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# Are Smoking Cessation Services Reducing Inequalities in Health?

**An Evaluation Study**

Helen Lowey, Brenda Fullard, Karen Tocque and Mark A Bellis

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## FOREWORD

The research evidence on the effectiveness of the National NHS Smoking Cessation Services is without dispute. The development of these government funded services across the North West since 1999 has been founded on this. However more evidence is needed on their success in helping people from different socio-economic groups to stop smoking. The majority of people who remain regular smokers are from manual worker groups. Do smoking cessation services meet the needs of these smokers compared to the population as a whole? If they help a greater proportion of relatively affluent smokers to achieve success, then we could be investing in services that contribute to widening inequalities in health.

It is essential that the NHS uses resources in the most effective way to meet the needs of those with the greatest health need. This study examines how smokers from varying deprivation areas across the North West have used smoking cessation services. It provides information and recommendations for Primary Care Trusts and other organisations, such as SureStart, that have a key role in reducing the prevalence of smoking. More services and different approaches in treating individuals may be needed where prevalence is higher. It may also be necessary to invest in broad population health policy that challenges the environments which shape smoking behaviour, such as work and social places.

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July 2002

ISBN 1-902051-38-6

## Acknowledgements

We would like to thank the Smokefree North West Strategy group for commissioning this work. We thank all those who liaised with us to supply the data, including the North West smoking cessation co-ordinators and their staff who record, collate and monitor all information. We would also like to thank Diana Leighton, Sacha Wyke, Karen Hughes and the IT and administrative staff at the North West Public Health Observatory and the Centre for Public Health for their invaluable support.

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## KEY FINDINGS AND RECOMMENDATIONS

### Key Findings

- Data from those health authorities that recorded demographic details of all smokers who accessed smoking cessation services showed that 53.4% (12,145/22,753) did not set a quit date. Younger smokers were less likely to set a quit date.
- There are an estimated 1.3 million smokers in the North West region and of this estimated number, 3.3% (43,020) set a quit date between January 2000 and September 2001.
- Smoking cessation services across the region were successful in attracting more smokers who live in deprived areas, which probably arose because the services specifically targeted this group of smokers. Overall, there are approximately 25% of people in the North West living in the most deprived area but nearly 50% of all smokers setting a quit date lived in the most deprived area.
- Smoking cessation services are not attracting certain groups of smokers that have high smoking rates, such as the younger population and males. It was found that a higher proportion of the estimated smokers in the North West that set a quit date were female (4.3% females compared with 3.0% males). The proportion of male smokers setting quit dates increased with age (from 1.4% for males aged 18-34 to 3.9% for those aged over 59), whilst female smokers aged 35-44 were most likely to set a quit date. (5.2%)
- Overall, 26.2% (11,251/43,020) of smokers who set a quit date were lost to follow up and thus their status was unknown. Young people were most likely to be lost to follow up whereas deprivation levels did not appear to affect attrition rates.
- Of those smokers who set a quit date, 48.5% (20,874/43,020) successfully quit. To maintain this percentage, the services cannot become complacent but constantly need to keep motivation levels high.

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- Males had higher success rates than females (49.7% males and 47.8% females). The lower success rate for females needs addressing, especially as evidence suggests that levels of female smoking rates are not decreasing and therefore female life expectancy may begin to decrease over time due to smoking related diseases.
  - Younger smokers often have less incentive to quit smoking. This was reflected in this study where older smokers were more likely to successfully quit (43.9% males and 43.8% females aged 18-34 quit smoking compared with 55% males and 54% females aged over 59).
  - The smoking cessation services do not achieve greater success rates for smokers living in deprived areas compared with those in the more advantaged areas ( $p=0.16$ ). This may occur because the follow up period of four weeks is not sufficient to detect success for people who are heavy smokers, who tend to live in more deprived areas.
  - This evaluation study used a ward based index, the IMD 2000, to measure deprivation, although different methods can be employed. It would be beneficial if national data on smoking prevalence were provided, by sex and gender, by more than one deprivation index. With this information specific government targets could be measured and comparison of data would be possible.
  - The variation in data collated by different health authorities reduces the ability to carry out detailed analyses at a regional level. It is important that regional data on current smokers is extended to include detailed information such as number of cigarettes smoked, how long the person has smoked, referral route and to record basic information such as sex, date of birth and postcode for all smokers who access the services, including those who do not set quit dates.

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## Recommendations

From this evaluation study, the following are recommended, primarily for Primary Care Trusts (PCTs) and smoking cessation services, although Strategic Health Authorities, the Department of Health and other organisations such as Sure Start should consider the implications for research and performance management:

- Smoking cessation services should record basic demographic details, i.e. age, sex and postcode of all smokers who access the services, irrespective of whether a quit date was set. This will enable the services to be tailored to local needs and target specific groups of smokers who do not set quit dates.
- Detailed smoking behaviour at a regional level by sex, age and ward based deprivation index (e.g. IMD 2000) should be obtained by commissioning work from the General Household Survey and/or the Health Survey for England. This will provide additional local baseline data and enable smoking cessation services to address local need. Obtaining population practice data from each PCT may also be beneficial in estimating local baseline data.
- Further research and new approaches should be carried out to attract and maintain regular contact with greater numbers of smokers, especially males and young people who have high smoking rates. Organisations that use social marketing techniques should be commissioned to work with young people with the aim of increasing the numbers of quit dates set. Separate services for young people may increase the success rates of younger smokers.
- The reason why people set quit dates but are lost to follow up should be investigated. It is important to obtain detailed information about these specific groups of smokers so that the services are attractive to those in most need.
- The services are focusing their outcomes on a four week follow up period at the request of the Department of Health. However, the follow up period should be extended as four weeks may not be appropriate for heavily nicotine-dependent smokers, who may take longer to successfully quit smoking.

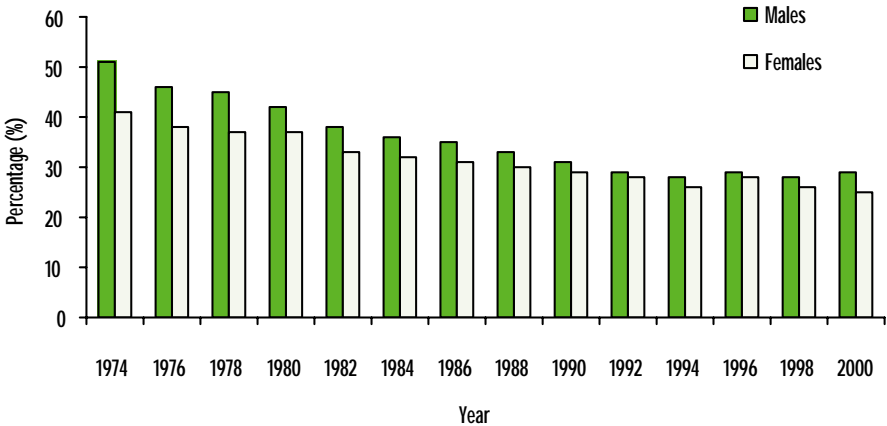
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- Research should be undertaken to understand the reasons why specific groups of people do not set quit dates, are not successful at quitting or are lost to follow up. Such research may consist of face-to-face interviews, focus groups or postal questionnaires.
  - A minimum core dataset should be developed across the North West region, which includes informative details such as 'How many cigarettes smoked? Does your partner smoke? Did your GP refer you or have you self-referred?' This core dataset should be structured so that analyses may be carried out at both local and regional levels. Therefore the data must be collated in the same format across the region.
  - This study should be considered as a baseline and repeated to establish if any changes that are implemented affect success rates, e.g. factors such as the discontinuation of the NRT voucher scheme and the introduction of NRT on NHS prescription and, any consequences resulting from the implementation of recommendations from this study.

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# SECTION 1 INTRODUCTION

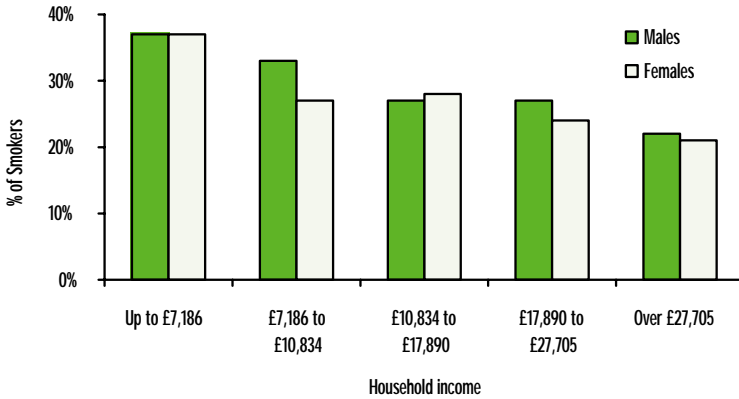
Smoking is the largest single cause of premature death in the UK and results in many life-limiting diseases, primarily cancer and coronary heart disease (CHD).<sup>1</sup> Currently, there are around 13 million adults who smoke cigarettes in the UK and every year about 120,000 people die from a smoking-related disease, which equates to approximately thirteen people dying every hour.<sup>2</sup> Although smoking prevalence in adults has decreased over time, from 45% in 1974 to 27% by 2000 (figure 1.1) the cost of smoking remains high, not only in terms of people's health but also economically; smoking is estimated to cost the NHS up to £1.7 billion annually.<sup>3</sup>

Figure 1.1 Prevalence of cigarette smoking in the UK by sex and over time (1974 to 2000)<sup>4</sup>



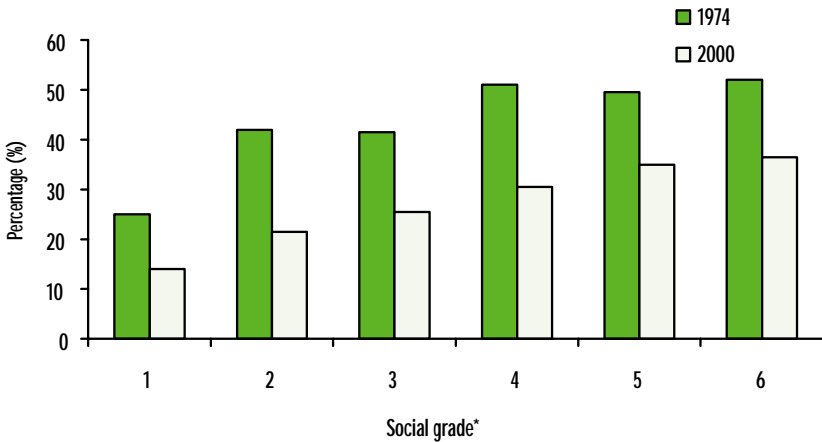
There is a strong positive relationship between smoking and deprivation, which has existed for more than thirty years; with increasing levels of deprivation the number of people who smoke increase.<sup>5</sup> The proportion of adults who smoke in the most deprived groups, i.e. unskilled manual workers, is much higher (39% males and 34% females) compared with those in the more advantaged groups i.e. professionals (15% males and 13% females) demonstrating a wide difference in smoking rates by deprivation levels; currently an average of 27% of the population throughout England smoke.<sup>4</sup> Figure 1.2 illustrates the decrease in smoking prevalence as household income increases.

