Stop Smoking Services in
NHS Nottinghamshire County and Bassetlaw PCT

A Health Equity Audit

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KEY POINTS

- An estimated 23% of Nottinghamshire’s population smoke, in total 180,000 people.
- On average 6% of smokers access the services annually.

GEOGRAPHY

- The prevalence of smoking across districts ranges from 29.3% in Ashfield and 25.3% in Mansfield to 16.3% in Rushcliffe but this masks some within area differences; these patterns reflect deprivation across the County.
- Access tends to be higher than average in areas with greatest smoking prevalence but again this masks some within area differences.
- In total 41.5% of people accessing services successfully quit at 4 weeks.
- The highest quit rates were in Rushcliffe and Gedling where nearly half of those accessing services successfully quit.
- Bassetlaw had the greatest number of people accessing the service but the lowest quit rate with fewer than three in 10 people accessing the service quitting smoking.

AGE AND SEX

- Smoking prevalence is greatest in 20-30 year olds.
- Female smokers aged 18-34 and 35-44 are the most likely to access services whereas men aged 18-34 are least likely to access.
- Female and male under 18s are 40% less likely to quit than average.
- Men are less likely than women to access services but more likely to quit.

ETHNICITY

- Non-white British populations are less likely to access services and those who do are less likely to quit compared to the white British population.
- More than half of those accessing services attended Specialist Services.

PROVIDERS

- Quit rates were highest in pharmacy services (50.6%) and lowest in the Specialist Services (37.5%) however much of this difference is likely to be due to recording of client data at different stages of service involvement.
- Conversion rates are highest in Specialist services (69.9%) indicating a high level of success for those clients who set a quit date.

DEPRIVATION & MOSAIC

- There are higher absolute numbers of quitters in the most deprived quintiles compared to the least deprived quintiles reflects the high access from these areas.
- Those in the most deprived quintiles have a lower quit rate than those in the least deprived quintiles.
- Smoking prevalence varies widely across Mosaic groups – over 40% of people in groups G and F smoke compared to 13% in group A.
- Those groups with the greatest number of smokers (groups G, H and D) generally have access as expected or better suggesting services are effectively targeting the groups with the greatest need.
- Groups C and D have a large number of smokers but access is below what is expected.
- Those Mosaic groups with the highest smoking prevalence were the least likely to quit and those groups with the lowest smoking prevalence the most likely to quit.

PHARMACOTHERAPY

- Pharmacy services prescribed pharmacotherapy to the greatest proportion of those accessing services (90.5%) compared to GP (86.5%) and Specialist (66.7%) services.
- Overall a higher proportion of quitters received a prescription (86.6%) than those that did not quit (76.3%).
- Nearly two thirds of clients received a prescription for NRT (64.9%), whereas 6.4% of clients were prescribed Champix and 5.7% Zyban.
- Use of Champix and Zyban was highest in GP services.
RECOMMENDATIONS

It is recommended that:

The PCT and Providers:

- Explore barriers to access in Ashfield district and areas in Newark, Hucknall, Gedling and Arnold with high prevalence and low access to identify actions to improve access.
- Explore potential variations in the recording of client data across services and districts and minimise variation accordingly.
- Explore the reasons for low access in younger age groups and low quit rates for this group to identify actions to improve access and quit rates.
- Explore the reasons for low access in males and identify actions to improve access.
- Use Mosaic profiling as a basis for population segmentation and social marketing techniques to gain greater insight into the barriers to access for Mosaic groups C & B.
- Use Mosaic profiling as a basis for social marketing techniques to explore reasons for low quit rates in groups with high smoking prevalence and identify actions to increase uptake in these groups.
- Ensure access to Zyban and Champix for clients who access non-GP based services.

The PCT:

- Repeat the health equity audit to investigate equity of access and outcome by:
  - provider,
  - Mosaic group and
  - geography following recent service redesign and development.
- Investigate the characteristics of repeat clients and identify how they may be better supported to quit long term.

Providers:

- Continue efforts to improve both access to services and the likelihood of a successful quit.
- Improve the recording of client ethnicity to enable future analysis.
- Improve data completeness across all providers to include client details when smoking cessation support does not result in setting a quit date.
- Identify reasons for clients not setting quit dates and identify actions to optimise the proportion of clients setting quit dates across all providers including follow up of those clients who do not set dates.
- Continue to target services to areas of high deprivation to maintain high access to services in these areas.
- Follow up of those clients in deprived areas who do not successfully quit to explore reasons for unsuccessful attempt and offer support for future quit attempts.
- Continue to target services to Mosaic groups with high smoking prevalence (B, C, D, G and H).
1 PURPOSE
This health equity audit has been completed as part of an ongoing cycle to identify access and outcome inequities in stop smoking services.

This health equity audit aims to:
- Assess the equity of access and outcome of stop smoking services in NHS Nottinghamshire County and Bassetlaw PCT
- Make recommendations to commissioners of how identified inequities may be addressed

2 BACKGROUND

2.1 Smoking Related Morbidity and Mortality
Smoking remains the main cause of preventable morbidity and premature death in the UK with an estimated annual average of 120,000 deaths\(^1\). It is the primary reason for the gap in healthy life expectancy between rich and poor. Smoking is estimated to cost the NHS £1.7 billion a year and the cost to society including sickness benefits, costs to individuals and employers is even greater.

2.2 Stop Smoking Services
In 1998, the UK government published the White Paper Smoking Kills\(^1\) which aimed to decrease the prevalence of smoking in the UK through preventing people starting smoking and supporting current smokers in quitting. A key component of the strategy included the creation of smoking cessation services as part of the NHS launched in 1999.

There are three main providers of stop smoking services in Nottinghamshire. Specialist services are delivered by the Nottinghamshire County and Bassetlaw PCT provider arms whilst GP practices and pharmacies provide services as part of Locally Enhanced Services arrangements. The relative provision from each of these services varies across the County as a result of commissioning arrangements in legacy PCTs e.g. Rushcliffe residents are predominantly served by pharmacy providers.

