compared to the England and South Central SHA rates
Chronic Obstructive Pulmonary Disease (COPD)

Figure 2: Recorded and expected number and prevalence of people with COPD all ages by CCG (Source Inhale data 2011)

<table>
<thead>
<tr>
<th></th>
<th>Recorded no. of people with COPD (prevalence %)</th>
<th>Expected no. of people with COPD (prevalence %)</th>
<th>Ratio of recorded to expected people diagnosed with COPD</th>
<th>Estimated number of people with undiagnosed COPD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hampshire</td>
<td>18,779 (32,540)</td>
<td>0.57</td>
<td>13,741</td>
<td></td>
</tr>
<tr>
<td>Fareham and Gosport</td>
<td>2,910 (1.5)</td>
<td>6,318 (3.2)</td>
<td>0.44</td>
<td>3,408</td>
</tr>
<tr>
<td>North East Hampshire and Farnham CCG</td>
<td>2,575 (1.2)</td>
<td>4,068 (1.9)</td>
<td>0.61</td>
<td>1,493</td>
</tr>
<tr>
<td>North Hampshire CCG</td>
<td>2,512 (1.2)</td>
<td>4,148 (2%)</td>
<td>0.57</td>
<td>1,636</td>
</tr>
<tr>
<td>South Eastern Hampshire CCG</td>
<td>3,545 (1.7)</td>
<td>7,049 (3.4)</td>
<td>0.46</td>
<td>3,589</td>
</tr>
<tr>
<td>West Hampshire CCG</td>
<td>7,688 (1.4)</td>
<td>11,731 (2.2)</td>
<td>0.62</td>
<td>4,043</td>
</tr>
</tbody>
</table>

Note: the population of Hampshire and the populations of the CCGs are not the same. Hampshire CCG totals include practices in the Farnham area who are located in the NE Hampshire and Farnham CCG.

Figure 3: QOF recorded prevalence of COPD by local authority

Chronic Obstructive Pulmonary Disease Register
LOCAL AUTHORITY - QOF Prevalence Rates, 2011/12

Prevalence (%)

- England
- South Central SHA

Sources: Health & Social Care Information Centre QMAS Database
Figure 4: COPD prevalence rates compared to modelled expected prevalence by CCG and LA 2011/12

Chronic Obstructive Pulmonary Disease
CCG - QOF 2011/12 Prevalence Rates Compared to Modelled Prevalence Estimates. All Ages

Source: East of England Public Health Observatory, December 2011 & QMAS database - 2011/12 data as at end of July 2012

Chronic Obstructive Pulmonary Disease
LOCAL AUTHORITY - QOF 2011/12 Prevalence Rates Compared to Modelled Prevalence Estimates Aged 16 years and over

Note: England prevalence is based on an all age denominator.
3. Projected service use and outcome in 3-5 years and 5-10 years

A study of 422 General Practices in England between 2001 and 2005 looked at trends in physician-diagnosed COPD\(^9\). It found a significant increase of 3.3% in the lifetime prevalence of COPD from 13.5 per 1000 patients in 2001 to 16.8 per 1000 patients in 2005. There was no significant change in the overall incidence rate of COPD in England (2.0 per 1000 patient-years in 2001 and 2005). Prevalence in the SE region was about half the prevalence in the North East and the North West region. The study concluded that due to the substantial decreases in prevalence of smoking in the overall population we are likely to be approaching the peak of incidence in COPD.

However, we are likely to see a further increase in recorded COPD prevalence due to the increasing age of the population, increasing survival among patients with COPD, increased general awareness and changes to the diagnostic threshold recommended by NICE.

4. Current services in relation to need

4.1 Identification and diagnosis

Identification and diagnosis of COPD is usually done by the person’s GP. There is no single diagnostic test for COPD. Diagnosis relies on a combination of history, physical examination and confirmation of airflow obstruction. Figure 5 shows that the percentage of people with a diagnosis of COPD confirmed by spirometry in the last 15 months in Hampshire is similar to the England average of 93% in all the CCGs. The lowest rate is in North Hampshire CCG with a rate of just over 90%.