Figure 1.2 Prevalence of smoking in England by corresponding household income and sex <sup>6</sup>



Over time, the prevalence of cigarette smoking has remained higher among manual workers than among non-manual workers. Smoking rates have decreased at a greater rate among professionals, employers and managers than in semi-skilled or unskilled manual workers, thereby widening the health gap (figure 1.3).<sup>4</sup> Not only do a relatively high proportion of unskilled manual workers smoke, but they smoke more cigarettes per week (average of 121) compared with professional workers (average of 92).

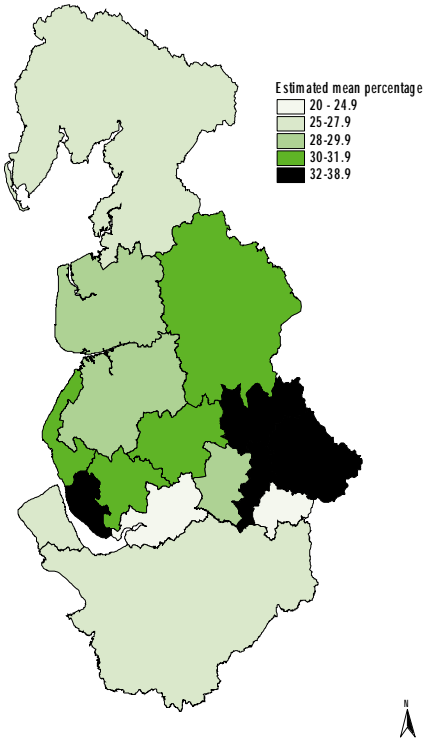
Figure 1.3 Estimated proportion of people who smoke cigarettes in the UK by deprivation over time (1974 to 2000)<sup>4</sup>



\*Social grade: 1=Professional; 2=Employers and managers; 3=Intermediate and junior non-manual workers; 4=Skilled manual workers and own account non-professional; 5=Semi-skilled manual workers and personal service; 6=Unskilled manual workers

The North West region has some of the highest areas of deprivation across England and Wales.<sup>7</sup> Corresponding to this, the prevalence of smoking is relatively high in the North West and the region has the second highest rate of adult smokers in England and Wales.<sup>6</sup> In 2000, it was estimated that 29% of adults in the North West were smokers compared with 27% nationally, although prevalence differs by health authority (figure 1.4) (a map to identify the North West health authorities and PCTs is in Appendix A). The North West also has a higher proportion of heavy smokers than any other region within England.<sup>8</sup> It is estimated that 42% of male smokers and 37% of female smokers in the North West are heavy smokers (i.e. smoking 20 or more cigarettes a day) compared with 37% and 29% respectively across England.<sup>4</sup>

Figure 1.4 Estimated mean percentage of people who smoke aged 16 and over by health authority (1994-1996)<sup>8</sup>



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The differences in smoking prevalence by deprivation are reflected in the impact of smoking on health. With higher smoking rates among manual workers, it is unsurprising that the standardised mortality rates (SMR) in manual workers are about three and five times higher than among professional workers for heart disease and cancer respectively.<sup>5</sup> It is also not surprising that the North West has some of the highest SMR for diseases such as lung cancer, bronchitis and emphysema.<sup>9</sup> Thus smoking more than any other identifiable factor contributes to the gap in life expectancy between those most in need and those most advantaged,<sup>3</sup> with people living in the North West having a slightly lower life expectancy (73.7 years males and 78.7 years females) compared with England and Wales (74.9 years and 79.7 years respectively).<sup>10</sup>

The Government has acknowledged that smoking is the main contributor to the difference in life expectancy between the least and most deprived groups. As such, in 1998 *Smoking Kills: A White Paper on Tobacco*<sup>3</sup> was published, with the aim of reducing the prevalence of adult smoking in all social classes from 28% in 1996 to 24% or less by 2010 (with an interim target of 26% by 2005). As smoking is a high risk factor for developing cancer and significantly affects the most deprived population, another smoking-related target was set out by the NHS Cancer Plan<sup>11</sup> to decrease smoking rates among manual groups from 32% in 1998 to 26% in 2010. This target specifically acknowledges that manual workers are at increased risk of developing a smoking-related disease.

*Smoking Kills: A White Paper on Tobacco*<sup>3</sup> announced that up to £60 million was being allocated to set up smoking cessation services over a three-year period in order to help people give up smoking. As an incentive to capture those in greatest need, i.e. the most deprived, nicotine replacement therapy (NRT) was offered free of charge for one week for people attending the services,<sup>a</sup> which introduces smokers to the potential benefits of NRT in relieving withdrawal symptoms of smoking. In order to decrease health inequalities, the priority of NHS smoking cessation services is to help the most deprived adult smokers. Therefore, in 1999/2000, NHS smoking cessation services were first launched as pilots in deprived communities that have been designated as Health Action Zones (HAZ).

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<sup>a</sup> NRT is now freely available on prescription at GP practices

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Following this, services were expanded in 2000/2001 to cover the rest of England and Wales. In the North West region, the pilot scheme received just over £2 million and since 2000, the Government has spent £3,149,000 per year in the North West. General guidelines were produced to aid in the development of these services, although flexibility ensured that the services were directed towards local needs.

Since smoking cessation services were established, data have been provided every quarter to enable the Department of Health to monitor national figures. Collated data are kept to a minimum and simply state the numbers of people, by sex and age group, who set a quit date and the proportion of these people who successfully quit smoking after four weeks.<sup>b</sup> Monitoring of people who have accessed the service but who have not set a quit date is not undertaken. Furthermore, monitoring of the services does not specifically address whether they are successful for those in most need, i.e. manual workers, because deprivation information is not collated at a national level

It is unknown whether smoking cessation services are accessible and attractive to all social classes and whether the services are having any impact on narrowing the gap in inequalities. This study aims to establish whether NHS smoking cessation services across the North West region make a significant contribution to promoting equity of access to health care and to reducing inequalities in health. This is achieved by ascertaining the number of people by sex, age and deprivation that have set a quit date via the smoking cessation services and their status after four weeks in the programme.

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<sup>b</sup> Four weeks is the length of time that is considered long enough for people to stop smoking.

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## SECTION 2 METHODS

Each former health authority (HA) within the North West region (n=16) collected and recorded data about people who attended the smoking cessation services, many of which only recorded details of those people who had set a quit date (i.e. patients who did not set a quit date did not have their details recorded). For this evaluation study, relevant data were extracted, in an anonymised format, from the individual HA's databases and collated into a central North West regional database.

The criteria used to select the dataset were:

- (i) All patients accessing the service over the age of 18 years.
- (ii) Residents within the North West region.
- (iii) Setting a quit date between January 2000 and September 2001.<sup>c</sup>

Records were excluded if the individual's age, sex or postcode were unknown or incomplete (3%; 1,399/44,419). In total, there were 43,020 individual records (i.e. smokers) in the regional database. It was also necessary to obtain at ward level the distribution of the North West's population by sex, age and deprivation. The North West Public Health Observatory (NWPHO) supplied population data for the region, which was derived from 1999 mid-year estimates produced by Office for National Statistics (ONS).

Analyses were carried out to determine if the proportion of people who set a quit date differed significantly by sex, age and deprivation, and from the North West's population. At four weeks there were two groups of people that could be identified (i) those who had successfully quit smoking and (ii) those who had not successfully quit smoking.<sup>d</sup>

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<sup>c</sup> This time scale increases the numbers in the study thereby increasing the power of the study. As smoking cessation services across the region were established at different times, not every HA could provide data for the entire time period. Therefore maximum numbers of records were sent by each HA within the specified time period.

<sup>d</sup> This group included those people who were lost to follow up at four weeks as, by definition, they were not confirmed to have successfully quit smoking

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### Statistical analysis

Data were analysed using Access, Excel and/or SPSS. Categorical variables were analysed using the chi-squared ( $\chi^2$ ) test or the chi-squared test for trend ( $\chi^2_{\text{trend}}$ ). Statistical difference occurred at the 95% confidence level and the p-values are presented, where appropriate. To control for confounding factors, data were subject to multiple logistic regression.

### Deprivation index

Deprivation data were obtained from the Department for the Environment, Transport and the Regions' (DETR) Index of Multiple Deprivation (IMD) 2000.<sup>12</sup> This index is recognised as one of the most sensitive tools for describing deprivation in populations at ward level. Methodology for calculating the IMD 2000 is provided in Appendix A. To summarise, wards within the North West region were calculated into quintiles, with quintile 1 being the more advantaged group and quintile 5 being the most deprived group. For the entire North West sample, people who set a quit date were assigned a ward based deprivation rank based on their postcode.

### People who accessed the service but did not set a quit date

A second regional database was developed that included data only from those health authorities which collated information for those smokers who accessed the services but did not continue with the programme, i.e. had not set a quit date, as well as smokers who did set a quit date. In total, seven health authorities recorded this information. Data were analysed by sex, age and deprivation.

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## SECTION 3 RESULTS

### 3.1 Descriptive characteristics of the North West region

Figure 3.1a displays the distribution of deprivation (as calculated by the DETR) in the North West region by health authority. It can be seen that deprivation levels vary across the region with Liverpool, St Helen's and Knowsley and Manchester Health Authorities being the most deprived areas in the region and South Cheshire, South Lancashire and Morecambe Bay Health Authorities being the most advantaged.