In 2008 NICE published guidance on smoking cessation services in the NHS\(^2\). The guidance included the following recommendations that are of relevance to this health equity audit:
- Determine the characteristics of the local population of people who smoke or use other forms of tobacco. Determine the prevalence of all forms of tobacco use locally.
- Ensure NHS Stop Smoking Services target minority ethnic and socioeconomically disadvantaged communities in the local population.
- Services should aim to treat at least 5% of the estimated local population of people who smoke or use tobacco in any form each year
- Services should aim for a success rate of at least 35% at 4 weeks
- Offer NRT, varenicline or bupropion, as appropriate, to people who are planning to stop smoking.

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\(^1\) Available at http://www.archive.official-documents.co.uk/document/cm41/4177/foreword.htm
\(^2\) Available at http://www.nice.org.uk/nicemedia/pdf/PH010guidance.pdf
3 METHODOLOGY

3.1 Need – smoking prevalence
Estimations of smoking prevalence were gained from a number of sources depending on the unit of analysis. All of these sources estimate prevalence from surveys conducted in a sample of the population and so are estimates of smoking prevalence in a whole population rather than direct measures.

- **Age and sex** – National prevalence data from The Health and Social Care Information Centre\(^3\), estimates derived from the Health Survey for England for the year 2007 were applied to Nottinghamshire’s age and sex profile
- **District** – data from the Office of National Statistics\(^4\) (ONS), estimates for 2003-05
- **Ethnicity** – estimations of smokers by ethnic group is not available for all ethnicities. Therefore this analysis considers access of a proportion of people in each ethnic group without considering smoking prevalence.
- **Mosaic** – Mosaic is a geo-demographic classification system developed by Experian that describes the socio-demographics, lifestyles, behaviour and culture of people in the UK. It describes 11 main population groups at a postcode level (see appendix 1 for classification detail). Data from Mosaic’s smoking index which gives an average prevalence measure for each group. This data is derived from the Health Survey of England.

N.B. Each of these estimates produces a different prevalence measure for the County so comparison of numbers should be avoided and rather the focus be upon the relative equity within each estimate, e.g. the equity of access by age and sex rather than the absolute numbers and percentages accessing in each group.

3.2 Access and outcome data
Data was obtained locally from the Stop Smoking Services database which is used by all providers to collect and report client level data. Data was included for clients accessing specialist, GP or pharmacy services between **July 2006 and September 2007**. Using postcode data where available records were matched to local data sources to obtain Mosaic group and indices of multiple deprivation (IMD) scores. At a county-level IMD scores were ranked and divided into quintiles of equal size. Deprivation quintiles are thus a relative rather than absolute measure of deprivation.

3.3 Data completeness
Analysis relies on the availability of data. For a number of clients various data were missing including postcode or outcome data. In these instances these clients have been removed from the corresponding analysis. This is reflected in the totals in the various data tables. The majority of those clients who had missing data were coded as having not declined the service or attended their first appointment suggesting services had insufficient contact with clients to obtain details and support their smoking cessation attempts.

Clients were identified by a unique service code which could not be cross-referenced to their NHS number. As such GP practice, cluster and PCT can not be identified thus excluding the ability to analyse the data on these levels.


\(^4\) Available at [http://www.neighbourhood.statistics.gov.uk/dissemination/filesetSelection.do?step=5&datasetFamilyId=969&instanceSelection=122951&filesetIndex=0&rightPaneBoxHeight=641&JSAllowed=true&browserHeight=818&browserWidth=1264&%24ph=60_61_64&CurrentPageId=64&Next.x=19&Next.y=16](http://www.neighbourhood.statistics.gov.uk/dissemination/filesetSelection.do?step=5&datasetFamilyId=969&instanceSelection=122951&filesetIndex=0&rightPaneBoxHeight=641&JSAllowed=true&browserHeight=818&browserWidth=1264&%24ph=60_61_64&CurrentPageId=64&Next.x=19&Next.y=16)
### 3.4 Calculating access and quit ratios

Where appropriate the results are presented as numbers (e.g. of smokers or quitters) and percentages. In addition ratio measures are used to understand the equity of services by considering how the actual numbers of people accessing and quitting services (observed) compares to the expected (average). A ratio measure of 1 indicates that observed numbers equal expected; a value greater than 1 indicates that observed numbers are greater than expected, i.e. that group has better access/outcome than would be expected. Conversely a value of less than one indicates that a group has lower than expected access/outcome, i.e. identifies an inequity. 95% confidence intervals have been calculated for each ratio from the Poisson distribution. These intervals reflect the range of values in which there is 95% confidence that the true ratio measure lies. Values can be considered statistically significantly different (at p<0.05, i.e. a difference that size would only occur by chance 1/20) when confidence intervals for each value are discrete.

The quit percentages and ratios calculated are based on the proportion of those accessing the services to who successfully quit (self-reported or verified). This differs from the conversion ratio that the services report which is calculated by the proportion of those setting a quit date who successfully quit. As a result the overall quit rate within this HEA is lower than the conversion rates reported by the practices.
4 RESULTS

4.1 Geography

4.1.1 Prevalence

An estimated 23% of Nottinghamshire’s population smoke, in total 180 000 people (ONS, estimates from 2003-05 data). The prevalence of smoking across district ranges from 29.3% in Ashfield and 25.3% in Mansfield to 16.3% in Rushcliffe. However these district level estimates mask within-area differences. The map below illustrates high smoking prevalence in smaller areas of Newark, Arnold, Gedling, and Hucknall.

Figure 1: Map indicating estimated smoking prevalence by middle super output area
Source: ONS
Prevalence figures update

The General Lifestyle Survey 2008 (published Jan 2009) indicates the overall prevalence of smoking in adults in the East Midlands has remained static at 20% since 2005. Updated prevalence estimates are not available at local authority level so it is not possible to ascertain whether Nottinghamshire’s prevalence has also remained static in this time.

4.1.2 Equity of access

In total 7.5% of estimated smokers accessed stop smoking services in this 15 month period. This equates to 6% of smokers accessing annually, above the 5% minimum recommended by NICE.

