Medway Smoking Health Equity Audit

1. Introduction and background

Smoking is one of the main causes of health inequalities in the UK and a key contributor to higher death rates in people from more deprived areas, as a greater proportion of people from more deprived areas smoke compared to their more affluent counterparts. Thirty-one per cent of manual workers smoke compared to eighteen per cent of people in managerial and professional positions (Office for National Statistics, 2005). In addition, health promotion aimed at reducing smoking rates is likely to have widened this gap as people from more affluent backgrounds are more likely to have quit smoking compared to their less affluent counterparts (National Institute for Health and Clinical Excellence, 2007).

In its public health white paper, Choosing Health (DH 2004), the government made a commitment to reduce tobacco consumption and smoking attributable deaths. The government's tobacco control programme consists of six strands, each of which will contribute to the overall reduction in smoking.

In July 2007, smoke free legislation was introduced in England, which outlawed smoking in enclosed public spaces. In the same year, the Cancer Reform Strategy (DH 2007) outlined the government's intention to consult on the further steps in tobacco control and the further regulation of tobacco products, and to consult with stakeholders on ways to reduce the harmful effects of smoking on health for people addicted to nicotine who are unable to quit completely.

More recent health policy has also focused on preventing ill health. Reducing smoking rates is one of the six key goals to staying healthy in High Quality Care for All (DH, 2008) and will be part of the national campaign Reduce your Risk, which will be launched in 2009.

2. Aims & Objectives

The health equity audit will describe equity of the NHS Stop Smoking Services in Kent & Medway, at a PCT/LA level, in terms of access and outcomes of the services in terms of smoking status at four-weeks to inform the future planning of these services.

Objectives

- To profile the equity of access to the services in Kent & Medway with respect to age, sex, ethnicity and deprivation

- To profile the settings and interventions used by the services in Kent & Medway with respect to age, sex and deprivation

All data used in the HEA relates to activity in the Medway Stop Smoking Service in 2007/08.

3. The Stop Smoking Service in Medway

Medway Stop Smoking Service provides a range of services across the area and most of the delivery is carried out by the core team.

Medway Stop Smoking Service has recently been divided in to an operational department and a projects department.
The operational team are responsible for delivering evidence based 7 week stop smoking courses, drop-in clinics, workplace courses, telephone support and include the financial and administrative part of the service
The projects department are responsible for the general practices, community pharmacies, military settings, acute settings, BME, community teams, pregnancy, young people, training, dental surgeries and prisons.
Service level agreements are in place to operate stop smoking enhanced services.

The service is delivered in over 15 languages and employs specialist Polish and Asian workers to deliver interventions to those communities.

Access to services in Medway is via referral from healthcare professionals/community health teams or self-referral by telephone, email or through the national helpline. Ongoing training is being undertaken to raise the profile of the service and encourage anyone who comes into contact with a smoker to refer.

The service also provides a comprehensive training programme at level 1 (brief advice and referral), level 2 (1-2-1 interventions) and level 3 (group interventions).