4.2 Management of stable disease

Primary care (GPs and practice nurses) support people to manage their COPD when it is stable.

Encouraging people with COPD to stop smoking is one of the most important components of management\(^13\). We do not have comprehensive local data about the number of people with COPD who smoke or the proportion who have been offered smoking cessation support. However, an audit carried out amongst general practices in North Hampshire CCG in 2012 found that about 30% of people with COPD were current smokers.

There is some information from national studies that confirms that smoking rates amongst people with COPD are higher than in the general population as we would expect:

- In a study in general practice between 2001 and 2005, the overall prevalence of smoking among patients with COPD decreased from 39.2% (95% CI = 37.1 to 48.3) to 36.7% (95% CI = 33.6 to 42.4), a 2.5% reduction (\(P<0.001\)). In 2005, the highest prevalence of smoking was found among women with COPD aged 45–50 years of age who were in the most deprived quintile (72.3% [95% CI = 62.7 to

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\(^{9}\) Trends in the epidemiology of chronic obstructive pulmonary disease in England: a national study of 51 804 patients Br J Gen Pract. 2010 July 1; 60(576): e277–e284
Chronic Obstructive Pulmonary Disease (COPD)

81.9]). During the study period, among the most deprived group of patients with COPD, there was a much smaller decrease in the proportion smoking when compared with the most affluent group which is likely to increase inequalities.

- The 2008 National COPD audit\(^\text{10}\) found that 33% of patients admitted with COPD were current smokers – down from 41% in 2003.

Patients with very severe COPD should be assessed at least twice a year. Figure 6 shows the percentage of patients with COPD with a record of FEV1 in the preceding 15 months by CCG. All the Hampshire CCGs have a rate above the national average of 88.8% with little variation between CCGs. This finding is encouraging.

In figure 7 we can see that the percentage of people with COPD who have been assessed using the MRC dyspnoea scale for each CCG is in line with the England average. We are not able to determine from the data whether patients with very severe COPD are being systematically reviewed twice a year in line with best practice.

The rates for patient follow up are high, but if we take account of the 11-12% exception reporting rate for COPD GP Quality Outcomes Framework (QOF) indicators across the CCGs , which is similar to the national average, it may be that 17- 20% of COPD patients are not getting appropriate follow up.

**Figure 5: QOF indicator 15: Percentage of people with a diagnosis of COPD confirmed by spirometry in the last 15 months by CCG**

\[\text{Percentage of people with a diagnosis of COPD confirmed by spirometry in the last 15 months by CCG}\]

\[\text{Hampshire average}\]

\[\text{England average}\]

\[\text{Source: Inhale 2011}\]

4.2.1 Seasonal flu vaccination
People with COPD are at a high risk of serious illness and have an increased risk of dying compared to the general population if they contract influenza or other infective respiratory illnesses. Annual flu immunisation is recommended for everyone with COPD. The uptake rate for seasonal flu immunisation in people with COPD in Hampshire was over 90% in 2010/11 and 2011/12 and in line with the England average of 93.1% in 2011/12. Figure 8 compares the rate of flu immunisation in people with COPD to the rates in people over 65 and in people under 65 in all “at risk” groups. The rates in people at risk under the age of 65 are significantly lower than the national target rate of 75% at just over 50%. We do not know what proportion of unimmunised people in this group has COPD.
4.2.2 Oxygen therapy

Long term oxygen therapy (LTOT) is an important part of the management of COPD for some people. It can improve survival by 40% when prescribed to the right individuals. The Department of Health has estimated that up to a third of people who receive LTOT derive no clinical benefit from it while as many as 20% people with COPD would benefit from LTOT but do not get it.

The information available is for expenditure on LTOT. We do not have local information about whether the right people with COPD are getting oxygen therapy. The NHS atlas of variation in health care for people with respiratory disease (2012) found that in 2010/11 the rate of expenditure on oxygen therapy per patient diagnosed with COPD in Hampshire was in the second highest quintile in England. This suggests that there is scope for increasing the value of home oxygen therapy across Hampshire. A quality equitable home oxygen assessment service has been identified as a service gap in Hampshire.