<table>
<thead>
<tr>
<th>District</th>
<th>Smoking prevalence (%)</th>
<th>Percentage of smokers accessing services</th>
<th>Access ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bassetlaw</td>
<td>23.0</td>
<td>11.38%</td>
<td>1.51</td>
</tr>
<tr>
<td>Mansfield</td>
<td>25.3</td>
<td>11.00%</td>
<td>1.46</td>
</tr>
<tr>
<td>Ashfield</td>
<td>29.3</td>
<td>7.60%</td>
<td>1.01</td>
</tr>
<tr>
<td>Newark and Sherwood</td>
<td>22.6</td>
<td>6.71%</td>
<td>0.89</td>
</tr>
<tr>
<td>Rushcliffe</td>
<td>16.3</td>
<td>5.30%</td>
<td>0.70</td>
</tr>
<tr>
<td>Broxtowe</td>
<td>21.1</td>
<td>5.23%</td>
<td>0.69</td>
</tr>
<tr>
<td>Gedling</td>
<td>22.9</td>
<td>4.60%</td>
<td>0.61</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>23.0%</strong></td>
<td><strong>7.54%</strong></td>
<td><strong>1.00</strong></td>
</tr>
</tbody>
</table>

Table 1: Smoking prevalence and access to services by district

Source: ONS and service data

Bassetlaw and Mansfield have a smoking prevalence greater than or equal to the County average and have the greatest percentage of smokers accessing the services indicating successful targeting of the services. Ashfield has the highest smoking prevalence and resultantly high numbers of individuals accessing the services. However access to services relative to prevalence is only in line with the County average (access ratio 1.01) indicating that services are targeting smokers in Ashfield less well than in Bassetlaw and Mansfield.

This district level analysis masks variation at lower geographical areas. Not all high prevalence areas highlighted in Figure 1 have correspondingly high access; access is relatively low in smaller areas where prevalence is high, i.e. Newark, Hucknall, Gedling and Arnold. This is illustrated in Figure 2 overleaf.

It is recommended that the barriers to access in Ashfield district and areas in Newark, Hucknall, Gedling and Arnold with high prevalence and low access are explored to identify actions to improve access.
Figure 2: Map indicating number of contacts with services by smoking prevalence by middle super output area
Source: Service data
4.1.3 Equity of outcome

Data showing numbers and percentage of quitters per district is shown in Table 2 below. In total 41.5% of people accessing services successfully quit at 4 weeks (verified and unverified quits). This is above NICE’s recommended level of 35%.

The greatest number and proportion of quitters came from Mansfield (n=1308, 22.3%) and Ashfield (n=1218, 20.8%) reflecting the high numbers of people from these districts accessing the services. N.B. As detailed in 4.1.2. absolute access in Ashfield is high as a result of high numbers of smokers but the percentage of smokers who access services is not high.

The highest quit rates were in Rushcliffe and Gedling were nearly half of those accessing services successfully quit (49.6% and 49.3% respectively). Bassetlaw had the greatest number of people accessing the service but the lowest quit rate with fewer than three in 10 people accessing the service quitting smoking.

<table>
<thead>
<tr>
<th>Local Authority</th>
<th>Access number</th>
<th>Quit number</th>
<th>Percentage</th>
<th>Quit percentage per district</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mansfield</td>
<td>2949</td>
<td>1308</td>
<td>22.3%</td>
<td>44.4%</td>
</tr>
<tr>
<td>Ashfield</td>
<td>2697</td>
<td>1218</td>
<td>20.8%</td>
<td>45.2%</td>
</tr>
<tr>
<td>Bassetlaw</td>
<td>3136</td>
<td>893</td>
<td>15.2%</td>
<td>28.5%</td>
</tr>
<tr>
<td>Newark &amp; Sherwood</td>
<td>1856</td>
<td>831</td>
<td>14.2%</td>
<td>44.8%</td>
</tr>
<tr>
<td>Gedling</td>
<td>1235</td>
<td>609</td>
<td>10.4%</td>
<td>49.3%</td>
</tr>
<tr>
<td>Broxtowe</td>
<td>1275</td>
<td>519</td>
<td>8.9%</td>
<td>40.7%</td>
</tr>
<tr>
<td>Rushcliffe</td>
<td>977</td>
<td>485</td>
<td>8.3%</td>
<td>49.6%</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td><strong>14125</strong></td>
<td><strong>5863</strong></td>
<td><strong>100.0%</strong></td>
<td><strong>41.5%</strong></td>
</tr>
</tbody>
</table>

Table 2: Numbers and percentages accessing services and quitting by district

Source: service data
As with prevalence and access this district level analysis masks variation at lower geographical areas. As well the low quit ratio in Bassetlaw Figure 3 below indicates areas in Mansfield, Ashfield and Broxtowe where quit ratios are significantly low but surrounding areas have high quit ratios.

Figure 3: Map illustrating quit ratios by middle super output area
Source: Service data
Figure 4 below compares the access and quit ratios in each district. These data indicate a largely inverse relationship between the access and quit ratios, i.e. where access is greater than expected quit rates are lower than expected and vice versa. In order to optimise the success of services in supporting smokers to quit both access and quit rates should be optimised, i.e. maximise the number of smokers accessing the services and the likelihood of a successful quit attempt.

The cause of this inverse relationship is not known but is likely to be due to a number of factors including variations in characteristics of smokers, services and data recording across districts. Variations in the characteristics of smokers and services may cause smokers in areas such as Rushcliffe to access services at a later stage of smoking behaviour change, i.e. fewer smokers access but do when a quit attempt is more likely; whereas smokers in areas such as Bassetlaw may be accessing services at an earlier stage of behaviour change and therefore more smokers are accessing services are less likely to result in a successful quit. Variations may also result due to differences in data recording by services across districts.

Further work is recommended to explore potential variations in the stage of recording client data across services and districts and the characteristics of those accessing services who go on to set a quit rate and quit compared to those who do not. Services are recommended to work to improve both access to services and the likelihood of a successful quit.