4. Smoking Prevalence in Medway

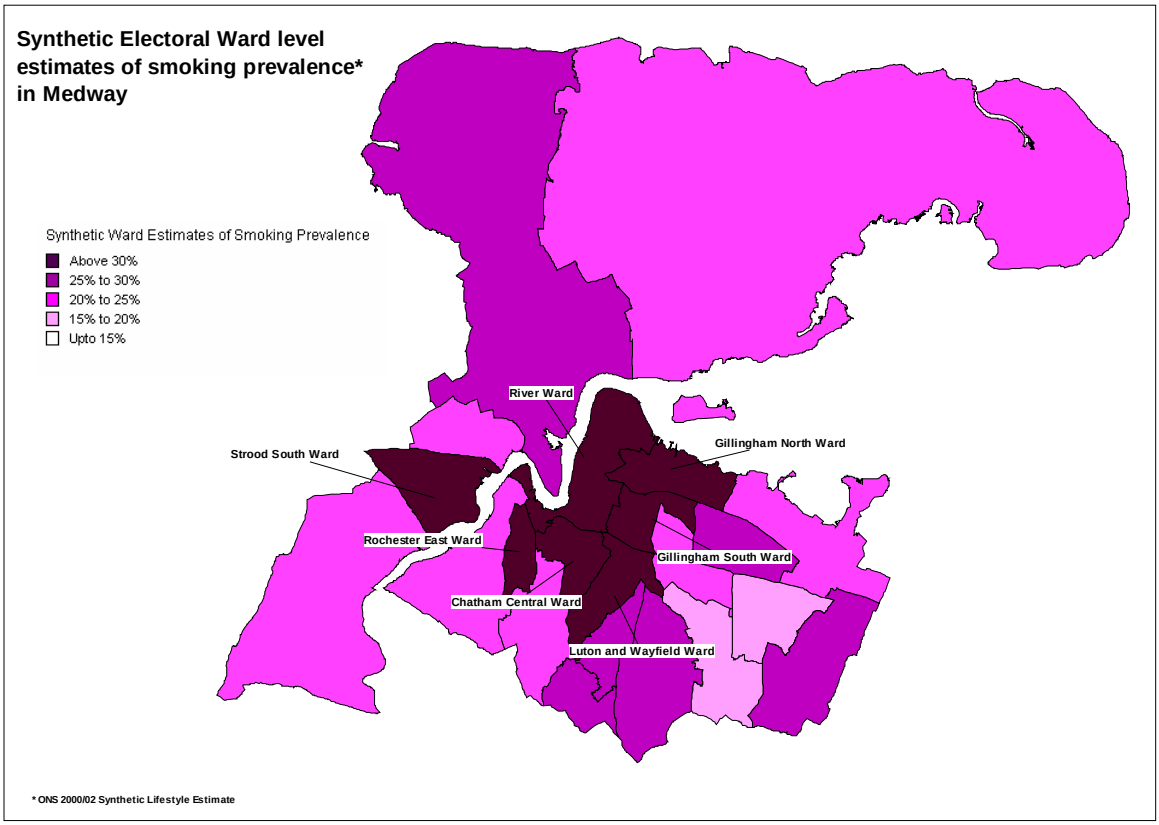
Synthetic estimates have been used to represent the prevalence of smoking in Kent & Medway by demographic factors. The estimated prevalence of smokers aged 16 and over, by electoral ward, was generated via a combination of statistical modelling techniques and synthetic estimation by the Office for National statistics using information collected from the Health Survey for England. These estimates also take account of the characteristics of the Medway area and regional effects.

The estimated prevalence of smokers by age, ethnicity and gender were based on published national statistics that were extrapolated to the Medway population.

a) Smoking prevalence by geographical area

The prevalence of smoking in Kent & Medway differs by as much as 34% across electoral wards, from a low of just 11% in Igtham in Tonbridge & Malling to as much as 45% in Stanhope in Ashford and Sheerness West in Swale.

The following map shows the local prevalence. The electoral wards with a prevalence of 30% or higher are labelled.



The range of smoking prevalence at electoral ward level in Medway is narrower than the two Kent PCTs. The lowest prevalence is in Hempstead and Wigmore at just over 16% whilst the highest is seen in Gillingham North at just over 36%. Of the 22 electoral wards to be found in Medway, there are 7 with a smoking prevalence greater than 30%.

From the map it can be seen that high smoking prevalence is centred around the urban areas of Strood, Chatham and Gillingham

b) Smoking prevalence by age and sex

The following text was taken from an Office for National Statistics report:

In 2002/03, 26 per cent of adults aged 16 and over in Great Britain were cigarette smokers - a slightly higher proportion of men (27 per cent) than women (25 per cent).

The proportion of adults who smoked was greatest among those aged 20 to 24 (37 per cent of men and 38 per cent of women). It then steadily declined with increasing age to 17 per cent of men and 14 per cent of women aged 60 and over.

Although, overall, a greater proportion of men than women smoke, this is not the case for young people aged 16 to 19. In 2002/03, 29 per cent of these young women were cigarette smokers compared with 22 per cent of young men.

The following table applies the percentages, derived from the ONS report above, to local populations to give an idea of the number of smokers in each PCT area.

