

## 7.23 Chronic obstructive pulmonary disease mortality and morbidity

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### 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?

2012-2014 data show that Barking and Dagenham had the highest number of deaths resulting from COPD in the London region at 89.5 per 100,000 age standardised population compared to London at 80.8 per 100,000<sup>1</sup>. Furthermore COPD is a significant cause of morbidity within the borough, accounting for 500 emergency hospital admissions in 2014/15, the second highest rate in the London region after Tower Hamlets (721 and 861 respectively for directly age standardised rate of emergency hospital admissions for adults aged 35+)<sup>2</sup>.

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. More than 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.

For Barking and Dagenham, recorded prevalence varies substantially between different GP practices, with a range of 0.25 – 3.14%, the CCG average is 1.6%. This

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<sup>1</sup>Local Tobacco Control Profiles for England “Deaths from Chronic Obstructive Pulmonary Disease”  
<http://www.tobaccoprofiles.info/search/COPD#page/3/gid/1/pat/6/par/E12000007/ati/101/are/E09000002/iid/1204/age/1/sex/4>  
[accessed 18 August 2016]

<sup>2</sup>Local Tobacco Control Profiles for England “Emergency Hospital Admissions for COPD”  
<http://www.tobaccoprofiles.info/search/COPD#page/3/gid/1/pat/6/par/E12000007/ati/101/are/E09000002/iid/92302/age/202/sex/4>  
[accessed 18 August 2016]

prevalence is below the England average of 1.8%<sup>3</sup>, which is a major concern when accounting for the higher rate of mortality resulting from COPD, when compared to England.

Mortality rates in Barking and Dagenham are high, with the borough ranking 144<sup>th</sup> out of 149 local authorities for deaths from lung disease<sup>4</sup>. For under 75 years of age mortality rate from *respiratory conditions considered to be preventable* the levels of mortality are considerably higher in Barking and Dagenham than that of London and England<sup>5</sup> (31.6 per 100,000 B&D, 17.1 London, 17.8 England). The borough also has the highest mortality rate (directly standardised) resulting from COPD of all London boroughs for those aged under 75 (31.46 per 100,000) as well as for all ages at (89 per 100,000). This rate is also considerably higher than the rate for England (17.70 and 51.72 per 100,000 and respectively).

Prevalence data from QOF for 14/15 shows that 3,398 Barking and Dagenham patients are on their general practice COPD register<sup>6</sup>.

In 2011/12 Barking and Dagenham also had the highest rate of standardised hospital admissions for COPD of all the boroughs in outer north east London, this rate is more than double the England average (Table 7.23.1). Updated data via NHS Comparator is no longer available, Hospital Episode Statistics should be referenced for the latest figures.

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

Location	Number of Admissions	DSR per 100,000	Lower	Upper	Comparison with England
England	113,247	200	200	210	
London	12,882	210	200	210	Not Significantly different
Barking & Dagenham	478	370	340	410	Significantly Higher

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

Source: NHS Comparators, <https://www.nhscomparators.nhs.uk/>, 2012

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 (Figure 7.23.1).

<sup>3</sup> <http://fingertips.phe.org.uk/profile/general-practice/data#mod.5.pyr.2015.pat.19.par.E38000004.are.-.sid1.2000006.ind1.253-4.sid2.-.ind2.-> (accessed 09 August 2016)

