PUBLIC HEALTH INTELLIGENCE

HARINGEY PROFILE

Smoking-related hospital admissions

April 2013
About this profile

PURPOSE

This public health intelligence profile describes the trends and patterns in smoking-related hospital admissions in Haringey.

This work will support and inform:
- Haringey’s clinical commissioning group and public health teams
- individual general practices in Haringey

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FURTHER INFORMATION AND FEEDBACK

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We would very much welcome your comments on these profiles and how they could better suit your individual or practice requirements, so please do contact us with your ideas.
Recommendations and key messages

OVERVIEW & RECOMMENDATIONS

1. Smoking-related* hospital admissions place a significant burden on health services in Haringey. The directly standardised rate of smoking-related admissions per 100,000 is higher in Haringey compared to the England and London averages. Local hospital data estimates 6% of admissions among people aged 35 and older are caused by smoking. Continued promotion of smoking cessation interventions in the groups with the highest burden of smoking-related admissions may help people quit smoking and lessen the burden on local health services.

2. People living in the most deprived areas and men aged 55-79 account for the largest proportions of admissions for smoking-related conditions. It is necessary that interventions are designed to tackle and help reduce health inequalities.

3. Cardiovascular disease accounts for the largest proportion of smoking-related hospital admissions in Haringey for both men and women (28% and 23% respectively). Further increasing awareness among health professionals and the public of the risk of smoking for patients with these conditions which might benefit people admitted for these conditions.

4. Lung cancer and ‘Other cancers’ are the next most common causes of smoking-related admissions among men and women respectively (18% and 23%). Lung cancer accounts for a large proportion for women aged 35-64 in particular. It is important that preventative interventions are designed for early detection of cancer in people who are ex-smokers or still smokers.

KEY MESSAGES

Smoking-related hospital admissions in context

- According to local data, there were a total of 1,650 smoking-related admissions in 2,253 individuals* in Haringey's responsible** population in 2011/12 (see page 6 for methods).

- Based on national data for 2010/11, Haringey had one of the highest rate of smoking-related admissions in London and ranked 8th out of 33 London boroughs. There were a total of 1,542 smoking-related admissions which represents a rate of 1,615 per 100,000 population.

Local demographics

- Compared to the Haringey average, the level of smoking-related hospital admissions is higher than expected in:
  - men
  - people living in more deprived areas (18% higher than expected compared to average)

*see page 5 for definitions of smoking-related admissions
**see page 6 for a definition of responsible population, individuals and persons
Local demographics (cont.)
- Thirty-eight per cent of individuals contributing to smoking-related admissions are aged 35 to 64, but they account for 47% of admissions.
- Men account for two-thirds of all smoking-related admissions, but make up just over half of individuals contributing to these admissions.
- Smoking-related admissions tend to increase with age until 75-79 for men and 70-74 for women. However there is an additional peak in admissions among men aged 55-59 and women aged 50-54.
- The level of smoking-related admissions is significantly lower than average for White, Black, and Asian ethnic groups whereas it is substantially higher than average for ‘Other’ ethnic group. This may be due to overuse of this category in hospital admission records.
- At ward level, Hornsey has higher than expected level of smoking-related admissions compared to the Haringey average.

Causes of smoking-related admissions
- Cardiovascular diseases (26%), lung cancer (18%) and other cancers (20%) make up the majority (64%) of smoking-related admissions overall.
- There are differences between men and women with respect to the most common causes of smoking related-admissions. Notably, lung cancer and cardiovascular disease make up almost half (48%) of smoking-related admissions in women aged 35-65. In contrast, for men in this age group, cardiovascular disease and ‘other cancers’ account for about half (51%) of the admissions.
- Cardiovascular disease is the most common cause of smoking-related admission in twelve of the Haringey wards, accounting for up to 46% of these admissions. Respiratory disease or cancer are the most common causes in the remaining wards.