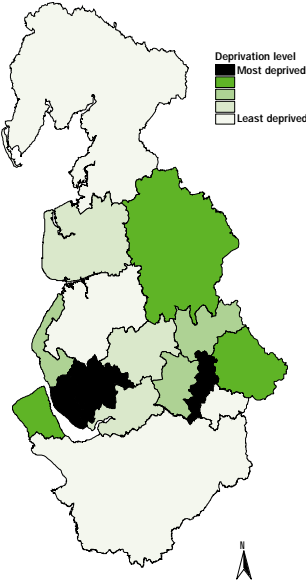
The population density (figure 3.1b) and healthy life expectancy<sup>e</sup> (figure 3.1c) generally mirror the distribution of deprivation with healthy life expectancy being lower and population density greater in more deprived areas. However, some health authorities have longer healthy life expectancies compared with their deprivation levels and vice versa. For example, South Lancashire is one of the more advantaged areas in the North West region but does not have a correspondingly high healthy life expectancy levels. Wigan and Bolton Health Authority has one of the lowest healthy life expectancies in the North West but does not have an overall low deprivation level.

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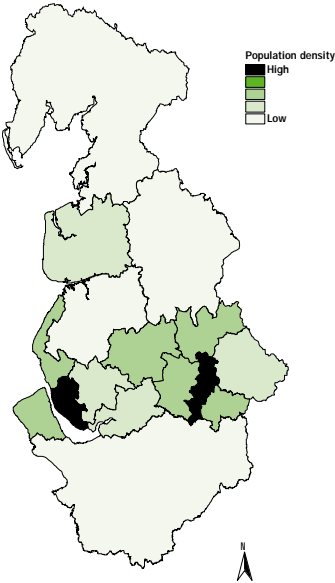
<sup>e</sup> Healthy life expectancy is defined as expected years of life in good or fairly good health

Figure 3.1 Distribution of people in the North West region by health authority and and:

a. Deprivation <sup>13</sup>



b. Population density <sup>14</sup>



c. Healthy life expectancy <sup>15</sup>

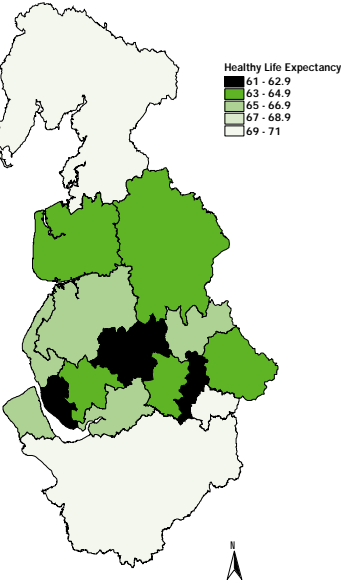


Table 3.1 shows the distribution, by health authority, of total life expectancies<sup>f</sup> and different diseases that are known to be related to smoking. For most health authorities in the North West region, the standardised mortality rate<sup>g</sup> (SMR) for all deaths, lung cancer deaths and CHD is higher than the national average. Manchester and Liverpool Health Authorities have some of the highest SMRs in the region. For example, If you live in Manchester, your risk of dying from cancer is 31% higher than the average for England and Wales. Similarly if you live in Liverpool your risk of dying from cancer is 33% higher than the average for England and Wales.

**Table 3.1** Distribution of people in the North West region by health authority and life expectancy, all mortality, all cancer mortality, mortality from CHD and low birth weight babies.<sup>7</sup>

Health Authority	Male life expectancy 1997-99	Female life expectancy 1997-99	Mortality: All causes (SMR) 1998-00	Mortality: All Cancers (SMR) 1998-00	Mortality: CHD (SMR) 1998-00	Low birth weight (% babies <2500g) 2000
Bury & Rochdale	73.23	78.37	115.50	110.32	122.47	9.2
East Lancashire	73.06	77.76	115.75	104.74	125.65	9.5
Liverpool	71.69	76.97	127.99	132.81	125.20	8.6
Manchester	70.21	76.58	128.47	130.69	128.08	9.6
Morecambe Bay	75.42	79.98	99.79	97.53	105.29	7.5
North Cheshire	73.90	78.26	115.58	114.75	116.17	7.5
NW Lancashire	73.80	79.16	105.04	102.04	105.86	9.0
Salford & Trafford	73.96	78.70	109.13	111.19	113.67	7.8
Sefton	74.14	79.52	101.98	107.91	100.10	7.5
South Cheshire	75.57	80.35	98.72	98.40	103.38	6.3
South Lancashire	74.76	79.68	104.79	100.77	108.04	6.4
St. Helens & Knowsley	72.75	77.74	120.96	120.82	125.52	7.8
Stockport	75.69	80.48	96.37	99.94	110.94	6.0
West Pennine	72.61	78.28	117.75	115.33	139.83	9.7
Wigan & Bolton	73.59	78.47	113.59	108.74	123.64	9.0
Wirral	73.95	79.22	105.69	112.27	98.00	7.0
England Wales	74.91	79.86	100.00	100.00	100.00	7.9

<sup>f</sup> The number of years a person can be expected to live, without taking healthy years into account

<sup>g</sup> SMR >100 indicates a higher number of deaths than the average national figure whereas SMR <100 indicates a lower number of deaths than the national average (national average=100). (SMR-100 gives the % change).

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## 3.2 Smokers who accessed the smoking cessation services across the North West region (Jan 2000-Sept 2001)

### 3.2.1 Smokers who did not set a quit date

Of the health authorities (n=7) who recorded basic demographic details of all smokers who accessed the services, 53.4% (12,145/22,753) of smokers did not set a quit date. Overall there was no difference between males (n=4,673) and females (n=7,472) as to whether a quit date was set ( $p=0.08$ ).

Age had a significant impact on whether a smoker set a quit date. Figure 3.2 demonstrates how younger smokers were significantly less likely to set a quit date compared with their older counterparts. This pattern occurred for both males ( $p<0.05$ ) and females ( $p<0.05$ ).

The overall pattern for those smokers who accessed the service but did not set a quit date by deprivation did not vary significantly ( $p=0.12$ ). Thus people in deprivation level 1 were equally as likely not to set a quit date as those smokers in deprivation level 5. (Figure 3.3). For example, there were 53% and 55% of males and females respectively in deprivation level 1 that did not set a quit date compared with 59% and 60% in deprivation level 5 respectively.

(Details of people who accessed the services but did not set a quit date by age and deprivation are provided in Appendix B.)

Figure 3.2 Proportion of smokers who did not set a quit date after they had accessed the smoking cessation services by age (seven health authorities; Jan 2000-Sept 2001)

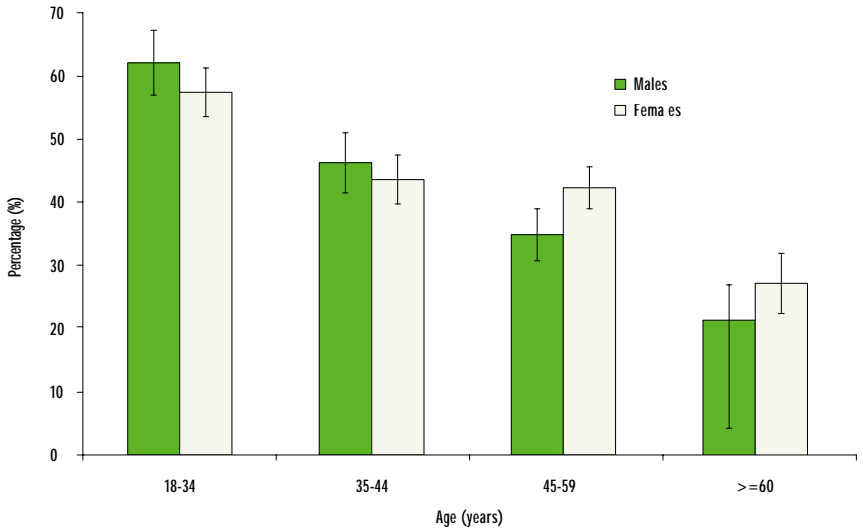
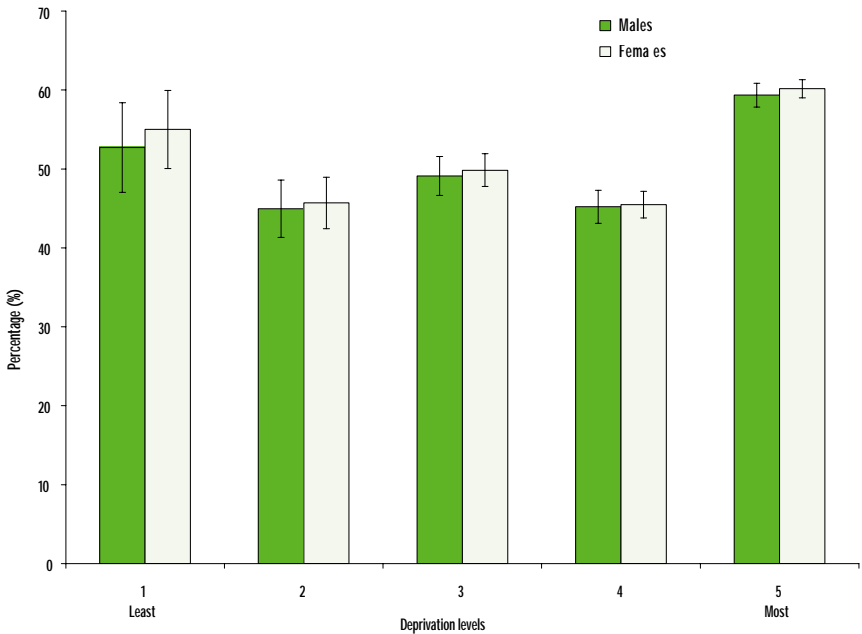