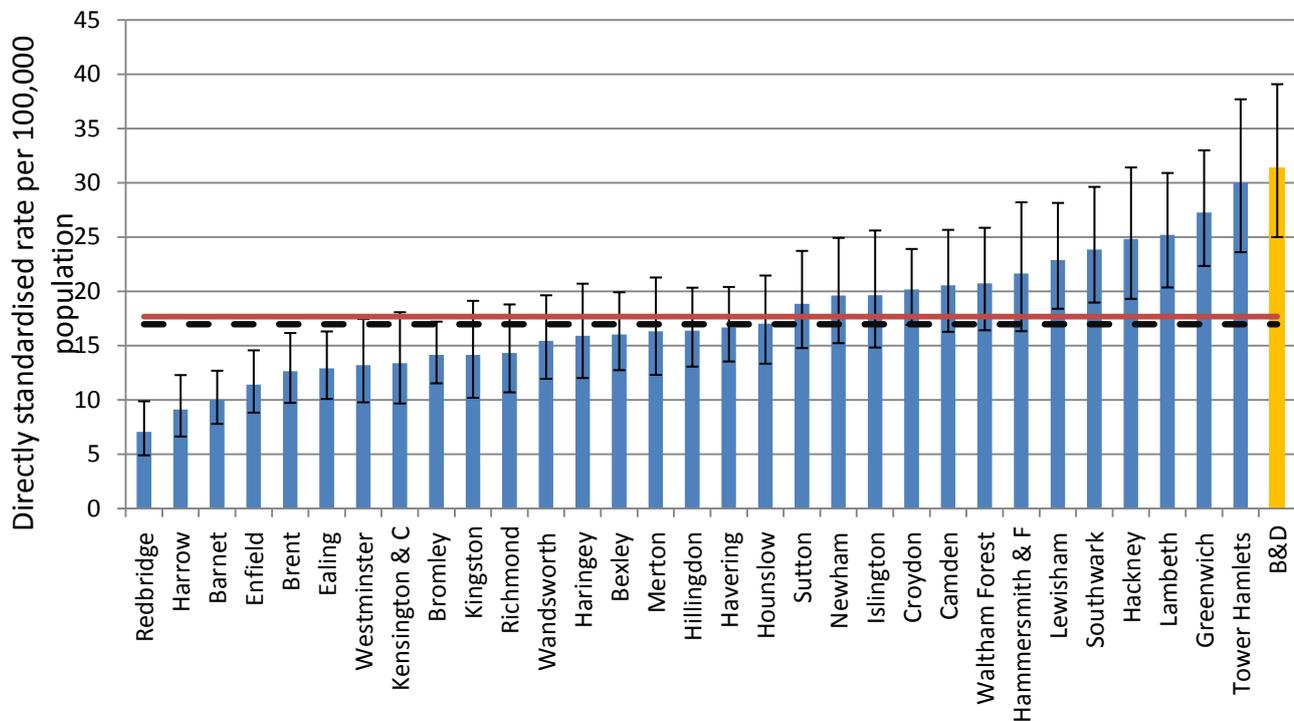
<sup>4</sup> <http://healthierlives.phe.org.uk/topic/mortality/area-details#are/E09000002/par/E92000001/ati/102/pat/> (accessed 09 August 2016)

<sup>5</sup> <http://www.phoutcomes.info/public-health-outcomes-framework#page/3/qid/1000044/pat/6/par/E12000007/ati/102/are/E09000002/iid/40702/age/163/sex/4> (accessed 09 August 2016)

<sup>6</sup> <http://digital.nhs.uk/searchcatalogue?productid=19196&q=title%3a%22Quality+and+Outcomes+Framework%22&sort=Relevance&size=10&page=1#top> (accessed 09 August 2016)

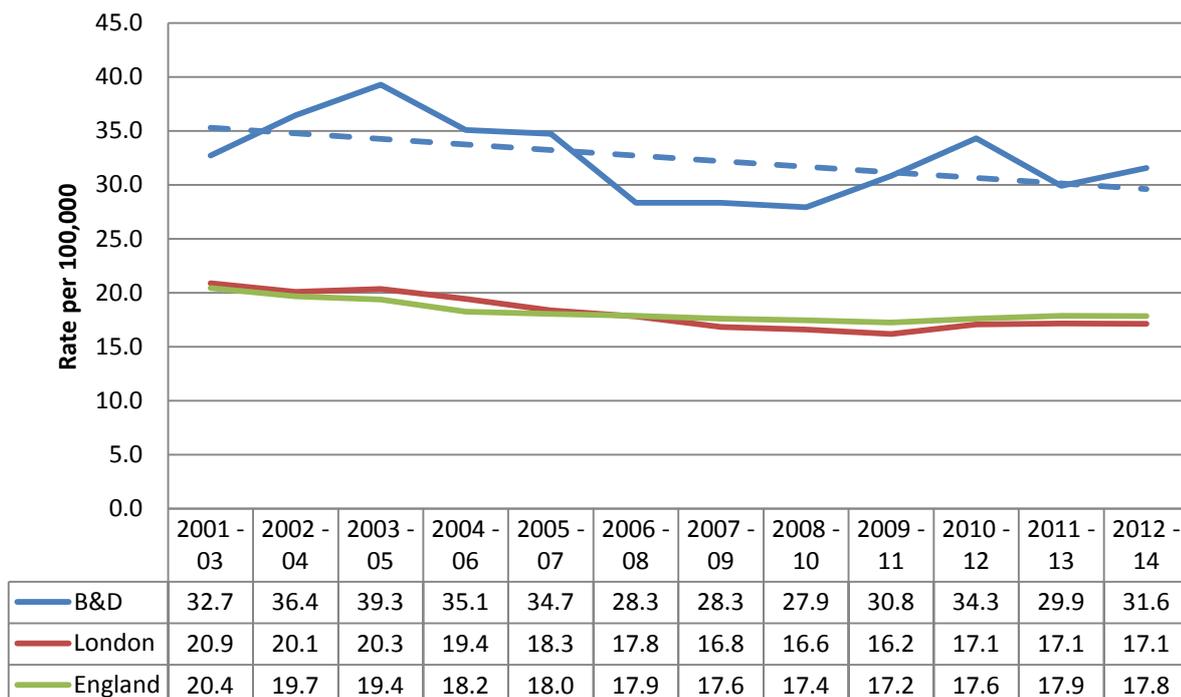
There are approximately 100 deaths per year in the borough from COPD. In 2014, there were 96 deaths from COPD, 46 in men and 50 in women, 33 of these deaths were in people under the age of 75 years<sup>7</sup>.