Type of admission and repeat admissions
- The majority of smoking-related hospital admissions are elective admissions (65%).
- Around a third of individuals admitted for smoking-related hospital conditions are admitted two times or more in the year.
- Most smoking related-admissions were to North Middlesex University Hospital (39%) and University College of London Hospital (24%).
How to use these analyses

It is important to bear in mind the following when looking at this profile (or any other public health intelligence products):

– **It is the variation that is important**
In this profile, it is the variation between geographical areas (wards and deprivation quintiles) and Haringey GP practices, as well as variation by demographic factors such as age and sex, that should be the main point of reflection rather than overall figures for Haringey. It is the unexplained variation (defined as: variation in the utilisation of health care services that cannot be explained by differences in patient populations or patient preferences) that is important, as this can highlight areas for potential improvements. For example, it may highlight under- or over- use of some interventions and services, or it may identify the use of lower value or less effective activities.

The data alone cannot tell us whether or not there are good and valid reasons for the variation. It only highlights areas for further investigation and reflection. A perfectly valid outcome of investigations is that the variation is as expected. However, to improve the quality of care and population health outcomes in Haringey, a better understanding of reasons behind the variation at a geographical area or a GP practice level with clear identification of areas for improvement is needed.

– **Populations not individuals**
Epidemiology is about the health of the population, not the individual. In this profile this is either all of Haringey’s responsible or resident and registered population, a geographical area population or a GP practice population.

– **Beware of small numbers**
Some of the graphs have small numbers in them. They have been left in so that all GP practices can see what is happening in their practice (according to the data). In these cases, the wide 95% confidence intervals will signify the uncertainty around the percentages, but be careful when interpreting them. However, small numbers between one and five when relating to the individuals or smoking-related hospital admissions (where the smoking-attributable fraction equals one) have been suppressed for disclosure control.

– **Hospital admissions**
The analysis in this profile is based on hospital admissions and does not include attendances at Accident and Emergency.

This profile contains admission-based, person-based and individual-based analysis. The admission-based analysis relates to the number of admissions to hospital for smoking-related conditions (individuals may be counted more than once in any one year). The person-based analysis relates to the number of people admitted to hospital each year for smoking-related conditions (individuals are counted only once in any one year). Analysis of individuals refers to the actual number of people contributing to smoking-related admissions. The number of individuals is higher than the number of admissions because it is the actual number of persons before any smoking-attributable fractions have been applied.

Further details on how the smoking-attributable fractions were applied and how admissions were selected for person and individual based analysis are provided in the next section under methodology’ on pages 5 and 6.
SUS dataset and case definition

Secondary Uses Service (SUS) dataset

- The epidemiological analysis in this profile has been undertaken using data extracted from Secondary Uses Service (SUS) by the NHS North Central London Informatics team. SUS is a dynamic database containing all hospital admissions data.

Smoking-hospital admissions: definitions

- **Smoking-related admissions** are based on hospital admission records that contain any diagnosis (ICD10 code) categorised as attributable to smoking (in the primary diagnosis).

- **Smoking-attributable fractions (SAFs)** are used to estimate the number of hospital admissions attributable to smoking. An SAF is the proportion of a condition attributable to exposure to smoking in a given population. Smoking-related conditions have attributable fractions ranging from greater than zero to one. A table listing smoking-related conditions, split by age and sex is available from the Health and Social Care Information Centre, Statistics on Smoking England, 2010. These fractions, based on age (over 35) and sex, are applied to each hospital admission with a smoking-related condition in the primary diagnosis field. The total number of smoking attributable admissions is estimated by adding all of these fractions together.

![Figure 1: Three examples of two smoking-related hospital admissions calculated using SAFs. Source: Adapted from original diagram in the Local Alcohol Profiles: Verity Bellamy et al, East Midlands Public Health Observatory](image)

Source: Adapted from original diagram in the Local Alcohol Profiles: Verity Bellamy et al, East Midlands Public Health Observatory
SUS dataset and case definition

Smoking-related hospital admissions: methodology

- This profile estimates the number of:
  - smoking-related hospital admissions (with SAFs applied)
  - people admitted to hospital for smoking-related conditions (with SAFs applied)
  - people contributing to smoking-related admissions, termed individuals in this profile (no SAFs applied).