4.2.3 Pulmonary Rehabilitation

The NICE clinical guideline recommends that comprehensive pulmonary rehabilitation should be offered to people with COPD who consider themselves functionally disabled by COPD (MRC grade 3) including those who have had a recent hospital admission for an exacerbation of their COPD.

It is estimated that about 38% of people with diagnosed COPD are MRC grade 3 or above. We do not have local data but can assume that Hampshire is similar to

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11 Introducing the Atlas of Variation in Healthcare for People with Respiratory Disease § NHS Right CareNHS Rights Care - Population healthcare - improving value for patients and populations
Chronic Obstructive Pulmonary Disease (COPD)

national trends, thus just over 7,100 people locally could benefit from pulmonary rehabilitation (figure 9).

**Figure 9: The number of people with COPD who are likely to benefit from pulmonary rehabilitation by CCG in Hampshire**

<table>
<thead>
<tr>
<th>CCG</th>
<th>Number of people with COPD likely to benefit from pulmonary rehabilitation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hampshire CCGs</td>
<td>7,293</td>
</tr>
<tr>
<td>Fareham &amp; Gosport CCG</td>
<td>1,106</td>
</tr>
<tr>
<td>North East Hampshire &amp; Farnham CCG</td>
<td>979</td>
</tr>
<tr>
<td>North Hampshire CCG</td>
<td>955</td>
</tr>
<tr>
<td>South Eastern CCG</td>
<td>1,332</td>
</tr>
<tr>
<td>West Hampshire CCG</td>
<td>2,921</td>
</tr>
</tbody>
</table>

The cost and clinical effectiveness evidence support the case for Hampshire healthcare commissioners ensuring that there is access to comprehensive pulmonary rehabilitation for all those who can benefit.

### 4.3 Management of Exacerbations

**4.3.1 Hospital admissions (figure 10)**

- There were 7,201 age-standardised admissions to hospital for COPD in Hampshire residents during the three year period from 2009/10 to 2011/12. This is a rate of 121 per 100,000 population.
- West Hampshire had the highest rate of admissions (131 per 100,000) which was significantly higher than Fareham and Gosport, North Hampshire and South Eastern CCGs. Within West Hampshire the rate of admissions was significantly higher in Mid West Hampshire, with Eastleigh local authority area having the highest rate of 167 per 100,000 population.
- Between 2008 and 2012 there was no significant change in the rate of admissions for COPD for all ages or in under 75s.
- Figures 11 and 12 show the number and rate of admissions by CCG and local authority.
Figure 10: Comparison of emergency and elective COPD admissions by CCG, West Hampshire grouping and local authority

Sources: CDS received from Provider Trusts via SUS & ONS LSOA mid-year population estimates.
Chronic Obstructive Pulmonary Disease (COPD)

Figure 11: Hospital admissions for COPD by CCG and local authority, showing rate, trend (all ages)

Sources: CDS received from Provider Trusts via SUS & ONS LSOA mid year population estimates
4.3.2 Emergency admissions (figure 10)

- An acute exacerbation of COPD requiring emergency hospital admission has a poor prognosis. One in 12 patients die during their hospital stay and one in six die within three months.
- There were 5,956 emergency admissions in Hampshire for COPD between 2009/10-2011/12 - a rate of 99 per 100,000 population. 3,360 (47%) of these were in people under the age of 75 years (72/100,000).
- Hampshire has a low rate of emergency admissions for COPD and is in the bottom quintile for England.\textsuperscript{15}
- The picture varies across the Hampshire CCGs for emergency admissions. West Hampshire and North Hampshire have the lowest rates which reach significance in the under 75s.
- Gosport, Rushmoor and Havant have the highest rates of emergency admissions, which is likely to reflect the higher rates of deprivation, followed by Basingstoke and Deane, New Forest and Hart where the reasons for higher rates are less clear.
- The high rate of total admissions for COPD in West Hampshire CCG is due to a high rate of elective admissions. For the Mid- West Hampshire Grouping and in Eastleigh, New Forest and Test Valley, this requires further investigation.