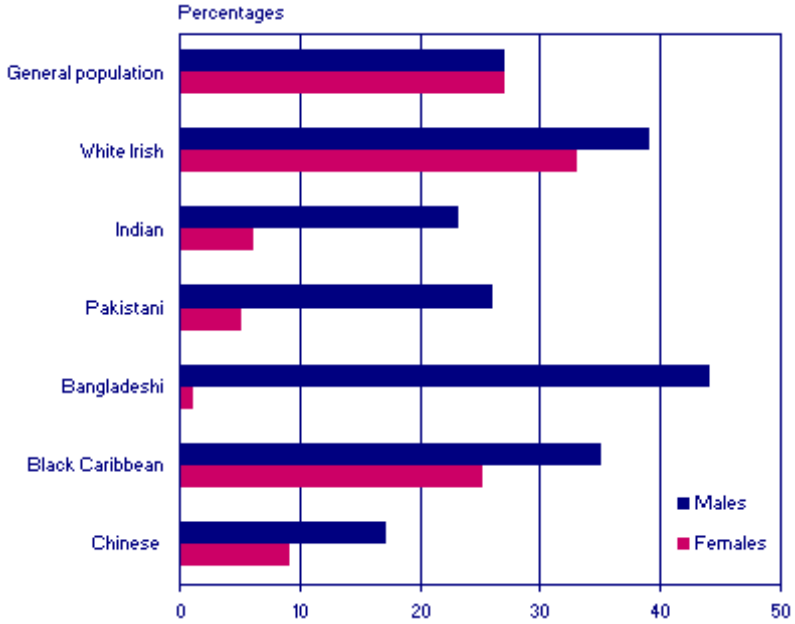
Estimated number of smokers by age and sex in Kent & Medway

	National Prevalence (%)		East Kent		West Kent		Medway	
	Male	Female	Male	Female	Male	Female	Male	Female
16-19	22%	29%	4474	5667	4006	4973	1651	2024
20-24	37%	38%	8578	8579	6285	6202	3119	3041
25-34	36%	32%	13530	12713	13681	12732	5669	5282
35-49	29%	27%	21332	20985	21992	21184	8298	7906
50-59	27%	24%	12073	11379	11304	10312	4183	3732
60+	17%	14%	13810	14109	11420	11484	3706	3679
All Ages	**27%**	**25%**	**73796**	**73433**	**68688**	**66887**	**26626**	**25663**

The total estimated number of smokers in Kent & Medway using the 2002/03 age and sex prevalence and applying it to a 2007 resident population is 335,093.

c) Smoking prevalence by ethnicity

The following graph and text are also taken from an Office for National Statistics report.



Current cigarette smoking: by ethnic group and sex, 1999, England - ONS

Bangladeshi men were the most likely group in England to smoke cigarettes (44 per cent in 1999), followed by White Irish (39 per cent) and Black Caribbean men (35 per cent). Men from each of these ethnic groups were more likely to smoke than men in the general population (27 per cent). Chinese men (17 per cent) were the least likely to smoke.

Similar proportions of Pakistani (26 per cent) and Indian (23 per cent) men smoked as in the general population.

Like men, White Irish and Black Caribbean women had the highest smoking rates in 1999 (33 per cent and 25 per cent respectively), although only White Irish women had a rate higher than the general population (27 per cent). However, unlike men, women in every other minority ethnic group were much less likely to smoke than women in the general population.

Patterns of cigarette smoking among the different ethnic groups remained the same after allowing for differences in their age structures.

The ethnic population of Medway is predominantly White (95%) however the are pockets of ethnic minorities, particularly asian ethnics in Chatham Central, Rochester South, Strood North and Gillingham South electoral wards. Given the high prevalence levels amongst asian men it is probable that a high number of male smokers will come from these areas.

d) Prevalence and Deprivation

The relationship between the prevalence of smoking and deprivation locally will be explored in greater detail in later sections, however it is worth noting the strong correlation between the two here.