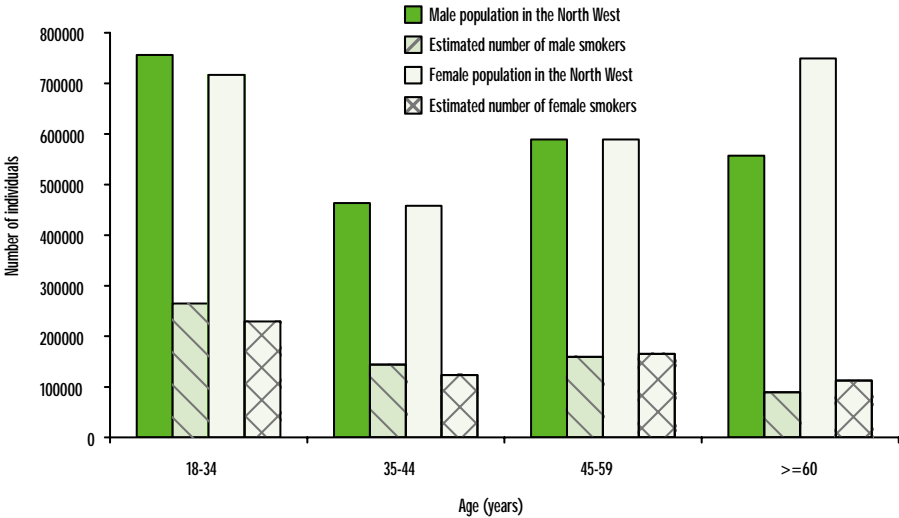
Figure 3.3 Proportion of smokers who did not set a quit date after they had accessed the smoking cessation services by deprivation (seven health authorities; Jan 2000-Sept 2001)



### 3.2.2 Smokers who set a quit date

Figure 3.4 displays the numbers of males and females in the North West region and the estimated numbers of those who smoke based on prevalence data taken from the Health Survey for England 1998.<sup>6</sup> As expected, the estimated numbers of smokers was highest for 18-34 year olds whereas older age groups had lower numbers of both male and female smokers. Overall it was estimated that there are about 1,287,695 smokers in the North West region.

Figure 3.4 Estimated numbers of people and estimated numbers of smokers in the North West region by sex and age



Between January 2000 and September 2001 over 43,000 people attended the smoking cessation services across the North West region and set a quit date. Figure 3.5 shows the distribution of males and females who set a quit date in different age groups and figure 3.6 presents the percentage of all smokers that this represents (based on the estimated numbers of smokers for the North West). A higher proportion of female smokers set a quit date compared with male smokers, although the difference between females and males narrowed with advancing age. For males, there was a significant rise in the proportion of smokers who set a quit date with increasing age ( $p < 0.001$ ) whereas for females, the highest proportion of female smokers to set a quit date occurred for those aged 35-44 years, which decreased significantly after this age ( $p < 0.01$ ). In total, 3.3% of the estimated smokers in the North West set a quit date during January 2000 and September 2001.

Figure 3.5 Numbers of smokers in North West region who set a quit by sex and age (Jan 2000–Sept 2001)

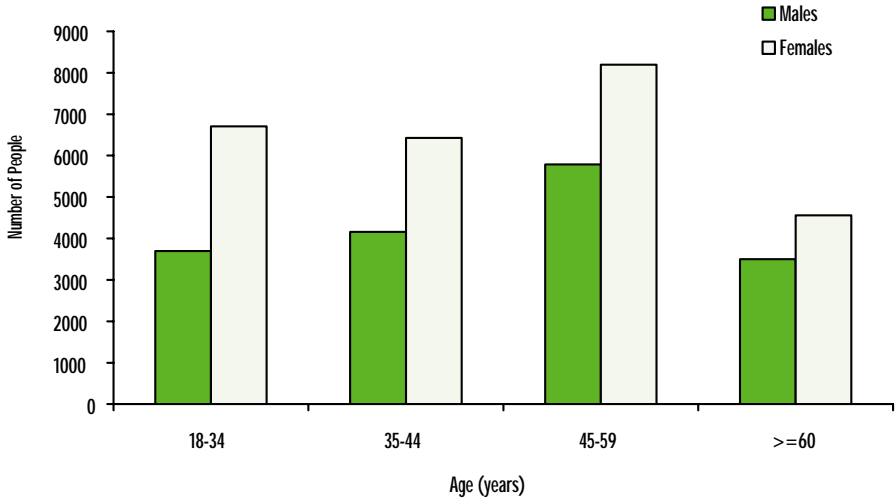
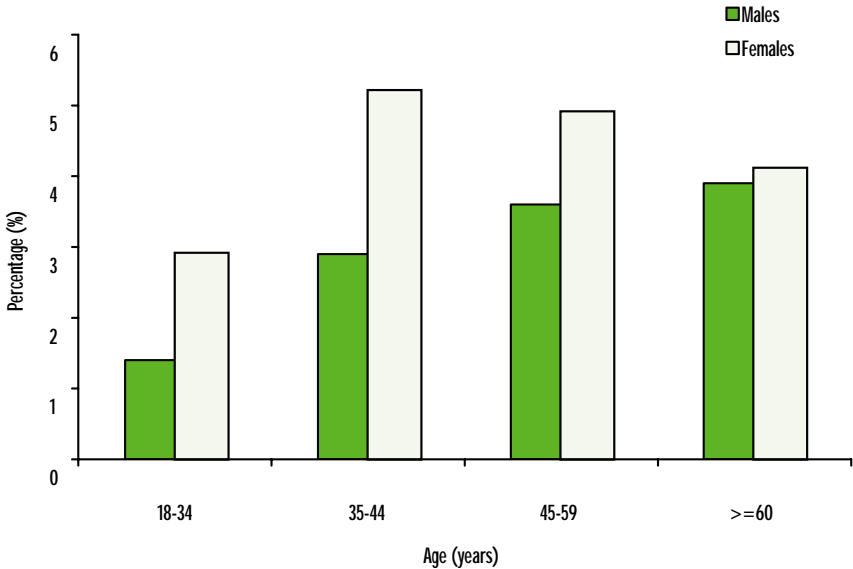


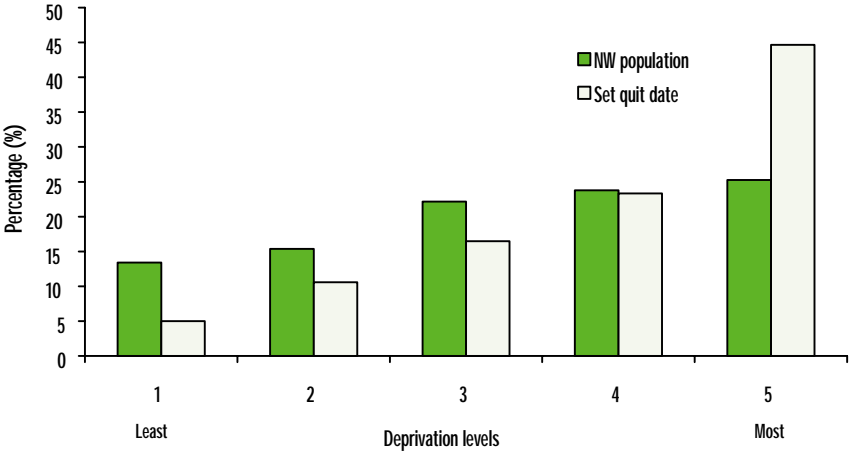
Figure 3.6 The proportion of smokers who set a quit date based on estimated numbers of smokers in the region by sex and age (Jan 2000–Sept 2001)



Using postcode of residence, each individual was assigned a ward based deprivation rank, which was then categorised into quintiles (refer to methods section). The proportion of males and females who set a quit date were compared by deprivation quintile to the distribution of the North West's population and the results are presented in table 3.2 (detailed figures in Appendix B). The North West has higher proportions of people who reside in most rather than least deprived areas. For example, for males aged 18-34, only 11% of the North West's population are in deprivation level 1 compared with almost 30% in deprivation level 5 for the same age group.<sup>h</sup>

Compared with the distribution of the North West's population by deprivation, smokers who set a quit date were even more likely to be in deprivation level 5 than in deprivation level 1 (figure 3.7). Thus, for males aged 18-34 years, 6% were in quintile 1 and 40% were in quintile 5 (table 3.2). This pattern of increasing numbers of smokers setting a quit date with increasing deprivation occurred in every age group, for both males ( $p < 0.001$ ) and females ( $p < 0.001$ ). For example, in females aged 45-59 years, nearly 22% of the North West's population were in the most deprived areas, but almost 45% of smokers setting a quit date were in most deprived areas, whereas in the same age group of females 16% of the population live in the most advantage areas but only 5% of smokers set a quit date (table 3.2).

**Figure 3.7** Proportion of persons, by deprivation, for the whole North West population and smokers who set a quit date in the North West (Jan 2000-Sept 2001)



<sup>h</sup> 20% of the population should reside in each quintile for an equal distribution by deprivation

**Table 3.2** Proportion of people for the whole North West population <sup>i</sup> (NW) and smokers who set a quit date (set date) in the North West (Jan 2000-Sept 2001) by deprivation, age and sex

Person		Age (years)							
		18-34		35-44		45-59		≥60	
		NW	Set date	NW	Set date	NW	Set date	NW	Set date
<b>Number</b>		1,473,901	10,400	921,841	10,579	1,178,041	13,982	1,307,107	8,059
<b>Deprivation</b>		%	%	%	%	%	%	%	%
<b>Least</b>	1	11.1	4.6	13.1	4.4	15.5	5.5	13.4	5.0
	2	13.2	9.0	15.1	10.5	16.7	11.2	15.4	10.6
	3	21.1	17.0	22.3	16.4	23.0	16.4	22.2	16.5
	4	25.4	23.2	23.5	22.6	22.7	23.5	23.8	23.3
<b>Most</b>	5	29.2	46.2	25.9	46.2	22.1	43.4	25.3	44.6
	$\chi^2_{trend}$	247.3		402.4		689.64		1483.50	
<b>p-value</b>		<0.001		<0.001		<0.001		<0.001	
<b>Males</b>									
		Age (years)							
		18-34		35-44		45-59		≥60	
		NW	Set date	NW	Set date	NW	Set date	NW	Set date
<b>Number</b>		756,670	3,699	463,696	4,157	589,203	5,787	557,621	3,501
<b>Deprivation</b>		%	%	%	%	%	%	%	%
<b>Least</b>	1	11.1	5.5	12.8	5.2	15.3	5.8	14.6	5.8
	2	13.1	9.7	14.8	11.7	16.5	11.6	16.8	13.1
	3	20.9	21.4	22.1	18.1	22.8	16.8	22.3	16.3
	4	25.2	23.3	23.8	22.4	22.9	24.5	22.8	24.3
<b>Most</b>	5	29.6	40.1	26.5	42.6	22.5	41.3	23.4	40.5
	$\chi^2_{trend}$	44.43		101.93		190.36		98.98	
<b>p-value</b>		<0.001		<0.001		<0.001		<0.001	
<b>Females</b>									
		Age (years)							
		18-34		35-44		45-59		≥60	
		NW	Set date	NW	Set date	NW	Set date	NW	Set date
<b>Number</b>		717,231	6,701	458,145	6,422	588,838	8,195	749,486	4,558
<b>Deprivation</b>		%	%	%	%	%	%	%	%
<b>Least</b>	1	11.2	4.1	13.4	3.9	15.7	5.2	14.1	5.1
	2	13.2	8.6	15.4	9.7	17.0	11.0	16.8	10.5
	3	21.4	14.6	22.5	15.3	23.1	16.1	22.6	15.4
	4	25.5	23.1	23.3	22.7	22.5	22.8	23.4	24.3
<b>Most</b>	5	28.7	49.6	25.4	48.5	21.7	44.9	23.1	44.6
	$\chi^2_{trend}$	286.03		329.37		525.26		222.26	
<b>p-value</b>		<0.001		<0.001		<0.001		<0.001	