4.3.3 Emergency re-admissions within 30 days of discharge

- In England COPD is the fifth commonest cause of emergency re-admissions.
- At any one time a third of people in hospital with COPD have been treated for the same condition within the preceding 30 days, with the vast majority of these (97%) for COPD or complications of COPD.\textsuperscript{15}
- Hampshire has a low rate of emergency re-admissions and is in the fourth quintile compared to England.
- We do not have this information by CCG but expect variation between and within CCGs.
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4.3.4 Inequalities

- There is a striking gradient in emergency admission rates for all ages between the most and least deprived quintiles (figure 13). The admission rate in the most deprived quintile (300 per 100,000 population) is five times the rate in the least deprived quintile (64 per 100,000 population) and the rate in the fourth quintile is three times. The picture is very similar for the under age 75 age group.

- Due to the socio-economic make up of Hampshire, the largest number of emergency admissions is in people in the least deprived quintile with 2,006 admissions between 2009 and 2012 compared to 455 in people in the least deprived quintile.

- The highest rate of elective admissions is in the third quintile – this may reflect the anomaly of the very high rate of elective admissions for Eastleigh.

- The admission rate for men is significantly higher than for women in Hampshire and although this trend is reflected across the CCGs it only reaches significance for West Hampshire, probably reflecting the larger size of the population. In North East Hampshire and Farnham the admission rate is higher for women than men but this does not reach significance (figure 14).

- Nationally we know that the difference in admission rates between men and women is reducing reflecting the increase in COPD in women due to the rise in tobacco use in women beginning in the 1950s.

- In order to reduce the total number of emergency admissions due to COPD a universal approach will be needed due to the number of people with COPD who are not from deprived areas while ensuring access to good care for those in the most deprived areas.

Figure 13: Emergency and elective admissions by deprivation quintile (all ages)
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Figure 14: Admissions for COPD by gender by CCG

5.0 End of Life Care

Please see the JSNA chapter on End of Life for more information.

5.1 Deaths

- COPD has a poor prognosis with a ten year survival of about 50%.
- There were 1,534 deaths from COPD in Hampshire during the three year period from 2009 to 2011.
- The death rate from COPD in Hampshire was 20 per 100,000 population, lower than the national average of 26 deaths per 100,000 (figures 15 and 16). There was variation between CCGs, with the highest death rate seen in Fareham and Gosport which has a rate of 26 deaths per 100,000 in line with the England average and the lowest rate in West Hampshire (17/100,000).
- The rates vary across local authorities - the highest rates were in Gosport, Rushmoor and Havant where rates are above the regional average.
- The death rate from COPD in Hampshire has been stable between 2006 and 2011 in line with the national trend.
- There is a very strong gradient between deprivation quintile and death from COPD (figure 15). The death rate in the most deprived quintile is more than three times the rate in the least deprived quintile. The highest number of deaths from COPD is in people in the least deprived quintile due to the socio-economic profile of Hampshire’s population.
The mortality rate is significantly higher in men than women in Hampshire as a whole and reaching significance in Fareham and Gosport and West Hampshire CCGs (Figure 17). Rates are significantly higher for men in Eastleigh, Fareham, Gosport and Winchester districts.
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Figure 16: Number and rate of deaths from COPD in Hampshire by CCG, 2009/11

<table>
<thead>
<tr>
<th></th>
<th>Males</th>
<th></th>
<th>Males</th>
<th></th>
<th>Males</th>
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<tr>
<td></td>
<td>Number</td>
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<td>95% CI LL</td>
<td>95% CI UL</td>
<td>Number</td>
<td>DSR</td>
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<tr>
<td>England</td>
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<td>South east</td>
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<td>Hampshire</td>
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<td>24</td>
<td>27</td>
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</tr>
<tr>
<td>Fareham &amp; Gosport</td>
<td>178</td>
<td>36</td>
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<td>41</td>
<td>128</td>
<td>19</td>
</tr>
<tr>
<td>NE Hants &amp; Farnham</td>
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<td>West Hants</td>
<td>317</td>
<td>22</td>
<td>20</td>
<td>25</td>
<td>281</td>
<td>14</td>
</tr>
</tbody>
</table>