The admission-based estimates record multiple admissions from the same individual (i.e. includes people admitted more than once), making this a more useful measure of the burden of smoking-related smoking in a population and so have been used for some of the demographic analyses, specifically deprivation quintiles and ward. Finally, age and sex breakdowns have been provided at an individual level before SAFs have been applied.

- To calculate the number of smoking-related hospital admissions SAFs were applied to all SUS hospital admission records that contained a diagnosis (ICD10 code) categorised as attributable to smoking in the primary diagnosis. The age and sex specific SAFs used in this profile are those in the NHS Information Centre method. For more information on how this is calculated, please see: http://www.ic.nhs.uk/statistics-and-data-collections/health-and-lifestyles/smoking/statistics-on-smoking-in-england-2010-%5Bns%5D

- To calculate the number of person-based smoking-related admissions, individuals’ main admissions were selected based on their NHS number (where present). Admissions with the largest SAF were selected. If there was more than one admission with the same high SAF then the admission with the earliest start date was selected. If there were still two or more admissions, the admission with the ICD10 code in the lowest diagnostic position was used. This is based on the methodology for person-based analysis used by the North West Public Health Observatory described in the Local Alcohol Profiles for England 2012, which is based on equivalent analysis for alcohol-related admissions. See details at http://www.ic.nhs.uk/statistics-and-data-collections/health-and-lifestyles/smoking/statistics-on-smoking-in-england-2010-%5Bns%5D. The SAFs were then summed to give the total number of person-based smoking-related hospital admissions.

- To calculate the smoking-related hospital admissions (with no SAFs applied) the main hospital admission was selected for each individual (as described above).

- Smoking prevalence used to calculate the SAFs is based on London smoking prevalence by sex and age, adjusted for Haringey’s overall smoking prevalence. London smoking prevalence is used because prevalence by sex and age is not available at local level. The data on smoking prevalence are taken from the Integrated Household Survey April 2011 to March 2012, available from the London Health Observatory.

Populations

- The population used in these analyses is predominantly Haringey’s responsible population. This is the population that is registered with a GP practice in Haringey or is not registered with a GP but resides in the borough. The registered population is used for analysis by GP practice. Ward and deprivation analysis is based on the registered and resident population. Ethnicity analysis is based on the resident population.
SUS dataset and case definition

Populations (cont.)
- Where rates, ratios, or percentages for Haringey’s responsible population have been calculated we have used the registered population as a denominator. This will slightly overestimate the rates. Ratios for Haringey GP practices were calculated using the registered population for each practice as a denominator. For analysis by ward and deprivation quintile, registered and resident population data was extracted from Open Exeter and used as the denominator for calculating indirectly standardised ratios. GLA population estimates are used as denominator for the analysis of resident population by ethnicity.

Data Quality
- The SUS data extract provided by NCL Informatics include hospital admissions for the responsible populations of the primary care trusts (PCT) in North Central London (NCL) only. This will result in a slight underestimate of admissions for Haringey’s resident population as it does not include people living in Haringey but registered with a PCT outside of NCL.
- Less than 5% (n=116) of hospital admission records with a smoking-related code in Haringey’s responsible and/or resident population were missing an NHS number which means that it is not possible to tell whether some of these were repeat attendees. This will mean that the percentage of people who re-attend is likely to be slightly underestimated.
- The smoking-attributable fractions (SAFs) are those used in the NHS Information Centre method. For more information on how this is calculated, see: http://www.ic.nhs.uk/statistics-and-data-collections/health-and-lifestyles/smoking/statistics-on-smoking-in-england-2010-%5Bns%5D. The SAFs take into account the level of smoking at borough level and the relative risk of acquiring smoking-related conditions (see the NHS Information Centre method above). Taking age and sex-specific smoking prevalence into account increases the precision of the SAFs. Both smoking prevalence and relative risks are estimates with some degree of uncertainty, however, and this uncertainty may not be fully reflected in the confidence intervals. Further, factors such as deprivation and ethnic group may not be reflected when applying Haringey’s smoking prevalence to smaller areas such as ward and GP practice. Therefore, the level of smoking attributable admissions at GP practice and ward level may be slightly underestimated in e.g. deprived areas.
SMOKING-RELATED HOSPITAL ADMISSIONS: OVERVIEW