**Figure 7.23.1: Directly standardised mortality from COPD, age less than 75, London boroughs, London and England, 2012-2014**



Source: HCSIS <https://indicators.hscic.gov.uk/webview/>

**Figure 7.23.2 Under 75 mortality rate from respiratory disease considered preventable, B&D, London and England, 2001/03 to 2012/14**



Source: Fingertips <http://fingertips.phe.org.uk>

Annual trend data is available for emphysema and Bronchitis mortality (directly standardised rate) by gender, this data does not include 'other COPD' mortality. The data shows a higher rate of mortality in males than females, with levels of male mortality decreasing in recent years. Barking and Dagenham has a male mortality rate double that of England for emphysema and Bronchitis, with females in B&D having a similar level of mortality as those reported for England. It should however be noted that the data for B&D is limited in number of observations, limiting the conclusions that can be drawn from these trends.

In persons aged 1 to 74 years, 21.7 years of life per 10,000 population are lost due to mortality from COPD<sup>8</sup>.

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<sup>9</sup>.

### **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.

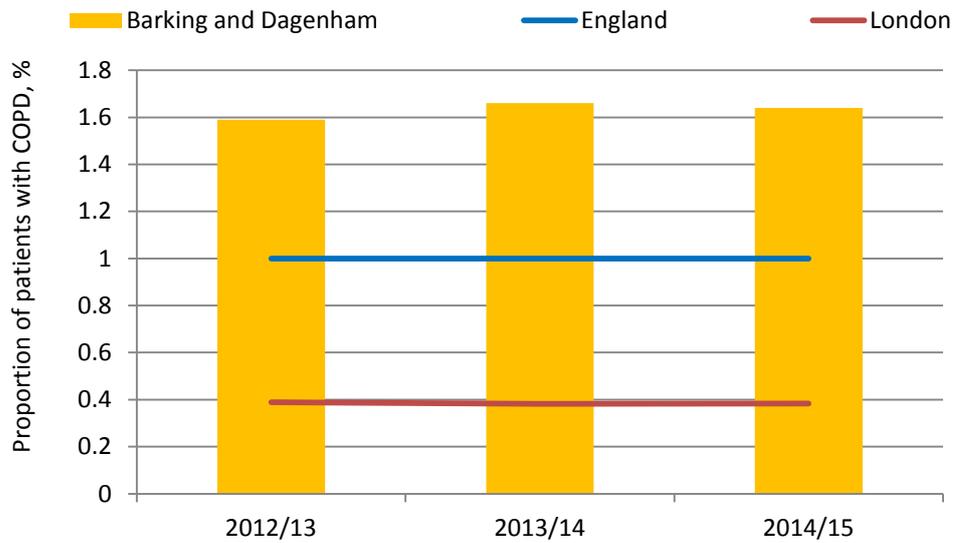
The proportion of the population that suffers from COPD is mainly dependent on age, sex, smoking patterns and where people live. It is more common in older people, in deprived areas and in men – because historically men had higher rates of smoking.

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<sup>8</sup> HSCIC. (2014). *Indicator Portal*. Available: <https://indicators.ic.nhs.uk/webview/>. (Accessed 12 August 2015).