<sup>i</sup> North West Public Health Observatory supplied North West population data, which was derived from 1999 mid-year estimates from ONS

### 3.3 People who successfully quit smoking across North West region (Jan 2000-Sept 2001)

#### 3.3.1 People who were lost to follow up (Jan 2000-Sept 2001)

Those individuals who were lost to follow up were categorised as not successful at quitting smoking at four weeks (refer to methods section). It is however important to describe the characteristics of this population. Overall, 26.2% (11,251/43,020) of smokers who set a quit date were lost to follow up (26.5% males and 25.8% females) and as such their status was unknown. From figure 3.8 it is clear that for both males and females, younger rather than older smokers were more likely to be lost to follow up. However, by deprivation there was little variation in the proportion lost to follow up (figure 3.9).

Figure 3.8 Proportion of smokers who were lost to follow up by sex and age

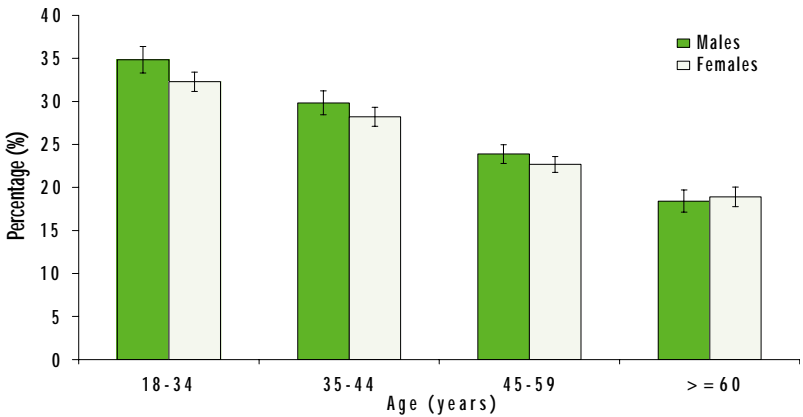
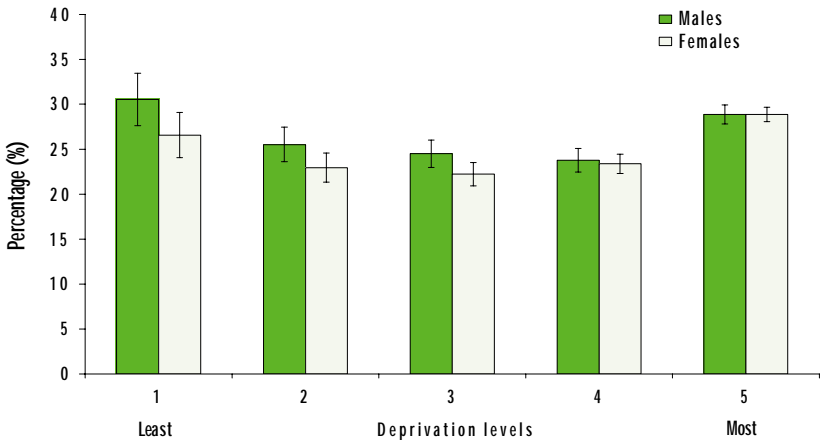


Figure 3.9 Proportion of smokers who were lost to follow up by sex and deprivation

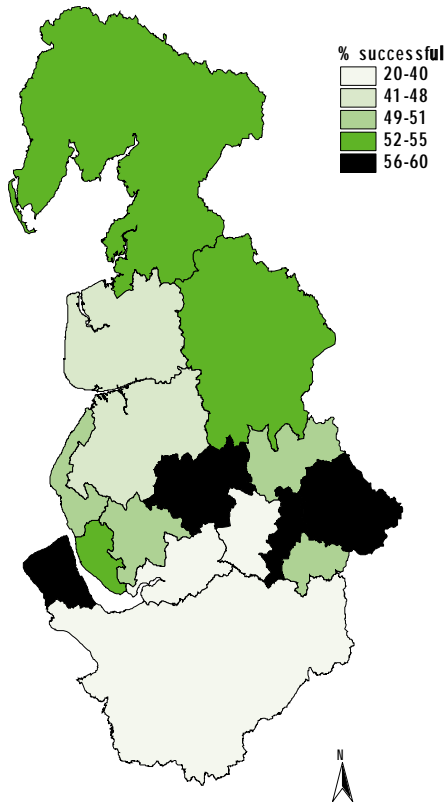


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### 3.3.2 People who successfully quit smoking (Jan 2000-Sept 2001)

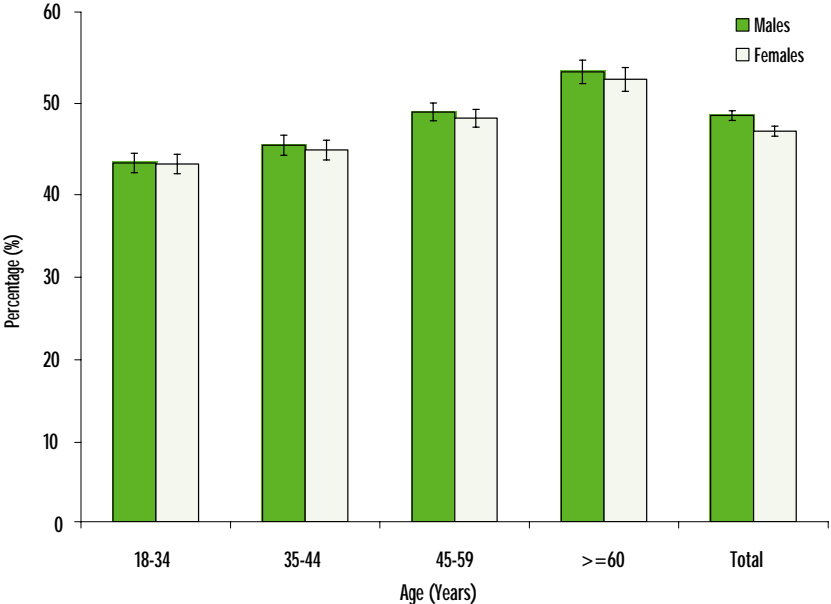
In total, 48.5% (20,874/43,020) of people who set a quit date in the study's time period were known to have successfully quit smoking after four weeks, although success rates differed by health authorities (figure 3.10). Those health authorities with the highest success rates were Wirral, West Pennine, Manchester and Wigan and Bolton whereas South and North Cheshire and Salford and Trafford health authorities had the lowest success rates.

Figure 3.10 Proportion of smokers who set a quit date and were known to have successfully quit smoking after four weeks across the North West region (Jan 2000- Sept 2001)



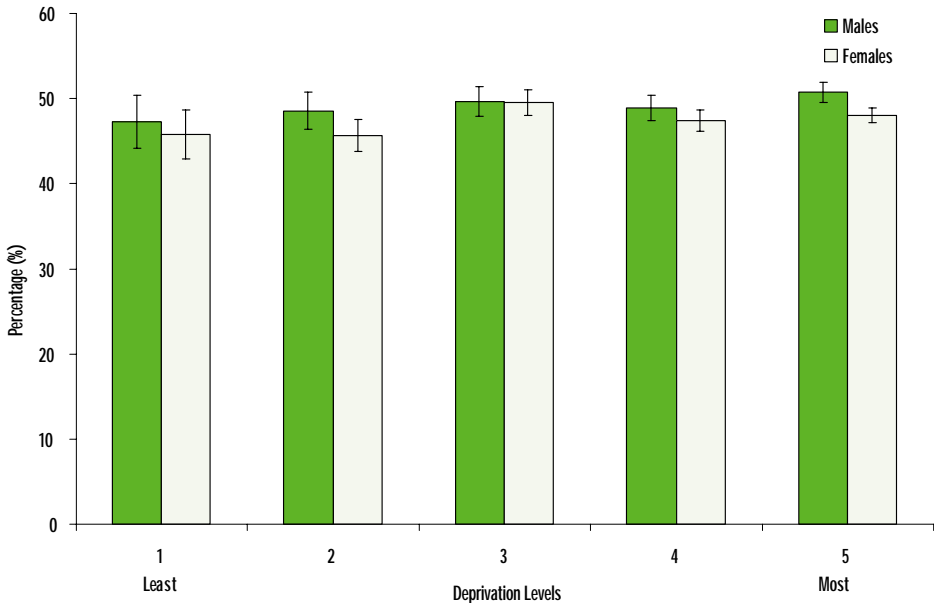
The overall pattern of success rates by age were similar for males and females; older smokers were more likely to successfully quit smoking compared with their younger counterparts although the results were significant for females ( $p=0.02$ ) but not for males ( $p=0.16$ ) (figure 3.11). Furthermore, males were overall more likely than females to have successfully quit smoking (49.7% and 47.8% respectively) ( $p<0.01$ ). Detailed information regarding the four week status of people who set a quit date across the North West region by sex and age is presented in Appendix B.