5.2 Deaths within 30 days of admission for COPD

- The death rate within 30 days of admission for COPD in Hampshire is in the 3rd quintile nationally.
- We do not have this information by CCG and the Hampshire picture is likely to hide variation across the county.
- Improved outcomes following admission are achieved through pro-active, integrated and comprehensive care for patients during a COPD exacerbation both within hospital and following discharge.

Figure 17: Mortality by gender by CCG and local authority

Sources: ONS Public Health Mortality Annual Extract & ONS LSOA mid year population estimates.
*Comparative data are not available for all indicators.
6.0 Users and provider views

This is what people with COPD and their families have been telling CCGs that they want, during CCG work to review care pathways for COPD:

- Earlier diagnosis.
- To know that they will be referred for pulmonary rehabilitation when needed – GP referral is variable and there can be a 6 week wait.
- Pulmonary rehabilitation maintenance groups.
- To know that they have timely access to specialists when their disease process deteriorates.
- Consistent and timely information about their disease and treatment.
- Well trained skilled staff who listen, particularly practice nurses.
- Support to gain confidence to work in partnership with healthcare professionals to manage their disease.
- Anticipatory care plans – shared with ambulance service.
- Standby antibiotics and steroids.

7.0 Evidence of what works

7.1 Integrated care

There is a wealth of information about what works in terms of best care for people with COPD and a growing body of evidence about how best to organise services through a pathway approach and integrated care to meet the needs of patients,
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rather than services or the staff working within them. A national outcomes strategy for COPD and Asthma was published in 2011.

Commissioners should ensure that people with COPD and their carers have appropriate access to specialist, condition-specific information and support when indicated. Care should be provided by a multidisciplinary team and patients will need access to a range of specialist services depending on individual needs including physiotherapy, dietetic advice, occupational therapy and psychological therapy.

7.2 Prevention
COPD can be prevented principally by tobacco control – stopping people from starting to smoke and enabling smokers to stop.

7.3 Early diagnosis
There is evidence that early diagnosis and treatment can markedly slow the decline in lung function. There is insufficient evidence to recommend community based spirometric screening and so we need to improve case finding in primary care. A diagnosis of COPD should be considered in patients over the age of 35 who have a risk factor (usually smoking) and present with exertional breathlessness, chronic cough, regular sputum production, frequent winter ‘bronchitis’ or wheeze.

7.4 Pharmacological management
NICE and GOLD have published detailed evidence of the pharmacological management of COPD. We know that inhaled therapies can improve the quality of life in some patients with COPD. However, there is a substantial body of evidence that many patients do not use their inhalers correctly. Error rates vary widely from one clinical trial to another, depending on study criteria, type of device, and extent of patient education, among other factors. Nonetheless, several studies (spanning 3 decades) found the error rate to be close to, or greater than, 90%. Patients require training in inhaler technique with regular reinforcement. Where a patient is prescribed an inhaled therapy their technique should be assessed at every review.

7.5 Pulmonary rehabilitation
There is good evidence that effective pulmonary rehabilitation leads to meaningful improvements in health related quality of life, functional exercise capacity, maximum exercise capacity and reduces breathlessness.

Pulmonary rehabilitation is within the NICE threshold for cost effectiveness at £2,000-£8,000 per QALY. It has been shown to deliver an overall cost saving of £152 per patient per pulmonary rehabilitation programme.

Following an acute exacerbation pulmonary rehabilitation:
- Will improve health related quality of life in COPD patients (e.g. dyspnoea, fatigue, and patient control over the disease).