Figure 4: Bar chart to show access and quit ratios (and 95% confidence intervals) per district
Source: Service data
Key points section 4.1

- An estimated 23% of Nottinghamshire’s population smoke, in total 180 000 people.
- On average 6% of smokers access the services annually.
- The prevalence of smoking across districts ranges from 29.3% in Ashfield and 25.3% in Mansfield to 16.3% in Rushcliffe but this masks some within area differences; these patterns reflect deprivation across the County.
- Access tends to be higher than average in areas with greatest smoking prevalence but again this masks some within area differences.
- In total 41.5% of people accessing services successfully quit at 4 weeks.
- The highest quit rates were in Rushcliffe and Gedling where nearly half of those accessing services successfully quit.
- Bassetlaw had the greatest number of people accessing the service but the lowest quit rate with fewer than three in 10 people accessing the service quitting smoking.

Discussion points section 4.1

- Access rates appear to be inversely correlated with quit rates across districts, i.e. where access is high the likelihood of quitting is low.
- This effect may be due to a number of factors including differences in recording client data across services and areas and different client and service characteristics across areas including the impact of deprivation.

Recommendations section 4.1

- Explore barriers to access in Ashfield district and areas in Newark, Hucknall, Gedling and Arnold with high prevalence and low access to identify actions to improve access.
- Explore potential variations in the recording of client data across services and districts and minimise accordingly.
- Explore the differences in the characteristics of those accessing services who go on to set a quit date and quit compared to those who do not.
- Continue efforts to improve both access to services and the likelihood of a successful quit.
4.2 Age and sex

4.2.1 Prevalence
National data indicates that 21% of adults smoke. Smoking prevalence is greatest in 20-30 year olds. Across all ages smoking prevalence is higher in men than women. When considering this data it should be remembered that age and sex prevalence are UK averages rather than Nottinghamshire specific rates.

![National prevalence of smoking by age and sex](image)

**Figure 5**: Bar chart to show national prevalence of smoking by age and sex.
Source: ONS

**Prevalence figures update**
The General Lifestyle Survey 2008 (published Jan 2009) indicates the national prevalence of smoking in adults has remained relatively static over recent years except where prevalence estimates for women aged 16-19 have increased steeply to 26% (from 20% in 2007) where as male smoking in this age group has fallen to 18% (from 20%). Local level data is not available so it is not possible to assess how closely national estimates reflect local prevalence.
4.2.2 Equity of access

Compared to Nottinghamshire’s average access more women smokers access stop smoking services than men (access ratios female 1.15, male 0.87). Female smokers aged 18-34 and 35-44 are the most likely to access services. Men aged 18-34 are least likely to access the services compared to the Nottinghamshire average. This data is presented in Figure 6 below.

**Figure 6: Bar chart to show access ratio by age and sex**

**Source:** ONS estimates, data warehouse and service data

A ratio for under 18s has not been calculated as the categorisation of national smoking prevalence figures and local access data do not lend themselves to comparison for this age band as there is no lower age limit.

Figures for the 18-34 group are approximate as aggregate prevalence estimates are available for 16-19 year olds and 20-34 year olds whereas service data is only available for 18-34 year olds. As such the numerator for this measure includes 18-34 year olds accessing the services whereas the denominator includes 20-34 year olds. As such the access rate for this group will be higher than the true value for 18-34 year olds.
4.2.3 Equity of outcome
Overall a greater proportion of men quit smoking at 4 weeks compared to women (44.7% vs. 38.9%, quit ratio females 0.94 vs. male 1.07).

Figure 7 shows the age and sex quit rates for all providers. Both male and female younger age groups are significantly less likely to quit than average; the quit ratio for female and male under 18s is more than 40% lower than the average (female 0.56; male 0.59), females aged 18-34 are 25% less likely to quit and males 18-34 years 10% less likely to quit.

![Quit ratio (and 95% confidence intervals) by age and sex](image)

Figure 7: Age and sex quit ratio (95% confidence intervals)
Source: Service data
### Key points section 4.2
- Smoking prevalence is greatest in 20-30 year olds.
- Female smokers aged 18-34 and 35-44 are the most likely to access services whereas men aged 18-34 are least likely to access.
- Female and male under 18s are 40% less likely to quit than average.
- Men are less likely than women to access services but more likely to quit.

### Discussion points section 4.2
- Evidence indicates that smokers who start smoking at an early age are more likely than other smokers to smoke for a long period of time.
- Estimates of access to services for younger age groups have not been possible in this analysis but data indicates that the quit rates in younger age groups are substantially lower than average.

### Recommendations section 4.2
- Explore the reasons for low access in younger age groups and low quit rates for this group to identify actions to improve access and quit rates.
- Explore the reasons for low access in males and identify actions to improve access.
4.3 Ethnicity

4.3.1 Prevalence
Estimates of smoking prevalence are not available for all ethnic groups.

4.3.2 Equity of access
As estimates of smoking prevalence for ethnic groups are not available equity of access is considered by the size of ethnic groups in Nottinghamshire compared to access. 93% of Nottinghamshire’s population is white British. Due to the low numbers of non-white British residents in Nottinghamshire and corresponding low numbers accessing the services all other groups have been combined and are described as ‘non-white British’.

Of those service users whose ethnicity was recorded 96.5% were white British. This equates to 1.6% of the white British population accessing services in Nottinghamshire. This compares with just 0.75% of the non-white British population accessing the service. Over one fifth (22%) of service users did not have their ethnicity recorded.

4.3.3 Equity of outcome
Figure 8 illustrates quit ratio by ethnic group. The white British population was more likely to quit (quit ratio 1.07, 44.5% quit rate) compared to non-white British (quit ratio 0.86, 35.9% quit rate). Those with no ethnic group recorded were the least likely to quit.