<sup>9</sup> Feary JR, 2010, *Thorax* <http://thorax.bmj.com/content/65/11/956> and Janda S, 2009, *Chest* (Accessed 12 August 2015)

**Figure 7.23.3 QOF COPD Prevalence (percent), B&D, London and England 2012/13-2014/15**



Source: QOF COPD Prevalence data, CCG and regional and national

Figure 7.23.3 shows that Barking and Dagenham has experienced a consistently higher prevalence of COPD between 2012/13-2014/15, when compared to London and England. In 2014/15 Barking and Dagenham had the 3rd highest prevalence of COPD among the 32 London boroughs at 1.64% , (behind Bexley 1.86% and Havering at 1.71%)<sup>10</sup>.

<sup>10</sup> QOF: 2014/15 Prevalence <http://digital.nhs.uk/catalogue/PUB18887> [Accessed 09 August 2016]

Figure 7.23.4 QOF recorded COPD prevalence Barking and Dagenham GP Practices, proportional symbols, May 2015

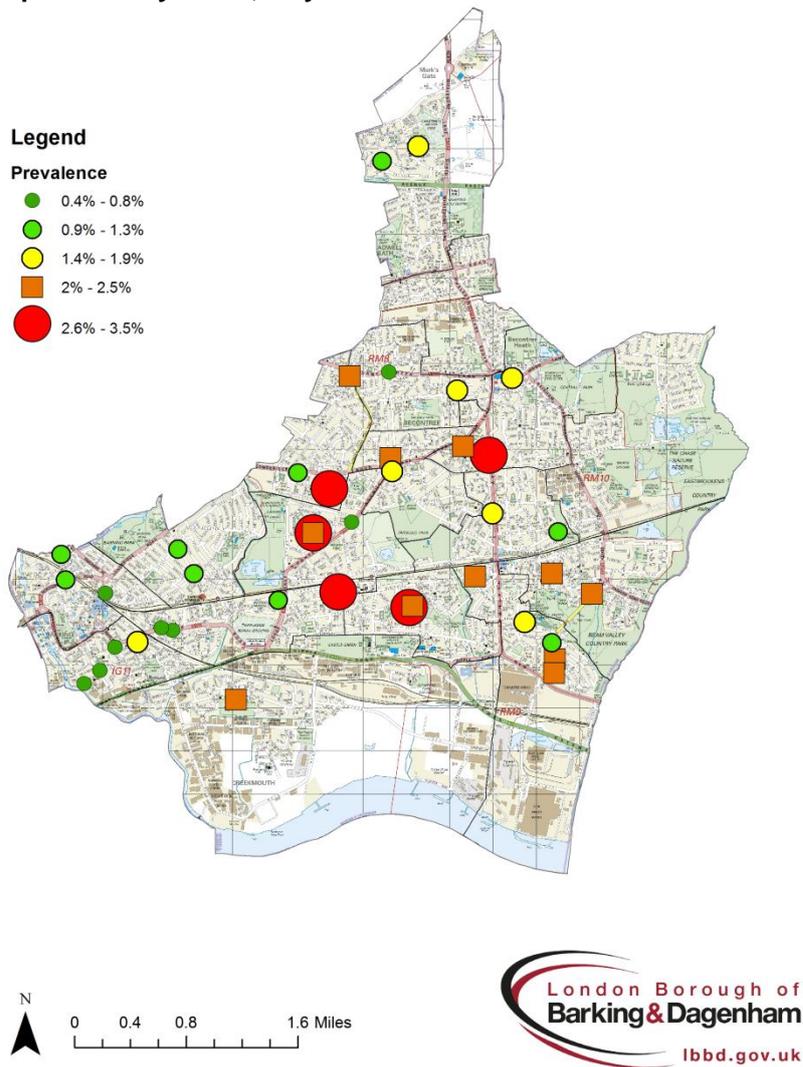
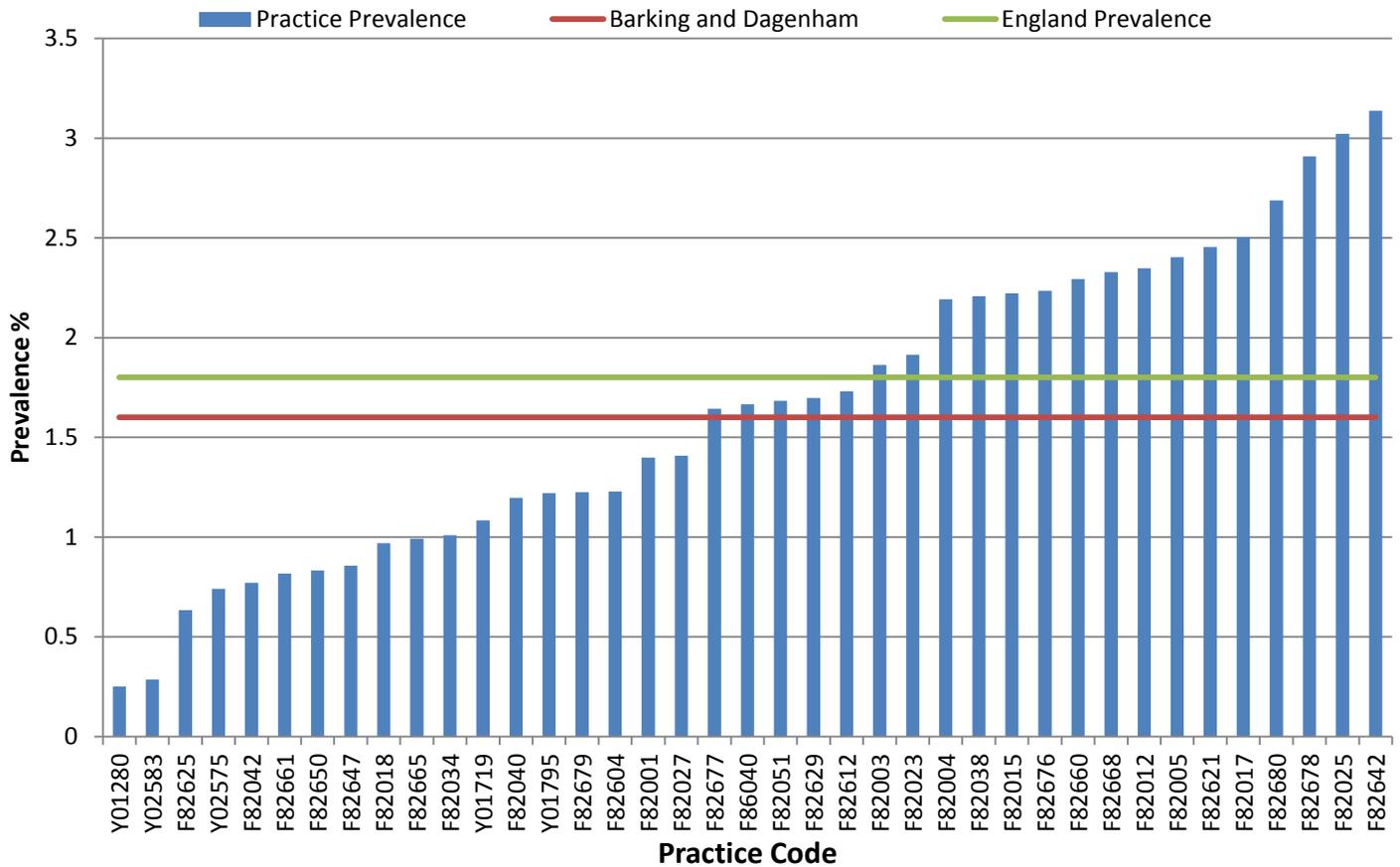