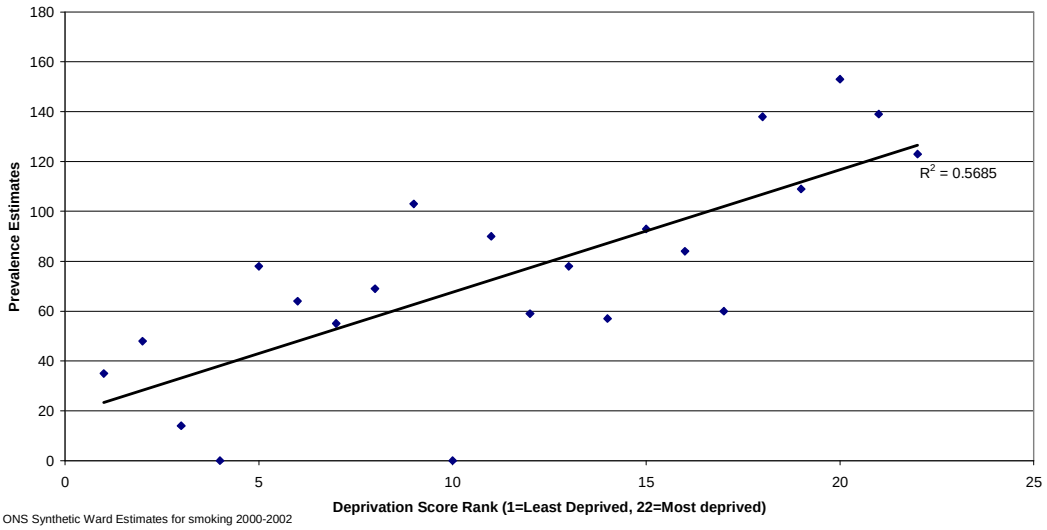
The relationship between the synthetic prevalence estimate for smoking and the Index of Multiple Deprivation 2007 score at electoral ward level can be measured using an appropriate statistic[1]

Using the statistic across Kent & Medway returns a value of 0.75 (values range from -1 to 1, a value of 1 indicates a perfect positive relationship between two sets of values). When the statistic is applied to just the electoral wards in Medway a value of 0.93 is are obtained. This value indicates a very strong relationship between prevalence and deprivation.

The following graph details the relationship between prevalence and deprivation at electoral ward level for each PCT area. Electoral wards have been ranked in order of deprivation where a rank of 1 represents the lowest level locally.

In the graph that follows the prevalence of smoking generally rises with the rise in levels of deprivation. The *'trendline'* helps to illustrate this.

Medway - Synthetic Smoking Prevalence Estimates* and IMD 2007 Score



* ONS Synthetic Ward Estimates for smoking 2000-2002

[1] Pearsons Product Moment Correlation Co-effecient

6. Stop Smoking Service Data Quality and Completeness

Overall data quality and completeness was good for Medway. The table shows that completeness across the fields required for this HEA was generally 99% or better.

Postcode completeness was less good at just 88% which means that any analysis on a geographical basis will not include 10% of the records. 1.6% of postcodes were also rejected as they were either incomplete or incorrectly entered.

Data Quality for Medway Stop Smoking Service

Field	Complete	Incomplete	Missing
Age	99.9%	0%	0.1%
Sex	99.9%	0%	0.1%
Ethnicity	99.5%	0.5%*	0%
Postcode	88%	1.6%	10.4%
Intervention	100%	0%	0%
Setting	100%	0%	0%

* Not Stated

7. Access – Results

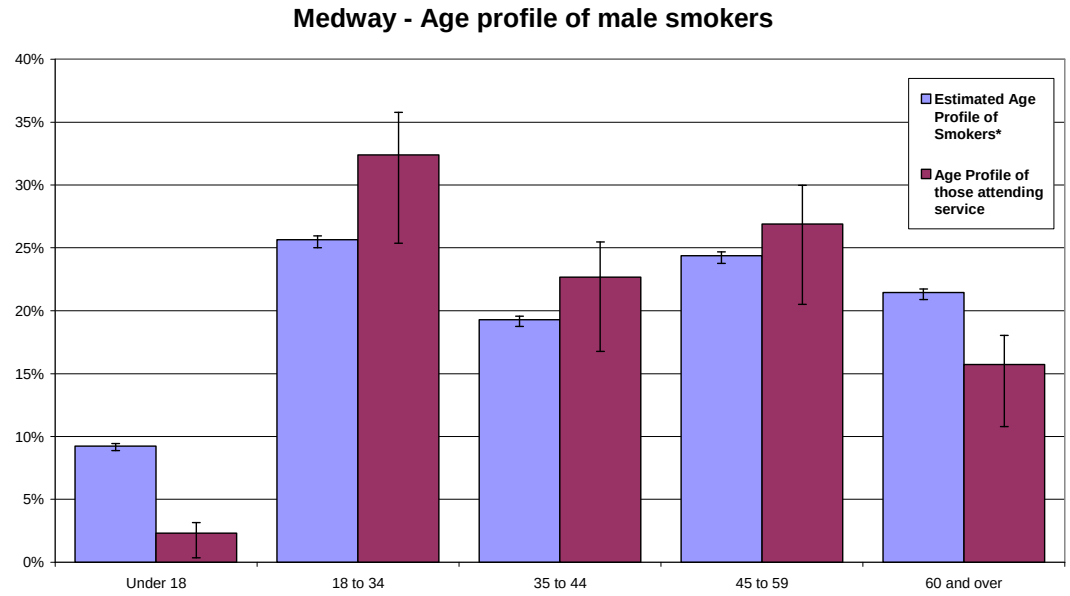
(Local Authority level results for access and outcomes can be found in the Appendix – Local Authority Results)