![Figure 8: Bar chart to show quit ratio (and 95% confidence intervals) by ethnic group](chart)

Source: Service data

<table>
<thead>
<tr>
<th>Ethnic group</th>
<th>Quit ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>White British</td>
<td>1.07</td>
</tr>
<tr>
<td>Non-white British</td>
<td>0.86</td>
</tr>
<tr>
<td>Not known</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
</tr>
</tbody>
</table>

Key point section 4.3
- Non-white British populations are less likely to access services and those who do are less likely to quit compared to the white British population

Recommendation section 4.3
- Improve the recording of client ethnicity to enable future analysis
4.4 Service providers

Numbers accessing and quitting with each provider and quit ratios for each provider are shown in Table 3 below. As noted in the methodology (paragraph 3.4) the quit rates calculated differ from the conversion rates reported by services as part of quarterly monitoring; quit rates in this report are calculated as quitters as a proportion of all those accessing the services whereas conversion rates are calculated as quitters as a proportion of those setting a quit date. For the purpose of this provider-level analysis both quit and conversion rates are presented.

<table>
<thead>
<tr>
<th>Provider</th>
<th>Number (%) accessing</th>
<th>Number (%) of quitters</th>
<th>Quit rate (95% CI)</th>
<th>Conversion rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specialist service</td>
<td>8148 (53.5%)</td>
<td>3058 (48.4%)</td>
<td>37.5%</td>
<td>0.90 (0.90, 0.91) 69.9%</td>
</tr>
<tr>
<td>GP</td>
<td>6016 (39.5%)</td>
<td>2736 (43.2%)</td>
<td>45.5%</td>
<td>1.09 (1.09, 1.10) 46.2%</td>
</tr>
<tr>
<td>Pharmacy</td>
<td>1057 (6.9%)</td>
<td>535 (8.5%)</td>
<td>50.6%</td>
<td>1.22 (1.21, 1.23) 54.4%</td>
</tr>
<tr>
<td>Grand Total</td>
<td>15221</td>
<td>6329</td>
<td>41.6%</td>
<td>1.00 55.8%</td>
</tr>
</tbody>
</table>

Table 3: Access and quit numbers, percentages and quit ratio per provider
Source: Service data

Over half (53.5%) of those who accessed services attended Specialist services but quit ratios were the lowest compared to GP and pharmacy services (37.5% of those accessing Specialist services quit compared to 45.5% with GPs and 50.6% with pharmacy services). Pharmacy services supported the fewest number of quitters (n=535, 8.5% of all quitters) but achieved the highest success rates (50.6% of people accessing quit). Conversion rates are higher for all providers than quit rates but most notably so for Specialist services where over two thirds of people quit (69.9%) after setting a quit date.

These variations in quit and conversion rates between and within providers are likely in part to be due to the location of services and the populations they serve and difference in data recording by providers. For instance pharmacy services predominate in Rushcliffe whereas Specialist Services are located in Mansfield and Ashfield areas where quit rates are lower. Differences in data recording may arise due to, for example, funding for pharmacy and GP providers on a ‘per-quit’ basis and therefore may be less likely to record data of clients who make enquiries only and do not go on to receive support who are not seen as ‘smoking cessation clients’ whereas those who attend Specialist services would be. This is clearly illustrated by the data that indicates that just over half of clients accessing Specialist services set quit dates (53.0%) compared to 95% of pharmacy and 98% of GP clients. Over 800 clients accessing Specialist services were recorded as having declined the service or not attending their first appointment. Only 1 other person was recorded as such for the GP and Pharmacy services. It is recommended that future analysis accounts for this variation in data recording to allow more standardised comparison outcomes across providers.
**Key points section 4.4**

- More than half of those accessing services attended Specialist Services
- Quit rates were highest in pharmacy services (50.6%) and lowest in the Specialist Services (37.5%) however much of this difference is likely to be due to recording of client data at different stages of service involvement
- Conversion rates are highest in Specialist services (69.9%) indicating a high level of success for those clients who set a quit date

**Discussion points section 4.4**

Variations in quit and conversion rates between and within providers may be due to:

- Differences in characteristics of clients that choose to attend each provider due to personal preferences and location of services
- Differences in data recording across providers and completeness of data particularly where a client does not set a quit date

**Recommendations section 4.4**

- Improve data completeness across all providers to include client details when smoking cessation support does not result in setting a quit date
- Explore the differences between clients who do and do not set quit dates and ensure equity of services in supporting clients to set quit dates
- Identify reasons for clients not setting quit dates and identify actions to optimise the proportion of clients setting quit dates across all providers including follow up of those clients who do not set dates
- Account for variations in recording of client data in future analysis for more standardised comparison outcomes across providers.
4.5 Deprivation

4.5.1 Prevalence
The deprivation index is a relative measure of deprivation within Nottinghamshire. It is therefore not possible to estimate prevalence and equity of access at this level.

4.5.2 Equity of outcome
The number of quitters was greater in the most deprived quintiles than the least deprived quintiles for the specialist and GP services (see Table 4 below). However when overall quit ratios are considered there is a positive correlation between quit ratios and deprivation quintiles, i.e. those in the most deprived quintiles have a lower quit rate than those in the least deprived quintiles (Figure 9 below). As such although there are higher absolute numbers of quitters in the most deprived quintiles reflects the high access from these areas but the relative outcome (successful quit) is poorer in the most deprived areas.

<table>
<thead>
<tr>
<th></th>
<th>Specialist</th>
<th>GP</th>
<th>Pharmacy</th>
<th>Total quitters</th>
<th>Quintile as a percentage of all quitters</th>
<th>Quit ratio (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quintile 1 (most deprived)</td>
<td>881</td>
<td>986</td>
<td>16</td>
<td>1883</td>
<td>32.8%</td>
<td>0.86 (0.86, 0.86)</td>
</tr>
<tr>
<td>Quintile 2</td>
<td>673</td>
<td>601</td>
<td>146</td>
<td>1420</td>
<td>24.7%</td>
<td>1.03 (1.02, 1.03)</td>
</tr>
<tr>
<td>Quintile 3</td>
<td>581</td>
<td>553</td>
<td>105</td>
<td>1239</td>
<td>21.6%</td>
<td>1.12 (1.11, 1.12)</td>
</tr>
<tr>
<td>Quintile 4</td>
<td>350</td>
<td>281</td>
<td>55</td>
<td>686</td>
<td>11.9%</td>
<td>1.09 (1.08, 1.10)</td>
</tr>
<tr>
<td>Quintile 5 (least deprived)</td>
<td>230</td>
<td>157</td>
<td>133</td>
<td>520</td>
<td>9.0%</td>
<td>1.20 (1.19, 1.21)</td>
</tr>
<tr>
<td>Total</td>
<td>2715</td>
<td>2578</td>
<td>455</td>
<td>5748</td>
<td>100%</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Table 4: Numbers, percentages and quit rates of quitters per provider
Source: service data

Figure 9: Bar graph to show quit ratios by deprivation quintile per provider
Source: service data
Key points section 4.5

- There are higher absolute numbers of quitters in the most deprived quintiles compared to the least deprived quintiles reflects the high access from these areas.
- Those in the most deprived quintiles have a lower quit rate than those in the least deprived quintiles.