The analysis presented in this section relates to the number of admissions for smoking attributable conditions. Some people will have more than one smoking-related admission within a year. The number of admissions is based on the sum of fractions attributable to smoking. See methodology section on page 6 for further details.

Smoking-related hospital admissions by London LA

- Based on nationally available data, there were 1,542 smoking-related admissions in Haringey in 2010/11, equating a rate of 1,615 per 100,000 resident population.
- Haringey had the 8th highest rate of smoking-related hospital admissions in London. This rate was higher than the rates for both London (1,334) and England (1,420).
- Based on local hospital data for 2011/12 there were 1,650 smoking-related hospital admissions in Haringey’s responsible population.
- Note that the national and local figures are not directly comparable due to the different populations used.
The smoking related-admissions vary significantly across practices.
Five practices had significantly higher admissions than the Haringey average and five had lower admissions.
The Vale practice and the New Stroud Health Centre have admissions twice as higher on average.

* The small number of patients of eight GP practices have been included in the Haringey average
Note: This analysis relates to number of smoking-related admissions (some people will have more than one admission in a year)
Source: SUS, 2012 (admissions); Open Exeter, 2012 (population denominator)
The Central collaborative has a higher level of smoking-related admissions than expected compared to the Haringey average, taking age into account (18% higher).

The South East and West collaboratives have lower levels of admissions than expected compared to the Haringey average (10-16% lower).

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**SMOKING-RELATED HOSPITAL Admissions: Demographics**

The analysis presented in this section relates to both the number of people admitted for smoking-related conditions and the number of smoking-related admissions. Analysis based on people involves applying smoking attributable fractions (SAFs) to an individual’s main admission. In addition, some of the analysis is based on individuals, that is, the number of people contributing to smoking-related admissions without applying SAFs. See methodology section on page 6 for further details.
Smoking-related hospital admissions by sex

- Men account for 67% of smoking-related admissions in 2011/12 (about 1,100 admissions).
- Standardised for age, men are 42% more likely than average (for both sexes) to be admitted for smoking-related conditions.

**Indirectly age standardised ratio of smoking-related admissions, by sex, Haringey’s responsible population, 2011/12**

Note: This analysis relates to number of smoking-related admissions (some people will have more than one admission in a year)
Source: SUS, 2012 (admissions); Open Exeter, 2012 (population denominator)

1,097
547

13

Smoking-related hospital admissions by age and sex: percentage of individuals

- There were about 3,200 individuals contributing to smoking-related hospital admissions during 2011/12.*
- The majority (61%) of individuals contributing to smoking-related admissions are aged 65 and older. However, they contribute less than proportionately to smoking-related admissions (53%).
- This pattern is seen for both men and women: 59% and 64% respectively are aged 65 and older but contribute 52-53% of admissions.
- Older women consistently contribute to smoking-related admissions to a greater extent than younger women. For men, the pattern is slightly less clear-cut with men aged 80 and older contributing to admissions to a lesser extent than men aged 55 to 79.
- It is possible the different pattern between men and women among the oldest age groups is explained by the lower life expectancy of men.

*See page 6 for more information on the definition of “individuals”*
Just over half of individuals contributing to smoking-related admissions were men (52%, about 1,660).