Figure 7.23.5 prevalence of COPD, Barking and Dagenham practices, 2014/15



Source: National General Practice Profiles

As noted above or the recorded prevalence varies substantially between different GP practices, with a range of 0.25 – 3.14% as highlighted in figure 7.23.5. A large portion of practices fall below the England prevalence of 1.8%<sup>11</sup>.

<sup>11</sup>National General Practice Profiles; “Respiratory Disease, COPD QOF prevalence (all ages)” <http://fingertips.phe.org.uk/profile/general-practice/data#mod,5,pyr,2015,pat,19,par,E38000004,are,-,sid1,2000006,ind1,-,sid2,-,ind2,-> [ Accessed 17 August 2016]

## 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<sup>12</sup>. 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)<sup>13</sup> 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 80.7% of people with COPD received an influenza vaccination in the 2014/15 flu season compared with 81.5% in England<sup>14</sup>. The coverage rate at GP practices varies, the range is from 58.9% to 100%<sup>15</sup>. Figure 7.23.6.

Work is going forward to increase provision of pulmonary rehabilitation and analyse data on service usage.

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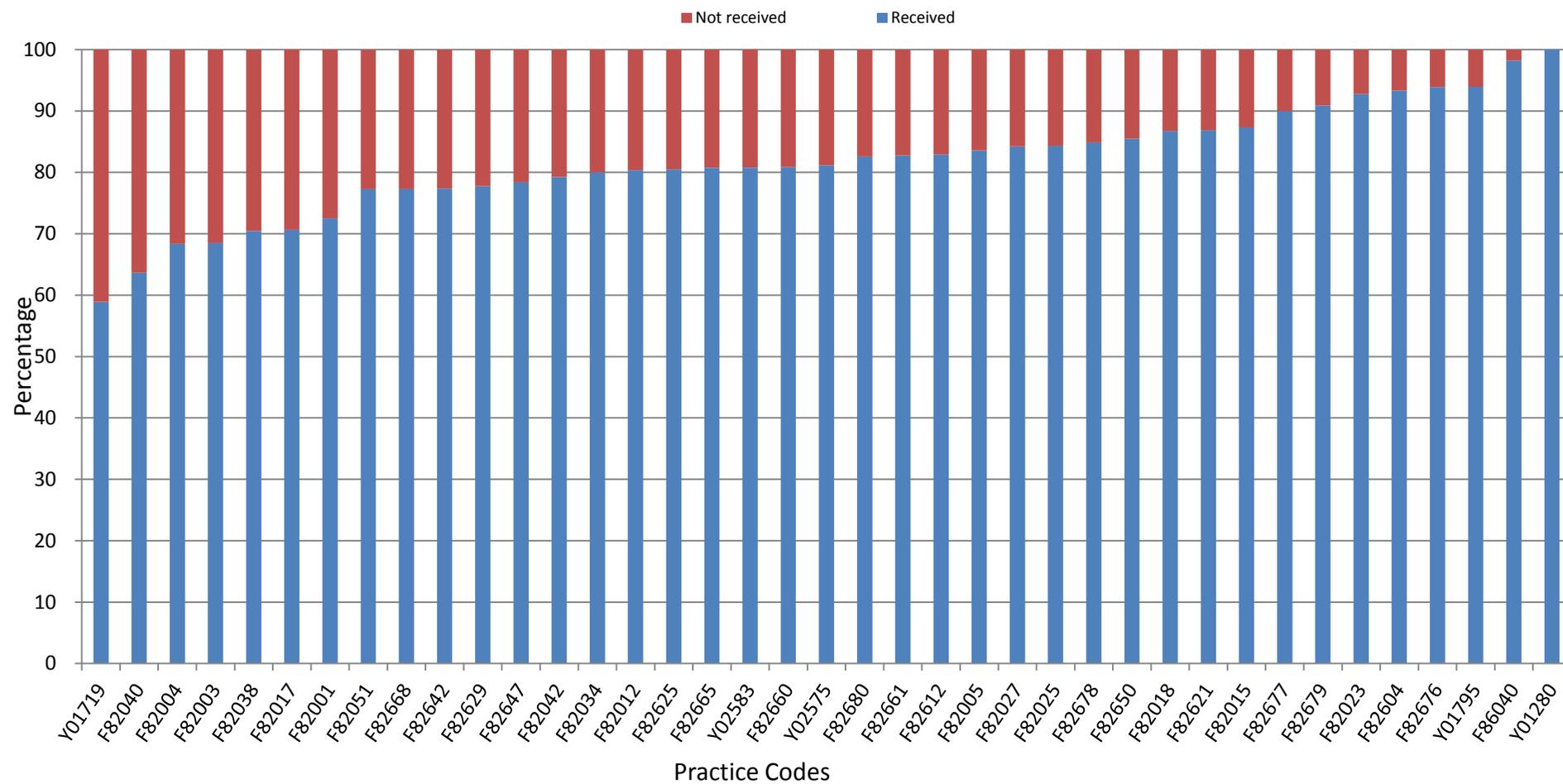
<sup>12</sup> <https://www.nice.org.uk/guidance/ph48> (accessed 12 May 2015)

<sup>13</sup> <http://www.impressresp.com/> (accessed 1 October 2014)

<sup>14</sup> <http://fingertips.phe.org.uk/profile/general-practice/data#mod,5,pyr,2015,pat,19,par,E38000004,are,-,sid1,2000006,ind1,253-4,sid2,-,ind2,-> (accessed 10 August 2016)

<sup>15</sup> <http://fingertips.phe.org.uk/profile/general-practice/data#mod,5,pyr,2015,pat,19,par,E38000004,are,-,sid1,2000006,ind1,90609-4,sid2,-,ind2,-> (accessed 10 August 2016)

**Figure 7.23.6 Influenza immunisation for COPD patients, % received and not received, Barking and Dagenham GP Practices, preceding the 1<sup>st</sup> of August to the 31<sup>st</sup> of March**



Source: QOF 2014/15: Prevalence, achievements and exceptions at practice level

## **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 aim 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, 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 detailed 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.