13 Inhalation therapy: Help patients avoid these mistakes — The Journal of Family Practice
Chronic Obstructive Pulmonary Disease (COPD)

- When provided after hospital discharge may reduce re-admissions from a third to just 7% of patients.\textsuperscript{16}

The NICE clinical guideline recommends that pulmonary rehabilitation should be offered to everyone with COPD who consider themselves functionally disabled by COPD (MRC grade 3) including those who have had a recent hospital admission for an exacerbation of their COPD.

7.6 Managing exacerbations

COPD exacerbations are associated with a worse quality of life, faster disease progression and increased mortality. The frequency of exacerbations should be reduced by appropriate pharmacological management and ensuring that people with COPD are appropriately vaccinated with pneumococcal and flu vaccine.

Prompt treatment of exacerbations at the onset of symptoms has been shown to improve outcomes\textsuperscript{17}. The impact of exacerbations can be minimised by ensuring that patients have an individualised management plan and are able to recognise and treat exacerbations. This includes the provision of antibiotics and oral steroids for self-treatment at home.

The COPD commissioning toolkit recommends that people admitted with COPD should be assessed by a respiratory physician to improve outcomes and reduce length of stay.

7.7 Home oxygen assessment and review

Long term oxygen therapy (LTOT) is an important part of the management of COPD in some patients. It can improve survival by 40% when prescribed to the right individuals. It should only be prescribed for patients who have been assessed in accordance with NICE guidance by a specialist oxygen service (NICE COPD quality standard)\textsuperscript{12}.

People with COPD receiving long term oxygen therapy should be reviewed in accordance with NICE guidance, at least annually, by a specialist oxygen service as part of the integrated clinical management of their COPD (NICE COPD quality standard)\textsuperscript{12}.

All healthcare settings, including primary care, should have a pulse oximeter to identify people with COPD who require assessment for LTOT.

There is national evidence that the needs of people with COPD for LTOT are not being met and that we are not getting the best value from LTOT. The DH has estimated that up to a third of people who receive LTOT derive no clinical benefit

\textsuperscript{16} Outpatient pulmonary rehabilitation following acute exacerbations of COPD. Seymour JM et al. Thorax 2010 May;65(5):423-8 Griffiths et al. (2001)
\textsuperscript{17} Wilkinson TMA, Donaldson GC, Hurst JR, Seemungal TAR, Wedzicha JA. Impact of Reporting and Early Therapy on Outcome of Exacerbations of COPD. Am J Respir Crit Care Med 2004: 169: 1298-1303
from it while as many as 20% people with COPD would benefit from LTOT but do not get it.

7.8 Mental health
Depression is approximately two to three times more common in patients with a chronic physical health problem, such as COPD, than in people who have good physical health. A chronic physical health problem can both cause and exacerbate depression, and treating depression in these patients has the potential to increase their quality of life and life expectancy. The NICE guidelines for treatment of anxiety\(^\text{18}\) and depression in long term conditions\(^\text{19}\) recommend a range of treatments that are relevant to patients with COPD.

8.0 Recommendations

- We need to continue to focus efforts on preventing the development of COPD through a comprehensive tobacco control strategy which includes stopping people start smoking as well as smoking cessation services.
- We need to improve the diagnosis of COPD, which should include a focus on areas of high prevalence where there is a low diagnosis rate.
- We need to ensure that people with COPD who are still smoking are enabled to stop. We need better information about the proportion of people with COPD who continue to smoke.
- CCGs should continue to review their COPD services with a view to ensuring that they are commissioning, or working towards commissioning a true integrated service.
- CCGs should review the arrangements for supporting people with COPD in primary care as part of their role in improving quality of primary care.
- CCGs should ensure that they are commissioning adequate pulmonary rehabilitation services. The anomaly in the rate of elective admissions in West Hampshire needs to be investigated and addressed.

\(^{18}\) [http://guidance.nice.org.uk/CG113/QuickRefGuide/pdf/English](http://guidance.nice.org.uk/CG113/QuickRefGuide/pdf/English)

\(^{19}\) [http://guidance.nice.org.uk/CG91/QuickRefGuide/pdf/English](http://guidance.nice.org.uk/CG91/QuickRefGuide/pdf/English)