There were almost 1,000 men and 1,000 women aged 65 and older who were admitted for smoking-related conditions. The equivalent figures for the age group 45-64 were about 600 men and 400 women.

The age distributions of smoking-related admissions show that admissions among men tend to increase with age until 75-79, except there is an additional peak among men aged 55-59.

The distribution for women show that smoking-related admissions peak at slightly younger ages than for men. Smoking-related admissions for women increase with age until 70-74, with a notable peak among the age group 50-54.

Almost half of all admissions are among men and women aged under 65. Compared to the age distributions for individuals contributing to admissions (slide 14), this group accounts for a larger than proportionate share of smoking-related admissions.
Men make up slightly more than half of individuals admitted for smoking-related conditions, but they contribute 67% to these admissions once age and sex specific SAFs are applied.*

There are about 700 men aged 55 to 79 and about 400 women aged 50 to 70 contributing to smoking related admissions.

The rate of smoking related admissions increases with age and is highest among people aged 75 and older.

However, people aged 65-74 account for the largest number of admissions (about 440 admissions).

*See pages 6-7 for more information on smoking attributable fractions (SAFs)
The level of smoking-related admissions is higher among people living in the most deprived areas compared to the Haringey average, taking age into account.

It is lower than average in the least deprived quintile.

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Note: This analysis relates to number of people (SAF applied to main conditions) admitted for smoking-related conditions (people are counted only once in a year). 369 people with no local deprivation quintile were not included in this analysis.

Source: SUS, 2012 (admissions); Open Exeter, 2012 (population denominator)

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The coding of ethnic group in hospital data is not consistent with population (denominator) data, meaning the value of this analysis is limited.

The data suggest White, Black and Asian ethnic groups have significantly lower levels of admissions than expected when compared to the Haringey average (adjusted for age).

The high level of smoking-related admissions in the ‘Other’ category (more than five times the Haringey average, adjusted for age) is likely to be due to overuse of this category in hospital records.

Note: This analysis relates to number of people (SAF applied to main conditions) admitted for smoking-related conditions (people are counted only once in a year). 233 people with unknown or not recorded ethnicity were not included in this analysis.

Source: SUS, 2012 (admissions); GLA, 2012 (population denominator)
The level of smoking-related admissions is 50% higher among people living in Hornsey ward compared to the Haringey average, adjusted for age.

Two wards (Highgate and Alexandra) have a lower level of smoking-related admissions compared to the Haringey average.

Note: This analysis relates to number of people (SAF applied to main conditions) admitted for smoking-related conditions (people are counted only once in a year).
Source: SUS, 2012 (admissions); Open Exeter, 2012 (population denominator)

SMOKING-RELATED HOSPITAL ADMISSIONS: TYPE OF ADMISSION

The analysis presented in this section relates to both the number of people admitted for smoking-related conditions and the number of smoking-related admissions. Some people will have more than one smoking-related admission in a year. See methodology section on page 6 for further details.
North Middlesex University Hospital (NMUH) accounts for the largest share of smoking-related admissions in Haringey’s responsible population (40%, about 630 admissions), followed by the University College of London Hospital (24%, about 380 admissions).

In 2011/12, 72% of all individuals* contributing to smoking-related admissions were admitted only once. Twenty-one percent of individuals were admitted two times or three times. Around 200 individuals (7%) were admitted four or more times.