Discussion points section 4.5

Lower quit rates in more deprived are likely to be due to a number of factors including:

- The personal characteristics of clients, social norms and levels of nicotine dependence in deprived areas result in a more challenging quit attempt for those in deprived areas than those in more affluent areas.
- Differences in data recording between services (as discussed in section 4.4) indicating lower quit rates in Specialist services which are more often accessed by those in the most deprived quintiles.

Recommendations section 4.5

- Continue to target services to areas of high deprivation to maintain high access to services in these areas.
- Follow up of those clients in deprived areas who do not successfully quit to explore reasons for unsuccessful attempt and offer support for future quit attempts.
4.6 Mosaic group

4.6.1 Prevalence

Descriptions of the characteristics of Mosaic groups and a map of their location across Nottinghamshire can be found in the appendices.

Smoking prevalence varies widely across Mosaic groups. Estimates suggest that over 40% of people in groups G (low income families living in estate based social housing) and F (people living in social housing with uncertain employment in deprived areas) smoke compared to 13% in group A (career professionals living in sought after locations). These estimates closely match prevalence estimates across measures of social class and deprivation. The number of smokers in each Mosaic group was calculated from the size of group and the smoking prevalence index within Mosaic. The adult population was classified as those aged over 15 years (data aggregated into 5-year age bands).

<table>
<thead>
<tr>
<th>Mosaic Group</th>
<th>Group Title</th>
<th>Percentage of smokers</th>
<th>Nottinghamshire adult population</th>
<th>Estimated number of adult smokers in Nottinghamshire</th>
</tr>
</thead>
<tbody>
<tr>
<td>G</td>
<td>Low income families living in estate based social housing</td>
<td>43.27</td>
<td>39737</td>
<td>17194</td>
</tr>
<tr>
<td>F</td>
<td>People living in social housing with uncertain employment in deprived areas</td>
<td>41.40</td>
<td>11848</td>
<td>4905</td>
</tr>
<tr>
<td>H</td>
<td>Upwardly mobile families living in homes bought from social landlords</td>
<td>35.15</td>
<td>86490</td>
<td>30402</td>
</tr>
<tr>
<td>E</td>
<td>Educated, young, single people living in areas of transient populations</td>
<td>30.06</td>
<td>18799</td>
<td>5652</td>
</tr>
<tr>
<td>I</td>
<td>Older people living in social housing with high care needs</td>
<td>27.30</td>
<td>20653</td>
<td>5638</td>
</tr>
<tr>
<td>D</td>
<td>Close-knit, inner city and manufacturing town communities</td>
<td>27.17</td>
<td>161660</td>
<td>43928</td>
</tr>
<tr>
<td>B</td>
<td>Younger families living in newer homes</td>
<td>24.08</td>
<td>77066</td>
<td>18558</td>
</tr>
<tr>
<td>J</td>
<td>Independent older people with relatively active lifestyles</td>
<td>18.53</td>
<td>36094</td>
<td>6690</td>
</tr>
<tr>
<td>K</td>
<td>People living in rural areas far from urbanisation</td>
<td>18.14</td>
<td>30883</td>
<td>5602</td>
</tr>
<tr>
<td>C</td>
<td>Older families living in suburbia</td>
<td>17.46</td>
<td>119083</td>
<td>20793</td>
</tr>
<tr>
<td>A</td>
<td>Career professionals living in sought after locations</td>
<td>13.15</td>
<td>62552</td>
<td>8224</td>
</tr>
<tr>
<td>Grand Total</td>
<td></td>
<td></td>
<td>664865</td>
<td>178740</td>
</tr>
</tbody>
</table>

Table 5: Population numbers and smoking prevalence by Mosaic group
Source: Experian and data warehouse
4.6.2 Equity of access

The funnel plot below indicates access to services (percentage) by each group compared to the total estimated smokers in each group. Data points above the upper dashed line indicate that access is statistically significantly higher than expected and those below the lower dashed line indicate that access is lower than expected.

Those groups with the greatest number of smokers (greater than 15,000; groups G, H and D⁵) generally have access as expected or better suggesting services are effectively targeting the groups with the greatest need. The exception to this is that access in group B and C⁵ which are below the expected.

Figure 10: Funnel plot to show access to services against estimated number of smokers by Mosaic group
Source: Experian and service data

<table>
<thead>
<tr>
<th>Mosaic group titles</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>G</td>
<td>Low income families living in estate based social housing</td>
</tr>
<tr>
<td>H</td>
<td>Upwardly mobile families living in homes bought from social landlords</td>
</tr>
<tr>
<td>D</td>
<td>Close-knit, inner city and manufacturing town communities</td>
</tr>
<tr>
<td>B</td>
<td>Younger families living in newer homes</td>
</tr>
<tr>
<td>C</td>
<td>Older families living in suburbia</td>
</tr>
</tbody>
</table>

⁵ Mosaic group titles
4.6.3 Equity of outcome

The greatest number and proportion of quitters were from Mosaic groups D, H and G reflecting the high numbers of people from these groups accessing the services (see Table 6 below). Group A had the highest success rate with over half of those accessing successfully quitting smoking at 4 weeks. Lowest quit rates where in groups G and F were a third of those accessing services successfully quit.

