7.23 Chronic obstructive pulmonary disease mortality and morbidity

What is chronic obstructive pulmonary disease (COPD)?

COPD stands for chronic obstructive pulmonary disease. This is a term used for a number of conditions; including chronic bronchitis and emphysema. COPD leads to damaged airways in the lungs, causing them to become narrower and making it harder for air to get in and out of the lungs. The most common cause of COPD is smoking. Once a person gives up smoking, they reduce the chances of getting COPD – and slow down its progress should they already have it. Occupational factors, such as coal dust, and some inherited problems can also cause COPD.

With more severe COPD, because of breathlessness, normal activities can become more difficult. COPD can lead to feelings of anxiety because of breathlessness. People with COPD may reduce their activities to avoid becoming breathless. But by reducing activity levels, they become less fit and therefore get breathless even sooner when they try to do any activity. People with COPD may adapt their lifestyles to reduce breathlessness – but keeping as fit as possible is important for long-term prognosis.

What’s the local picture and how do we compare?

Barking and Dagenham has one of the highest morbidity and mortality rates with COPD as a cause in England.

Around 75% of COPD is caused by smoking. Stopping smoking is the most important intervention in preventing disease and stopping progression in those with early disease. As more 47% of patients with COPD continue to smoke assessment of their willingness to quit and ensuring they have access to good support is vital.

See section 7.10 for detailed information on smoking cessation. Diagnosed COPD is recorded in the Quality and Outcomes Framework (QOF) by GPs, and an estimate of expected prevalence is also published.

For Barking and Dagenham, recorded prevalence varies substantially between different GP practices, the range is from 0.35 – 3.45%, and theCCG average is 1.7%. This is a major concern because this prevalence is below the England average of 1.8%\(^1\). Given the morbidity and mortality rates the expected prevalence would be much higher at 3.13%. This suggests that there are a large number of cases of COPD in the borough that are not identified.

\(^1\) http://fingertips.phe.org.uk/profile/general-practice/data#mod,5,pyr,2014,pat,19,par,E38000004,are,-,sid1,2000006,ind1,-,sid2,-,ind2,- (accessed 30 April 2015)
Mortality rates in Barking and Dagenham are high with the borough ranking 141 out of 149 local authorities for deaths from lung disease\(^2\). Under 75 years of age mortality rate from respiratory conditions considered to be preventable that is considerably higher than that of London and England\(^3\) (29.9 per 100,000 population in Barking and Dagenham, 17.1 London, 17.9 England). Barking and Dagenham’s estimated prevalence from modelling work is 3.13% compared with 2.91% for England\(^4\).

Prevalence data from the QOF for 13/14 shows that 3405 Barking and Dagenham patients are on their general practice COPD register\(^5\). This number is about half of those with the condition. Of those who are known to have COPD, about 47% continue to smoke, thus exacerbating their condition\(^6\).

Barking and Dagenham also has the highest rate of standardised hospital admissions for COPD of all the boroughs in outer north east London and the rate is more than double the England average (Table 7.23.1).

### Table 7.23.1: Numbers and rate of admissions for COPD for all persons, Barking and Dagenham, London and England, 2011/12

<table>
<thead>
<tr>
<th>Location</th>
<th>Number of Admissions</th>
<th>DSR per 100,000</th>
<th>Lower</th>
<th>Upper</th>
<th>Comparison with England</th>
</tr>
</thead>
<tbody>
<tr>
<td>England</td>
<td>113,247</td>
<td>200</td>
<td>200</td>
<td>210</td>
<td></td>
</tr>
<tr>
<td>London</td>
<td>12,882</td>
<td>210</td>
<td>200</td>
<td>210</td>
<td>Not Significantly different</td>
</tr>
<tr>
<td>Barking &amp; Dagenham</td>
<td>478</td>
<td>370</td>
<td>340</td>
<td>410</td>
<td>Significantly Higher</td>
</tr>
</tbody>
</table>

**DSR is the Directly Standardised Admission Rate – that is, the crude rate adjusted for age and sex**  

In parallel with the high rate of hospital admissions in Barking and Dagenham the death rate in Barking and Dagenham is almost twice the London rate higher than the rate in Greenwch and Lewisham (Figure 7.23.1). There are approximately 100 deaths per year in the borough from COPD. In 2013, there were 98 deaths from COPD, 54 in men and 44 in women, 18 of these deaths were in people under the age of 75 years\(^7\).

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\(^2\) [http://longerlives.phe.org.uk/area-details#are/E09000002/par/E92000001/ati/102/pat/](http://longerlives.phe.org.uk/area-details#are/E09000002/par/E92000001/ati/102/pat/) (accessed 30 April 2015)


\(^6\) Health Analytics, May 2015

\(^7\) [https://indicators.ic.nhs.uk/webview/](https://indicators.ic.nhs.uk/webview/) (accessed 1 May 2015)
Figure 7.23.1: Directly standardised mortality from COPD, age less than 75 years, London boroughs, London and England, 2011-2013

Figure 7.23.2 COPD mortality annual trend, directly standardised rate per 100,000 population, all ages, Barking and Dagenham, Greenwich, Lewisham, London and England, –2003-2013
In persons aged 1 to 74 years, 10.8 years of life per 10,000 population are lost due to mortality from COPD\(^8\).