Figure 3.11 Proportion of smokers who set a quit date who were known to be successful at quitting by sex and age (Jan 2000-Sept 2001)



Males in the most deprived areas were equally as likely to successfully quit smoking as those in more advantaged groups ( $p=0.16$ ). By contrast, females in the most deprived areas were significantly more likely to have successfully quit compared with more advantaged quintiles ( $p=0.02$ ) (figure 3.12). However, this significant finding did not apply for every age group as those females aged 35-44 years and over 59 years displayed no significant difference by deprivation for smokers who successfully quit smoking whereas those aged 18-34 years and 45-59 years did. A detailed summary of the four week status by sex and deprivation is in Appendix B.

Figure 3.12 Proportion of smokers who set a quit date who were known to be successful at quitting by sex and deprivation (Jan 2000-Sept 2001)



### 3.4 Factors associated with successful quit rates

Multiple logistic regression was applied to the data and identified two variables that had an independent relationship with successful quit dates, which were age and sex. Deprivation was not found to be a significant factor (table 3.3). The reference categories for the multiple logistic regression analysis were ages 18-34 years, males and deprivation level 1, i.e. least deprived quintile.

With increasing age, the odds of being successful at quitting smoking increased ( $p < 0.01$ ) and males were significantly more likely than females to be successful at quitting smoking ( $p = 0.002$ ). There did not appear to be a definite trend as to whether a person successfully quits smoking and deprivation.

**Table 3.3** Likelihood of a smoker successfully quitting smoking after four weeks if a quit date has been set (Jan 2000-Sept 2001)

Factor		Odds ratio	95% Confidence intervals		p - value
			Lower	Upper	
Age (years)	18 -34	1.00			
	35 -44	1.09	1.03	1.15	0.002
	45 -59	1.29	1.22	1.35	<0.001
	60+	1.57	1.48	1.66	<0.001
Sex	Male	1.00			
	Female	0.94	0.90	0.98	0.002
DETR	1	1.00			
	2	1.02	0.92	1.13	0.726
	3	1.15	1.05	1.27	0.004
	4	1.08	0.98	1.18	0.124
	5	1.13	1.04	1.24	0.006

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## SECTION 4 DISCUSSION

### Smokers who did not set a quit date

A number of health authorities record demographic details about smokers who accessed the services but did not set a quit date, which provided additional and valuable information for this study. Younger smokers were less likely to set a quit date compared with older smokers (figure 3.2) although deprivation did not have a significant effect (figure 3.3). These patterns occurred for both males and females. This finding highlights the need for all smoking cessation services to record demographic details of all smokers who attend, irrespective of whether a quit date is set. With this information it would be possible for the services to focus towards the needs of specific groups, i.e. young smokers. Also, an understanding is required of why this group of smokers access the service but decide not to continue through the programme. Without this detailed information, smoking cessation services will find it more difficult to tailor their services to those in most need.

### Smokers who set a quit date

Based on data from the Health Survey for England,<sup>6</sup> it was estimated that there are about 1.3 million smokers in the North West region. This would suggest that 3.3% of all smokers in the North West set a quit date through the smoking cessation services during the study period (section 3.2.2).

Although smoking is more prevalent in males (29%) than females (25%),<sup>4</sup> it was female smokers who were more likely to set a quit date than males (figure 3.5). This gender difference in setting a quit date was most pronounced for smokers aged under 60 years (figure 3.6). Therefore efforts need to be made to ensure that the North West smoking cessation services are as accessible and attractive to male smokers as they are to females in order to improve the health of this population and decrease smoking related diseases, which would ultimately increase the life expectancy for males. Furthermore, smoking cessation services need to target all smokers aged 18-34 years as this group has the highest proportion of smokers yet this age group has the lowest proportion of smokers setting a quit date (figure 3.6).

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A strong positive relationship between deprivation and an individual's motivation to stop smoking has been observed in this study ( $p < 0.001$ ), where smokers, both males and females, who set a quit date were more likely to reside in deprived areas compared with the distribution of the North West region's population (table 3.2). This agrees with other published data from the Health Survey for England 1999<sup>6</sup> and the General Household Survey 2000.<sup>4</sup>

The findings imply that smoking cessation services across the North West are achieving one of their key aims by attracting those smokers who live in most deprived areas. The substantially high rates of people setting a quit date for the most deprived areas may have arisen because the services specifically targeted those smokers who live in deprived areas, showing that by targeting specific groups of smokers, the numbers who set quit rates was high. Also, one week of free Nicotine Replacement Therapy (NRT) was available through smoking cessation services for those smokers exempt from prescription charges and was seen as an incentive for people to try and stop smoking.

However, given that NRT is now readily available on prescription, this incentive may not continue to have as great an impact as originally thought. The higher numbers of quit dates with increasing deprivation may occur because smoking cessation services are located in numerous venues across the North West region for example, GP practices, pharmacies, hospitals or community centres, therefore the services are likely to be readily accessible to all, including most deprived groups. Also, because many of the clinics are held during the day access may be easier for people who are unemployed, which is related to measures of deprivation, than for employed people.

### Smokers who were lost to follow up

The highest percentage of individuals who were lost to follow up occurred in the youngest age group; about a third of smokers aged 18-34 years were lost to follow up compared with a fifth of smokers aged over 59 years (figure 3.8). However, little variation existed by deprivation for both males and females (figure 3.9). The reason for the high attrition rates in young people probably arises because the risk of smoking on health is often perceived to be low for this population and as such, the incentive to give up smoking is low.<sup>6</sup> Conversely, older people are likely to have more incentive and possibly greater support, which is reflected in the low attrition rates (figure 3.8).

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Whilst it is acknowledged that people cannot 'be forced' to attend smoking cessation services, there may be some fundamental reason why people do not continually attend the sessions. If the smoking cessation services can adapt to their population's needs, then an improved outcome may be observed. Consequently, more research is required on why people, in particular young people, are lost to follow up and what factors would keep attendance high and attrition rates low, all need addressing.

### Smokers who had successfully quit smoking

Approximately half of the smokers who set a quit date had successfully quit after four weeks (49.7% males and 47.8% females). This indicates that the services are contributing to reducing the numbers of smokers in the North West, thereby directly influencing the targets set out in *Smoking Kills: A White Paper on Tobacco*.<sup>3</sup> Using the estimated numbers of smokers in the North West, the proportion quitting over the time period of this study was approximately 1.3% of males and 2.0% of females; on average 1.6% of all smokers quit. However, this does not take into account the proportion of people who take up the habit each year, for which there is no current regional data or the possibility of failure beyond four weeks. Variations in success rates by health authority do however exist and were shown in figure 3.10. It is possible that quitting smoking is influenced by the deprivation level of each health authority because, in general, people in the most deprived groups often find it difficult to quit smoking.<sup>5</sup> In this study Manchester and Liverpool Health Authorities have relatively high success rates despite having the worst deprivation levels. This pattern may arise because more money was invested into these areas (as they are HAZ areas) and also, because Manchester and Liverpool were among the first services to be established in the North West, their services have been developed and tailored over time to meet the needs of their target audience.

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Despite male smokers being less likely to set a quit date, they were more likely than females to be successful at quitting (figure 3.11). Research suggests that females are, in general, more concerned about health and consult more frequently with their GP than males<sup>4</sup> and thus generally participate in health initiatives to a greater extent but, in this study, the chance of a female quitting smoking was lower than for males. The implication of these findings are that smoking cessation services need to address different needs for male and female smokers; males in so much as attracting them to the service and females by increasing success rates once a date has been set.

Because there is a long latent period of developing smoking related diseases, it is the older individuals who are more likely to have respiratory problems and will therefore have a greater incentive to stop smoking than younger people. Statistics confirm that smoking prevalence decreases with age, caused partly by higher smoking cessation rates with age.<sup>6,4</sup> This was confirmed in this study where the proportion of smokers who successfully quit smoking increased with age (figure 3.11). Although the risk of developing lung cancer decreases for a middle aged person once the individual has stopped smoking, the benefit is much greater for a younger person.<sup>1</sup> Whilst it is acknowledged that younger people do not directly see the health benefits of stopping smoking it is important that smoking cessation services across the North West focus their services to meet the needs of smokers of all ages if they are to have a significant impact on decreasing inequalities and extending healthy life expectancy.

Although a higher proportion of people from the most deprived areas are setting quit dates than from the least deprived areas ( $p < 0.001$ ), there are not correspondingly higher proportions of people who successfully quit smoking after four weeks (figure 3.12). Thus, there is no statistical difference in success rates by deprivation, which conflicts with findings by Jarvis and Wardle<sup>5</sup> who stated that the greater an individual's level of deprivation the more likely they are to start smoking and the less likely they are to stop. The present study demonstrates that people from deprived areas are setting quit dates via the smoking cessation services in the North West. However, in order to make a significant difference in the smoking prevalence for those in greatest need, success rates for this group need to be increased. Smokers who live in deprived areas often have less support, smoke more cigarettes and are more dependent on cigarettes. Consequently, four weeks may not be a sufficient time period for heavily nicotine-dependent smokers from deprived area to successfully quit smoking.

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A longer time period of support may be required from the smoking cessation services so that the needs of different social classes can be addressed. If the service extended its follow up time period the success rates for smokers living in most deprived areas, who tend to be heavy smokers, may be more appropriately monitored thereby potentially narrowing inequalities.

### Data collection issues

There are several different indices that could be employed to ascertain deprivation, each with unique strengths and weaknesses. For this study, the IMD 2000, a ward based deprivation scale, was used because postcodes were collated at a regional level, allowing an individual to be assigned to a ward.

Occupational status is not collated at a regional level and as such, the difference in smoking cessation rates between manual and non-manual workers could not be ascertained. Therefore the Government's target, which is to decrease the difference in smoking rates between manual and non-manual groups <sup>3,9</sup> is difficult to monitor at regional level.

Furthermore, the Health Survey for England <sup>6</sup> and the General Household Survey <sup>4</sup> provide national estimates of the numbers of smokers by sex, age and deprivation but this detailed information is not available at a regional level. Also both of these studies apply a different classification of deprivation. This highlights the paucity of available data at a regional level and the issue around different deprivation classifications when monitoring targets. Smoking cessation services within the North West should record and collate the individual's occupation and, the two national surveys should be approached to commission work for the region that would enable numbers of smokers by sex, age and IMD 2000 deprivation to be estimated. When the smoking cessation services were established there were no extra provisions to devise a database for use across the region and therefore data have been collected and recorded in various local formats. Consequently, when merging each of the 16 databases to form the regional database, important information has been lost, as the lowest common denominator had to be used. For example, some health authorities recorded age band not age, and as such analyses had to use age band not individual age, which limits detailed analyses. Also, ethnicity was, in general, not recorded and when it was, inconsistent classifications were used.