<table>
<thead>
<tr>
<th>Mosaic Group</th>
<th>Group Title</th>
<th>Total accessing</th>
<th>Total quitters</th>
<th>Mosaic group as percentage of all quitters</th>
<th>Quit percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>D</td>
<td>Close-knit, inner city and manufacturing town communities</td>
<td>4212</td>
<td>1800</td>
<td>30.6%</td>
<td>42.7%</td>
</tr>
<tr>
<td>H</td>
<td>Upwardly mobile families living in homes bought from social landlords</td>
<td>2870</td>
<td>1095</td>
<td>18.6%</td>
<td>38.2%</td>
</tr>
<tr>
<td>G</td>
<td>Low income families living in estate based social housing</td>
<td>2065</td>
<td>734</td>
<td>12.5%</td>
<td>35.5%</td>
</tr>
<tr>
<td>C</td>
<td>Older families living in suburbia</td>
<td>1349</td>
<td>651</td>
<td>11.1%</td>
<td>48.3%</td>
</tr>
<tr>
<td>B</td>
<td>Younger families living in newer homes</td>
<td>1196</td>
<td>522</td>
<td>8.9%</td>
<td>43.6%</td>
</tr>
<tr>
<td>I</td>
<td>Older people living in social housing with high care needs</td>
<td>591</td>
<td>249</td>
<td>4.2%</td>
<td>42.1%</td>
</tr>
<tr>
<td>J</td>
<td>Independent older people with relatively active lifestyles</td>
<td>478</td>
<td>220</td>
<td>3.7%</td>
<td>46.0%</td>
</tr>
<tr>
<td>F</td>
<td>People living in social housing with uncertain employment in deprived areas</td>
<td>695</td>
<td>217</td>
<td>3.7%</td>
<td>31.2%</td>
</tr>
<tr>
<td>A</td>
<td>Career professionals living in sought after locations</td>
<td>341</td>
<td>173</td>
<td>2.9%</td>
<td>50.7%</td>
</tr>
<tr>
<td>K</td>
<td>People living in rural areas far from urbanisation</td>
<td>341</td>
<td>153</td>
<td>2.6%</td>
<td>44.9%</td>
</tr>
<tr>
<td>E</td>
<td>Educated, young, single people living in areas of transient populations</td>
<td>188</td>
<td>72</td>
<td>1.2%</td>
<td>38.3%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>14326</strong></td>
<td><strong>5886</strong></td>
<td><strong>100.0%</strong></td>
<td><strong>41.1%</strong></td>
</tr>
</tbody>
</table>

Table 6: Access and quit numbers and percentages by Mosaic group
Quit ratios were compared against the average smoking prevalence of each Mosaic group. Those groups with the highest smoking prevalence were the least likely to quit and those groups with the lowest smoking prevalence the most likely to quit. This is clearly illustrated in the scatter plot below where estimated smoking prevalence for each group has been plotted against the quit ratio. The $r^2$ value indicates the goodness of fit of the correlation line between smoking prevalence and quit ratio where 1 is a perfect fit. The value of 0.92 indicates a high degree of correlation between the two variables.

Figure 11: Scatterplot of smoking prevalence and quit ratio (and 95% confidence intervals) per Mosaic group
Source: Experian and service data
Key points section 4.6

- Smoking prevalence varies widely across Mosaic groups – over 40% of people in groups G and F smoke compared to 13% in group A
- Those groups with the greatest number of smokers (groups G, H and D) generally have access as expected or better suggesting services are effectively targeting the groups with the greatest need
- Groups C and D have a large number of smokers but access is below what is expected
- Those Mosaic groups with the highest smoking prevalence were the least likely to quit and those groups with the lowest smoking prevalence the most likely to quit.

Discussion section 4.6

Lower quit rates across Mosaic groups with high smoking prevalence are likely to be due to similar factors as those affecting quit rates across deprivation quintiles and include:

- The personal characteristics of clients, social norms and levels of nicotine dependence in deprived areas result in a more challenging quit attempt for those in deprived areas than those in more affluent areas
- Differences in data recording between services (as discussed in section 4.4) indicating lower quit rates in Specialist services which are more often accessed by those in the most deprived quintiles

Recommendations section 4.6

- Continue to target services to Mosaic groups with high smoking prevalence (B, C, D, G and H)
- Use Mosaic profiling as a basis for population segmentation and social marketing techniques to gain greater insight into the barriers to access for Mosaic groups C & B
- Use Mosaic profiling as a basis for social marketing techniques to explore reasons for low quit rates in groups with high smoking prevalence and identify actions to increase uptake in these groups
### 4.7 Pharmacotherapy

The proportion of those receiving a prescription (or recommendation for a prescription) for any pharmacotherapy product (Champix, NRT or Zyban) was compared across providers.

Pharmacy services prescribed pharmacotherapy to the greatest proportion of those accessing services (90.5%) compared to GP (86.5%) and Specialist (66.7%) services. Data is not available regarding whether a prescription was dispensed or whether the client was concordant with the medication.

Overall a higher proportion of quitters received a prescription (86.6%) than those that did not quit (76.3%). This may reflect the effectiveness of pharmacotherapy in successful quitting however may also reflect that those who contacted the service but did not continue with support did not receive a prescription. This may also explain reflect the lower rate of prescription seen in Specialist Services than GP and Pharmacy services (as discussed in 4.4 above, see Figure 12 below).

Figure 12 illustrates prescription by provider. Nearly two thirds of clients received a prescription for NRT (64.9%), whereas 6.4% of clients were prescribed Champix and 5.7% Zyban. Champix received NICE recommendation for use in July 2007, towards the end of data collection for this analysis (June 2006 – Sept 2007) therefore this figure will substantially underestimate use. 88 clients (0.6%) received prescriptions for more than one product.

Use of Champix and Zyban was significantly greater than average by clients who received support from GP services. This may be due to easier access to a prescriber / prescription for clients of this service than for Specialist and Pharmacy services.