Recent work has shown that there are high rates of heart disease in people living with COPD and that cholesterol lowering drugs can be beneficial in many COPD patients\(^9\).

**What’s the trend?**

The management of COPD in primary care is variable with some practices having identified almost all their predicted cases while around a third of practices have identified less than one quarter of their predicted cases. Failure to identify these patients means they cannot receive simple, effective treatments like stop smoking advice and influenza vaccination.

The proportion of the population that suffers from COPD is mainly dependent on age, sex, smoking patterns and where people live*. It is more common in older people, in deprived areas and in men – because historically men had higher rates of smoking.

*The rates and comparisons in Figures 7.23.4-7.23.8 are not adjusted for age, since there is no nationwide dataset of QOF conditions that also contains patient demographic details.

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Figure 7.23.4: Prevalence of COPD

Figure 7.23.5: QOF recorded COPD prevalence Barking and Dagenham GP Practices, proportional symbols, May 2015
Figure 7.23.6: ratio of recorded vs. expected prevalence of COPD, Barking and Dagenham practices, 2013/14

Source: QOF prevalence, ERPHO estimates

Figure 7.23.7: COPD, % detected and undetected in Barking and Dagenham by GP practice, 2010/11

Evidence based management of chronic obstructive pulmonary disease

The optimal treatments for COPD have been rationalised and guidelines for effective and cost effective management are published \(^\text{10}\). This is a step change in emphasis and relegates the usefulness of inhalers and promotes the effectiveness of previously available, but neglected, interventions.

IMPRESS (Improving and Integrating Respiratory Services in the NHS)\(^\text{11}\) has advocated:

- Increasing the focus on smoking cessation – as a core treatment for COPD not as an adjunct
- Increasing the use of pulmonary rehabilitation
- Increasing the use of influenza vaccination
- Decreasing the overuse of some common inhalers and drugs – which are currently leading to financial wastage
- Auditing the interventions that are the most important:

In Barking and Dagenham 80% of people with COPD received an influenza vaccination in the 2012/13 flu season. The cover rate at GP practices varies, the range is from 61% to 100%. Table 7.23.8.

For patients in Barking and Dagenham with COPD (diagnosed and undiagnosed) – the chance of receiving influenza vaccine varies between 10% and 85% depending on which GP they are registered.

Figure 7.23.8: Influenza immunisation for COPD patients, % received and not received, Barking and Dagenham GP Practices, 15 months prior to 18/09/2014

\(^{10}\) https://www.nice.org.uk/guidance/ph48 (accessed 12 May 2015)

\(^{11}\) http://www.impressresp.com/ (accessed 1 October 2014)
Work is going forward to increase provision of pulmonary rehabilitation and analyse data on service usage.

What are we doing and what can be done differently?

A recent review of chronic obstructive pulmonary disease undertaken by Arden Commissioning Support mapped the current service provision

CTT and ICM teams to ensure all patients are reviewed by Pulmonary Rehab team following an admission and offer pulmonary rehabilitation if appropriate.

Additional information is written for individual GP practices as practice profiles and additional information can be found on the Public Health England website. The links to the Public Health England practice profiles and the practice level healthier lives data are below. The PHE practice profiles include the local QOF data linked to outcomes.

http://fingertips.phe.org.uk/profile/general-practice/data

http://healthierlives.phe.org.uk/topic/mortality
**Recommendations for Commissioners**

Smoking cessation is the most effective way to prevent COPD. Support for partners to implement smoke-free premises is recommended.

Residents and staff should be encouraged to stop smoking and this requirement can be built into initiatives by including brief interventions e.g. Make Every Contact Count, into commissioning where residents and staff would benefit from such an intervention.

The interventions with the best evidence base for delaying the progression of COPD are stopping smoking, influenza vaccination, pulmonary rehabilitation and the provision of home oxygen for those with advanced disease. Morbidity and mortality from COPD would be reduced by addressing the following:

- **Active case finding**: Around a half of all patients with COPD remain undiagnosed. A proportion of these will have moderate and severe disease and would benefit from assessment, advice and case management.

- **Stopping smoking**: Currently, an estimated 47% of patients with diagnosed COPD continue to smoke. It remains a priority to target these smokers for supported quitting. This should be seen as the most important intervention for all those involved in the diagnosis and treatment of those with COPD.

- **Pulmonary rehabilitation**: this should be seen as a priority in this borough and provision and record keeping will need to be reviewed.

- **Identifying cardiovascular disease**: All COPD patients in the borough should be tested for cardiovascular disease and for CVD risk. A low threshold should be used for starting cholesterol lowering drugs.

- **Protecting from infection**: Influenza vaccination is an effective intervention in COPD and should be reviewed in the light of tremendous variation in performance between practices.

- **Long Term Oxygen Therapy (LTOT)**: This has a strong evidence base for preventing decline in patients with moderate and severe COPD. There is a community LTOT assessment service but it is unclear what proportion of patients with moderate and severe disease are being assessed and appropriately managed. An audit needs to be performed to see the coverage of the service.

- **Programme budget expenditure**: It is suggested that complex pathway changes are required to move to more evidence based interventions. Savings from wasteful prescribing could be used for investment in value for money interventions. Some start up finances might be needed to move from the current situation to a more effective and cost effective one.