*See page 8 for more information on the definition of “individuals”
Repeat smoking-related admissions by GP practice

<table>
<thead>
<tr>
<th>Practice</th>
<th>Percentage of admissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>West Green Road Surgery</td>
<td>80%</td>
</tr>
<tr>
<td>New Stroud Green Health Centre</td>
<td>70%</td>
</tr>
<tr>
<td>The Christchurch Hall Surgery</td>
<td>60%</td>
</tr>
<tr>
<td>The Old Surgery</td>
<td>50%</td>
</tr>
<tr>
<td>The Surgery (Das-Gupta)</td>
<td>40%</td>
</tr>
<tr>
<td>The Surgery (Kundu)</td>
<td>30%</td>
</tr>
<tr>
<td>Grosvenor Road Surgery</td>
<td>20%</td>
</tr>
<tr>
<td>The Surgery (Prasad)</td>
<td>10%</td>
</tr>
<tr>
<td>Queenswood Medical Practice</td>
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</tr>
<tr>
<td>The Surgery (Singh)</td>
<td>0%</td>
</tr>
<tr>
<td>The Vale Practice</td>
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<tr>
<td>Crouch Hall Road Surgery</td>
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<td>The Surgery (Staunton)</td>
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<td>The Surgery (Sivasinmynanthan)</td>
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<tr>
<td>107 Philip Lane</td>
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<tr>
<td>Evergreen House Surgery</td>
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<tr>
<td>Haringey PMS Practice</td>
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<tr>
<td>Evergreen House Surgery</td>
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<tr>
<td>Dukes Avenue Practice</td>
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<tr>
<td>Hove Medical Centre</td>
<td>0%</td>
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<tr>
<td>Queens Avenue Practice</td>
<td>0%</td>
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<tr>
<td>Bounds Green Group Practice</td>
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<tr>
<td>The Surgery (Padi)</td>
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<tr>
<td>The Surgery (Vijay)</td>
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<tr>
<td>The Surgery (Nagarajah)</td>
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</tr>
<tr>
<td>Rutland House Surgery</td>
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<tr>
<td>Queenswood Medical Practice</td>
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<tr>
<td>The Surgery (Prasad)</td>
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<td>Highgate Group Practice</td>
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<tr>
<td>The Morris House Group Practice</td>
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<tr>
<td>Somerset Gardens Family Health Care</td>
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<td>Dukes Avenue Practice</td>
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<td>Tynemouth Road Health Centre</td>
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<tr>
<td>Charlton House Medical Centre</td>
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<td>Grosvenor Road Surgery</td>
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<td>The Surgery (Kundu)</td>
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<td>The Surgery (Das-Gupta)</td>
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<tr>
<td>The Old Surgery</td>
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<tr>
<td>The Christchurch Hall Surgery</td>
<td>0%</td>
</tr>
<tr>
<td>New Stroud Green Health Centre</td>
<td>0%</td>
</tr>
<tr>
<td>West Green Road Surgery</td>
<td>0%</td>
</tr>
</tbody>
</table>

Note: This analysis relates to number of people (SAF applied to main conditions) admitted to smoking-related conditions.

Source: SUS, 2012 (admissions); Open Exeter, 2012 (population denominator)

- The proportion of individuals admitted to hospital more than once for an smoking-related condition varies across practices.
The three top causes of smoking-related admissions account for 64% of all smoking-related admissions.

The top three causes are:
- Cardiovascular diseases (26%)
- Lung cancer (17%)
- Other cancers (24%)

Based on individuals contributing to smoking-related admissions (before age and sex SAFs are applied), cardiovascular disease accounts for more than half (51%) of all smoking-related conditions.

Smoking-related hospital admissions: men and women

Cardiovascular disease is the most common cause of smoking-related admissions for both men and women (18% and 7%, respectively).

Lung cancer and other cancers are the next most common causes of smoking-related admissions among men, accounting for 40% in total.

For women, lung cancer and chronic obstructive pulmonary disease are the second most common causes (17% in total).
The causes of smoking-related admissions vary by age group and sex.

For both men and women aged 35-64, cardiovascular disease is the most common cause. For women it is closely followed by lung cancer.

‘Other cancers’ account for the largest proportion among men aged 65 and over. For women aged 65 and older, chronic obstructive pulmonary disease is the most common cause.

Smoking-related hospital admissions, by collaborative and cause

Cardiovascular disease is the most common cause of smoking-related admissions in the Central, North East, and South East collaboratives (27%-30%).