<table>
<thead>
<tr>
<th>Product</th>
<th>Specialist</th>
<th>GP</th>
<th>Pharmacy</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>NRT</td>
<td>57.3%</td>
<td>71.7%</td>
<td>83.4%</td>
<td>64.9%</td>
</tr>
<tr>
<td>Champix</td>
<td>5.6%</td>
<td>7.8%</td>
<td>4.1%</td>
<td>6.4%</td>
</tr>
<tr>
<td>Zyban</td>
<td>4.3%</td>
<td>7.6%</td>
<td>4.9%</td>
<td>5.7%</td>
</tr>
</tbody>
</table>

**Figure 12**: Proportion of clients receiving pharmacotherapy by type and provider  
Source: Service data
Key points section 4.7

- Pharmacy services prescribed pharmacotherapy to the greatest proportion of those accessing services (90.5%) compared to GP (86.5%) and Specialist (66.7%) services.
- Overall a higher proportion of quitters received a prescription (86.6%) than those that did not quit (76.3%)
- Nearly two thirds of clients received a prescription for NRT (64.9%), whereas 6.4% of clients were prescribed Champix and 5.7% Zyban
- Use of Champix and Zyban was highest in GP services

Discussion section 4.7

- Data can only capture products prescribed (or recommended to be prescribed) and not those dispensed or levels of concordance. As such all data is likely to overestimate actual use
- Champix use is likely to be underestimated as it was introduced during the period of data analysis
- Lower rates of prescribing in unsuccessful quit attempts may reflect the effectiveness of the products in supporting quit attempts but also will be in part due to those who do not chose not to pursue a quit attempt and set a quit date did not receive a prescription. This will also contribute to the apparent lower prescription rates in Specialist services (as discussed in section 4.4 above)

Recommendations section 4.7

- Ensure access to Zyban and Champix for clients who access non-GP based services
- Repeat analysis on more recent service data to gain a better understanding of the use of Champix following its introduction in 2007
Appendix 1 - Mosaic™ UK Group and Type Descriptions.
Copyright Experian.

GROUP A: SYMBOLS OF SUCCESS
Career professionals living in sought after locations
Symbols of Success contains people whose lives are ‘successful’ by whatever yardsticks society commonly uses to measure success. These are people who have rewarding careers rather than jobs, who live in sought after locations, who drive the more modern and expensive cars and who indulge in the most exotic leisure pursuits. Most, though not all, appear to enjoy stable household arrangements.

GROUP B: HAPPY FAMILIES
Younger families living in newer homes
Happy Families contains people whose focus is on career, home and family. These are mostly younger age groups who are married, or at least in a permanent relationship, and are now raising children in post war family houses, often in areas of the country with rapidly growing populations. The focus of expenditure is on equipment for the home and garden, and the immediate family unit is the principal focus of leisure activities.

GROUP C: SUBURBAN COMFORT
Older families living in suburbia
Suburban Comfort comprises people who have successfully established themselves and their families in comfortable homes in mature suburbs. Children are becoming more independent, work is becoming less of a challenge and interest payments on homes and other loans are becoming less burdensome. With more time and money on their hands, people can relax and focus on activities that they find intrinsically rewarding.

GROUP D: TIES OF COMMUNITY
Close-knit, inner city and manufacturing town communities
Ties of Community is comprised of people whose lives are mostly played out within the confines of close-knit communities. Living mostly in older houses in inner city neighbourhoods or in small industrial towns, most of these people own their homes, drive their own cars and hold down responsible jobs. Community norms rather than individual material ambitions shape the pattern of most residents’ consumption.

GROUP E: URBAN INTELLIGENCE
Educated, young, single people living in areas of transient populations
Urban Intelligence mostly contains young and well educated people who are open to new ideas and influences. Young and single, and few encumbered with children, these people tend to be avid explorers of new ideas and fashions, cosmopolitan in their tastes and liberal in their social attitudes. Whilst eager consumers of the media and with a sophisticated understanding of brand values, they like to be treated as individuals, and value authenticity over veneer.

GROUP F: WELFARE BORDERLINE
People living in social housing with uncertain employment in deprived areas
Welfare Borderline is comprised of many people who are struggling to achieve the material and personal rewards that are assumed to be open to all in an affluent society. Few hold down rewarding or well paying jobs and, as a result, most rely on the council for their accommodation, on public transport to get around and on state benefits to fund even the bare essentials. The lack of stability in many family formations undermines social networks and leads to high levels of anti social behaviour among local children.
GROUP G: MUNICIPAL DEPENDENCY
Low income families living in estate based social housing
Municipal Dependency mostly contains families on lower incomes who live on large municipal council estates where few of the tenants have exercised their right to buy. Often isolated in the outer suburbs of large provincial cities, Municipal Dependency is characterised as much by low aspirations as by low incomes. Here people watch a lot of television and buy trusted mainstream brands from shops that focus on price rather than range or service.

GROUP H: BLUE COLLAR ENTERPRISE
Upwardly mobile families living in homes bought from social landlords
Blue Collar Enterprise comprises people who, though not necessarily very well educated, are practical and enterprising in their orientation. Many of these people live in what were once council estates but where tenants have exercised their right to buy. They own their cars, provide a reliable source of labour to local employers and are streetwise consumers. Tastes are mass market rather than individualistic and focus on providing comfort and value to family members.

GROUP I: TWILIGHT SUBSISTENCE
Older people living in social housing with high care needs
Twilight Subsistence consists of elderly people who are mostly reliant on state benefits, and live in housing designed by local authorities and housing associations. Some live in old people’s homes or sheltered accommodation, while others live in small bungalows, set in small enclaves within larger council estates. Most of these people spend money only on the basic necessities of life.

GROUP J: GREY PERSPECTIVES
Independent older people with relatively active lifestyles
Grey Perspectives consists mostly of pensioners who own their homes and who have some source of income beyond the basic state pension. Many of these people have, on retirement, moved to the seaside or the countryside to live among people similar to themselves. Today many of these people have quite active lifestyles and are considered in their purchasing decisions.

GROUP K: RURAL ISOLATION
People living in rural areas far from urbanisation
Rural Isolation contains people whose pattern of living is distinctively rural. They live not just outside major population centres but also deep in the countryside, in small communities which have been little influenced by the influx of urban commuters. These are places where people with different levels of income share attachments to local communities, and where engagement with the community and with the natural environment are more important to most residents than material consumption.
Appendix 2 – Map illustrating the location of Mosaic groups by postcode across Nottinghamshire