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It is imperative that for future studies, which use data from the smoking cessation services, whether it be at regional, primary care trust or strategic health authority level, there is a common, minimum database where all relevant data fields are compatible. Thus, minimum data items need to be collected and recorded in a standardised format so to maintain consistency across the North West region. Furthermore, evidence from this study has shown that there is value in every service recording the age, sex and postcode of smokers who accessed the services but did not set a quit date. This information is necessary because it will enable smoking cessation services to address the local needs of a wider target audience, thereby potentially increasing success rates.

One way to develop the smoking cessation services would be to expand the minimum data requirements so that the services are continually evolving and addressing the needs of their populations. For example, it is unknown whether a person is self-referred or has had a GP referral. This is important because even an opportunistic GP intervention has been found to increase the numbers of people who successfully quit smoking<sup>16</sup> and with the wide availability of smoking cessation services, GPs are able to act as initiators and motivators to refer relevant patients. Before these services were established, some GPs were reluctant to give advice to smokers, despite the positive outcome of opportunistic advice.<sup>16</sup> Therefore, it may be useful to record whether the person was referred by their GP or was self-referred.

In summary, smoking cessation services across the North West region are attracting those people who are living in the most deprived areas yet services are not achieving comparable successful quit rates for this population. Furthermore, the services are not attracting and maintaining contact with younger smokers. Therefore, smoking cessation services need to re-address this issue by identifying how the services could more appropriately meet the needs of the most disadvantaged and younger people.

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## SECTION 5 SUMMARY

- Data from those health authorities which recorded demographic details of people who accessed the services (irrespective of whether a quit date was set) showed that younger smokers were less likely to set a quit date.
- Overall, 43,020 smokers in the North West region set a quit date between January 2000 to September 2001. This equates to 3.3% of the estimated number of smokers in the North West.
- Smoking cessation services across the region were successful in attracting more smokers who live in deprived areas, reflecting the way the services targeted this group of smokers. The availability of free NRT vouchers supplied by smoking cessation advisors to those people exempt from prescription charges may have also influenced rates.
- The services are less likely to attract specific groups of smokers that have high smoking rates, such as the younger population and males. It was found that a higher proportion of female smokers set quit dates compared with male smokers and, with increasing age the proportion of smokers setting quit dates increased.
- Young people were most likely to be lost to follow up whereas deprivation levels did not significantly affect attrition rates.
- Of those smokers who set a quit date, 48.5% successfully quit. To maintain this percentage, the services cannot become complacent but constantly need to keep motivation levels high.
- Males had a slightly higher success rate than females (49.7% males and 47.8% females). The lower success rates for females needs addressing, especially because evidence suggests that female smoking prevalence is not decreasing and therefore the longer life expectancy that is observed for females may begin to decrease over time due to smoking related diseases.
- Younger smokers often have less incentive to quit, which was reflected in this study because older smokers were more successful at quitting.

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- The smoking cessation services do not achieve greater success rates for smokers living in deprived areas compared with those in the more advantaged areas. This may arise because the follow up period is not sufficient to detect success for people who are heavy smokers, which is also related to deprivation.
  - As different methods can be employed to measure deprivation, comparison of results at local, regional and national levels becomes problematic; this evaluation study used the IMD 2000. National data, by sex and gender, using more than one deprivation index would be beneficial, enabling specific targets to be measured and comparison of data possible.
  - The variation in data collated by different health authorities reduces the ability to carry out detailed analyses at a regional level. It is important that regional data on current smokers is extended to include detailed information such as number of cigarettes smoked, how long the person has smoked, referral route and record basic information such as sex, date of birth, postcode on all smokers who access the services, including those who do not set quit dates.

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## SECTION 6 RECOMMENDATIONS

From this evaluation study, the following are recommended, primarily for PCTs and smoking cessation services, although strategic health authorities and the Department of Health should consider the implications for research and performance management:

- Smoking cessation services should record basic demographic details, i.e. age, sex and postcode of all smokers who access the services, irrespective of whether a quit date was set. This will enable the services to be tailored to local needs and target specific groups of smokers who do not set quit dates.
- Detailed smoking behaviour at a regional level by sex, age and ward based deprivation index (e.g. IMD 2000) should be obtained by commissioning work from the General Household Survey and/or the Health Survey for England. This will provide additional local baseline data and enable smoking cessation services to address local need. Obtaining population practice data from each PCT may also be beneficial in estimating local baseline data.
- Further research and new approaches should be carried out to attract and maintain regular contact with greater numbers of smokers, especially males and young people who have high smoking rates. Organisations that use social marketing techniques should be commissioned to work with young people with the aim of increasing the numbers of quit dates set. Separate services for young people may increase the success rates of younger smokers.
- The reason why people set quit dates but are lost to follow up should be investigated. It is important to obtain detailed information about these specific groups of smokers so that the services are attractive to those in most need.
- The services are focusing their outcomes on a four week follow up period at the request of the Department of Health. However, the follow up period should be extended as four weeks may not be appropriate for heavily nicotine-dependent smokers, who may take longer to successfully quit smoking.

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- Research should be undertaken to understand the reasons why specific groups of people do not set quit dates, are not successful at quitting or are lost to follow up. Such research may consist of face-to-face interviews, focus groups or postal questionnaires.
  - A minimum core dataset should be developed across the North West region, which includes informative details such as 'How many cigarettes smoked? Does your partner smoke? Did your GP refer you or have you self-referred?' This core dataset should be structured so that analyses may be carried out at both local and regional levels. Therefore the data must be collated in the same format across the region.
  - This study should be considered as a baseline and repeated to establish if any changes that are implemented affect success rates, e.g. factors such as the discontinuation of the NRT voucher scheme and the introduction of NRT on NHS prescription and, any consequences resulting from the implementation of recommendations from this study.

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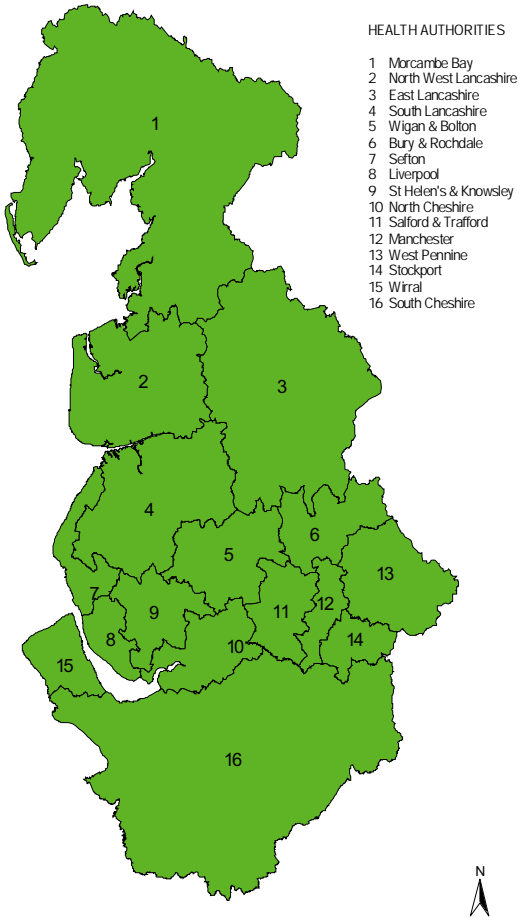
## SECTION 7 REFERENCES

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# APPENDIX A

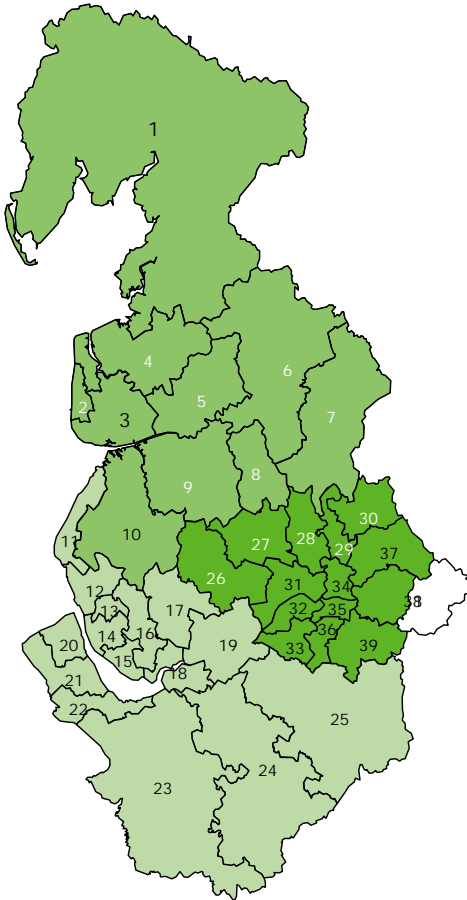
Figure A.1 Map of the North West region by health authorities.



# APPENDIX B

Figure A.2 Map of the North West region by strategic health authorities and Primary Care Trusts.

## Primary Care Trusts



- 1 Morecambe Bay
- 2 Blackpool
- 3 Fylde
- 4 Wyre
- 5 Preston
- 6 Hyndburn & Ribble Valley
- 7 Burnley, Pendle & Rossendale
- 8 Blackburn with Darwen
- 9 Chorley & South Ribble
- 10 West Lancashire

Cumbria & Lancashire

- 11 Southport & Formby
- 12 South Sefton
- 13 North Liverpool
- 14 Central Liverpool
- 15 South Liverpool
- 16 Knowsley
- 17 St Helens
- 18 Halton
- 19 Warrington
- 20 Birkenhead & Wallasey
- 21 Bebington & West Wirral
- 22 Ellesmere Port & Neston
- 23 Cheshire West
- 24 Central Cheshire
- 25 Eastern Cheshire

Cheshire & Merseyside

- 26 Ashton, Leigh & Wigan
- 27 Bolton
- 28 Bury
- 29 Heywood & Middleton
- 30 Rochdale
- 31 Salford
- 32 Trafford North
- 33 Trafford South
- 34 North Manchester
- 35 Central Manchester
- 36 South Manchester
- 37 Oldham
- 38 Tameside & Glossop
- 39 Stockport

Greater Manchester

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## APPENDIX A

### INDEX OF MULTIPLE DEPRIVATION 2000

The Index of Multiple Deprivation 2000 (IMD 2000) is a ward based index that was devised by a research team at the University of Oxford on behalf of the then Department for Environment, Transport and the Regions (DETR; now the Department for Transport, Local Government and the Regions). The IMD 2000 comprises six separate domains of deprivation, which are income, employment, health, education, housing and geographical access to services. A detailed account of how the IMD 2000 and each domain were constructed can be found in the Regeneration Research Summary, Number 31, 2000.<sup>12</sup>

For the IMD 2000, each ward in England (n=8,414) is assigned a rank, with the most deprived ward being ranked as 1 and the most advantaged ward ranked as 8,414. These are the national ranks. It is possible to extract wards within a particular area, i.e. North West region and re-rank the wards for local purposes. Therefore, in this study, all wards in the North West region were re-ranked from 1 through to 921. All analyses for this report used these regional ranks.