‘Other cancers’ is the most common cause in the West collaborative (27%), followed by cardiovascular disease (19%).

The second most common cause in the North East and South East collaboratives is ‘other cancers’ (20% and 28%, respectively).

The second most common cause in the Central collaborative is lung cancer (23%).
Smoking-related hospital admissions (persons-based) by cause and ward

- Cardiovascular disease accounts for between 23% and 46% of all smoking-related admissions across wards. It is the most common cause in twelve wards.
- Respiratory disease or cancer is the most common cause in the remaining wards.

Smoking-related hospital admissions by method of admission

Main causes of smoking-related admissions, Haringey’s responsible population, 2011/2012

<table>
<thead>
<tr>
<th>Admission method</th>
<th>Smoking-related admissions*</th>
<th>Percentage of all smoking-related admissions</th>
<th>Main admission for each individual**</th>
<th>Percentage of all individuals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency</td>
<td>767</td>
<td>47%</td>
<td>1,215</td>
<td>36%</td>
</tr>
<tr>
<td>Elective</td>
<td>882</td>
<td>53%</td>
<td>1,974</td>
<td>62%</td>
</tr>
<tr>
<td>All admissions</td>
<td>1,650</td>
<td>100%</td>
<td>3,189</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: SUS 2011/2012

*Some people will have more than one smoking-related admission within the year

**This is the number of people admitted for smoking-related conditions before SAFs have been applied (people are counted only once within the year)

Elective admissions account for slightly more than half of admissions (53%).
Based on individuals contributing to smoking-related admissions, 62% were admitted as electives.
The cause of smoking-related admissions differs between elective and emergency admissions.

The main causes of elective admissions are:
- Lung cancer (22%)
- Other cancers (34%)

The main causes of emergency admissions are:
- Cardiovascular disease (35%)
- COPD (28%)

* COPD includes Bronchitis, Emphysema and Chronic Airway Obstruction
** Other Cancers include the following: Cervix, Kidney and Renal Pelvis, Larynx, Oesophagus, Pancreas and Stomach
Note: This analysis relates to the number of smoking-related admissions (some people will have more than one admission within a year)
Source: SUS, 2012
Data methods

95% confidence intervals
Percentages and rates are reported with 95% confidence intervals (CIs). These give the range of values which quantify the imprecision in the estimate of the percentage, rate, or ratio. They are used to quantify the imprecision that results from random variation in the estimation of the value because events (e.g. admissions) are influenced by the random occurrences that are inherent in life. They do not include imprecision resulting from systematic error (i.e. bias). By comparing the 95% CIs around estimates or a target, we can say whether statistically, there are differences or not in the estimates we are observing.

Indirectly standardised ratios
The indirectly standardised ratio is the observed number of events, relative to the number of events that would be expected, if standard age-specific rates were applied to the particular observed population’s age structure.

Indirectly standardised rates
The indirectly standardised rate is the indirectly standardised ratio (see definition above) multiplied by the national crude rate. This adjusts for the national admissions rate and enables you to compare your population rate with a standard rate e.g. the national rate, taking into account differences in population age structures.

Directly standardised rates (DSR)
Gives an indication of the number of events that would occur in a population, if the population had the same age-specific rates of the local area. This overcomes the problems of a crude rate masking differences in particular age groups. The standard population most commonly used is the European Standard population, however other populations can be used.
About Public Health Intelligence
Public health intelligence is a specialist area of public health. Trained analysts use a variety of statistical and epidemiological methods to collate, analyse and interpret data to provide an evidence-base and inform decision-making at all levels. Islington’s Public Health Intelligence team undertake epidemiological analysis on a wide range of data sources.

FURTHER INFORMATION & FEEDBACK
This profile has been created by Islington’s Public Health Intelligence team. For further information please contact Ester Romeri

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We would also very much welcome your comments on the profile and how it could better suit your individual or practice requirements, so please contact us with your ideas.

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