Once regional ranks had been calculated, data were categorised into quintiles. For example, the first 20% of wards based on their regional ranks (i.e. regional rank 1 through to 184) were categorised as the most deprived quintile (quintile level 5) whereas those wards with the highest regional ranks (i.e. regional rank 737 through to 921) were categorised as the most advantaged quintile (quintile level 1).

# APPENDIX B

## TABLES

Tables B.1 Numbers of smokers in the North West who accessed the services but did not set a quit date by age

	Age (years)				Total
	18-34	35-44	45-59	≥60	
Persons					
Accessed service	5,280	5,738	7,793	3,942	22,753
No date set	3,188	3,110	4,047	1,800	12,145
Males					
Accessed service	1,881	2,281	3,064	1,649	8,875
No date set	1,160	1,252	1,532	729	4,673
Females					
Accessed service	3,399	3,457	4,729	2,293	13,878
No date set	2,028	1,858	2,515	1,071	7,472

Table B.2 Numbers of smokers in the North West who accessed the services but did not set a quit date by deprivation

	Deprivation					Total
	1	2	3	4	5	
	Least				Most	
Persons						
Accessed service	685	1,611	3,807	5,587	11,063	22,753
No date set	370	731	1,886	2,535	6,623	12,145
Males						
Accessed service	296	716	1,572	2,199	4,092	8,875
No date set	156	322	772	994	2,429	4,673
Females						
Accessed service	389	895	2,235	3,388	6,971	13,878
No date set	214	409	1,114	1,541	4,194	7,472

**Table B.3** Numbers and proportions of people in the North West and smokers who set a quit date by age and deprivation (Jan 2000–Sept 2001)

a). Males

NW population		Age (years)									
		18 - 34		35 - 44		45 - 59		≥60		All ages	
Number (%)		756,670	%	463,696	%	589,206	%	557,621	%	2,367,193	%
Deprivation											
Least	1	84,136	11.1	59,572	12.8	89,897	15.3	81,638	14.6	315,243	13.3
	2	99,381	13.1	68,766	14.8	97,172	16.5	93,867	16.8	359,186	15.2
	3	158,319	20.9	102,539	22.1	134,464	22.8	124,321	22.3	519,643	22.0
	4	191,055	25.2	110,152	23.8	135,133	22.9	127,351	22.8	563,691	23.8
Most	5	223,779	29.6	122,667	26.5	132,540	22.5	130,444	23.4	609,430	25.7
Smokers who set quit date		Age (years)									
		18 - 34		35 - 44		45 - 59		≥60		All ages	
Number (%)		3,699	%	4,157	%	5,787	%	3,501	%	17,144	%
Deprivation											
Least	1	205	5.5	215	5.2	337	5.8	203	5.8	960	5.6
	2	359	9.7	485	11.7	670	11.6	457	13.1	1,971	11.5
	3	792	21.4	753	18.1	975	16.8	571	16.3	3,091	18.0
	4	861	23.3	933	22.4	1,416	24.5	851	24.3	4,061	23.7
Most	5	1,482	40.1	1,771	42.6	2,389	41.3	1,419	40.5	7,061	41.2
$\chi^2_{\text{trend}}$		44.43		101.93		190.36		98.98		304.56	
p-value		<0.001		<0.001		<0.001		<0.001		<0.001	

b). Females

NW population		Age (years)									
		18 - 34		35 - 44		45 - 59		≥60		All ages	
Number (%)		717,231	%	458,145	%	588,538	%	749,486	%	251,3400	%
Deprivation											
Least	1	80,176	11.2	61,303	13.4	92,497	15.7	105,654	14.1	339,630	13.5
	2	94,925	13.2	70,690	15.4	99,908	17.0	125,787	16.8	391,310	15.6
	3	153,379	21.4	103,186	22.5	135,905	23.1	169,498	22.6	561,968	22.4
	4	182,653	25.5	106,793	23.3	132,239	22.5	175,272	23.4	596,957	23.8
Most	5	206,098	28.7	116,173	25.4	127,989	21.7	173,275	23.1	623,535	24.8
Smokers who set quit date		Age (years)									
		18 - 34		35 - 44		45 - 59		≥60		All ages	
Number (%)		6,701	%	6,422	%	8,195	%	4,558	%	25,876	%
Deprivation											
Least	1	274	4.1	252	3.9	426	5.2	234	5.1	1,186	4.6
	2	575	8.6	621	9.7	901	11.0	479	10.5	2,576	10.0
	3	981	14.6	981	15.3	1,322	16.1	704	15.4	3,988	15.4
	4	1,548	23.1	1,455	22.7	1,870	22.8	1,108	24.3	5,981	23.1
Most	5	3,323	49.6	3,113	48.5	3,676	44.9	2,033	44.6	12,145	46.9
$\chi^2_{\text{trend}}$		286.03		329.37		525.26		222.26		1316.8	
p-value		<0.001		<0.001		<0.001		<0.001		<0.001	

**Table B.4** Number of smokers who set a quit date across the North West region and their status at four weeks, by sex and age (Jan 2000–Sept 2001)

	Age (years)				
	18-34	35-44	45-59	≥60	Total
	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)
<b>Persons</b>					
Set quit date	10,400	10,579	13,982	8,059	43,020
Successful <sup>T</sup>	4,563 (43.9)	4,870 (46.1)	7,007 (50.1)	4,434 (55.0)	20,874 (48.5)
Not successful <sup>TT</sup>	2,385 (22.9)	2,657 (25.1)	3,735 (26.7)	2,118 (26.3)	10,895 (25.3)
Not known/ lost to follow up <sup>TTT</sup>	3,452 (33.2)	3,052 (28.8)	3,240 (23.2)	1,507 (18.7)	11,251 (26.2)
<b>Males</b>					
Set quit date	3,699	4,157	5,787	3,501	17,144
Successful <sup>T</sup>	1,631 (44.1)	1,951 (46.9)	2,963 (51.2)	1,969 (56.2)	8,514 (49.7)
Not successful <sup>TT</sup>	779 (21.1)	966 (23.3)	1,442 (24.9)	887 (25.3)	4,074 (23.8)
Not known/ lost to follow up <sup>TTT</sup>	1,289 (34.8)	1,240 (29.8)	1,382 (23.9)	645 (18.5)	4,556 (26.5)
<b>Females</b>					
Set quit date	6,701	6,422	8,195	4,558	25,876
Successful <sup>T</sup>	2,932 (43.8)	2,919 (45.5)	4,044 (49.3)	2,465 (54.1)	12,360 (47.8)
Not successful <sup>TT</sup>	1,606 (24.0)	1,691 (26.3)	2,293 (28.0)	1,231 (27.0)	6,821 (26.4)
Not known/ lost to follow up <sup>TTT</sup>	2,163 (32.2)	1,812 (28.2)	1,858 (22.7)	862 (18.9)	6,695 (25.8)

At the four week follow up the number who were:

<sup>T</sup> Known to have successfully quit

<sup>TT</sup> Known to havenot successfully quit

<sup>TTT</sup> Not known/lost to follow up

**Table B.5** Number of smokers who set a quit date across the North West region and their status at four weeks, by sex and deprivation (Jan 2000–Sept 2001)

	Deprivation levels				
	Least			Most	
	1	2	3	4	5
	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)
<b>Persons</b>					
Set quit date	2,146	4,547	7,079	10,042	19,206
Successful <sup>I</sup>	997 (46.5)	2,133 (46.9)	3,510 (49.6)	4,819 (47.9)	9,415 (49.0)
Not successful <sup>II</sup>	541 (25.2)	1,320 (29.0)	1,926 (27.2)	2,860 (28.6)	4,248 (22.1)
Lost to follow up <sup>III</sup>	608 (28.3)	1,094 (24.1)	1,643 (23.2)	2,363 (23.5)	5,543 (28.9)
<b>Males</b>					
Set quit date	960	1,971	3,091	4,061	7,061
Successful <sup>I</sup>	454 (47.3)	957 (48.6)	1,535 (49.7)	1,985 (48.9)	3,583 (50.7)
Not successful <sup>II</sup>	213 (22.2)	511 (25.9)	799 (25.8)	1,111 (27.4)	1,440 (20.4)
Lost to follow up <sup>III</sup>	293 (30.5)	503 (25.5)	757 (24.5)	965 (23.7)	2,038 (28.9)
<b>Females</b>					
Set quit date	1,186	2,576	3,988	5,981	12,145
Successful <sup>I</sup>	543 (45.6)	1,176 (45.7)	1,975 (49.5)	2,834 (47.4)	5,832 (48.0)
Not successful <sup>II</sup>	328 (27.7)	809 (31.4)	1,127 (28.3)	1,749 (29.2)	2,808 (23.1)
Lost to follow up <sup>III</sup>	315 (26.6)	591 (22.9)	886 (22.2)	1,398 (23.4)	3,505 (28.9)

At the four week follow up the number who were:

<sup>I</sup> Known to have successfully quit

<sup>II</sup> Known to have not successfully quit

<sup>III</sup> Not known/lost to follow up

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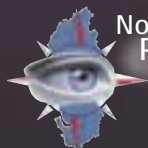
70 Great Crosshall Street  
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ISBN 1-902051-38-6

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July 2002

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North West  
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