a) Age & Sex

The following details the age and sex of people who attend the three Stop Smoking Services across Kent & Medway.

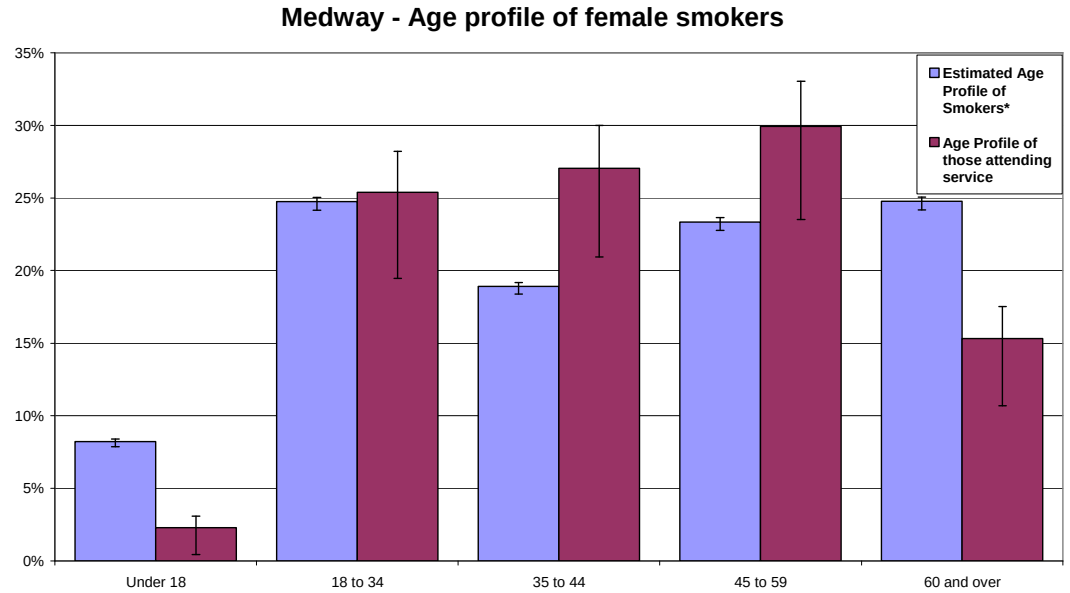
From the graph below the '*smoking age'* profile of the population in the PCT area has been compared to the age profile of those accessing the service.

The *'smoking age'* profile was obtained by taking smoking prevalence for each age group and applying it to the local PCT populations. By doing this it can be shown which age groups are not accessing services as much as might be expected. 95% confidence intervals have been added to highlight where the differences in the estimated and actual age profile may contribute to the service obtaining more people setting quits dates.



* estimates taken from British Heart Foundation

The Medway Stop Smoking Service is accessing the expected percentage of male smokers in the age ranges 19-359, but significantly fewer in the under 18 and over 60 age ranges



* estimates taken from British Heart Foundation

The profile for females is similar to males in that there is a significantly lower percentage of under 18 and over 60 smokers accessing the service. The percentage of 35-44 yr old females smokers who access the service is significantly higher than is anticipated.

b) Ethnicity

The ethnicity of people accessing the service, compared with the local population, is set out in the table below.

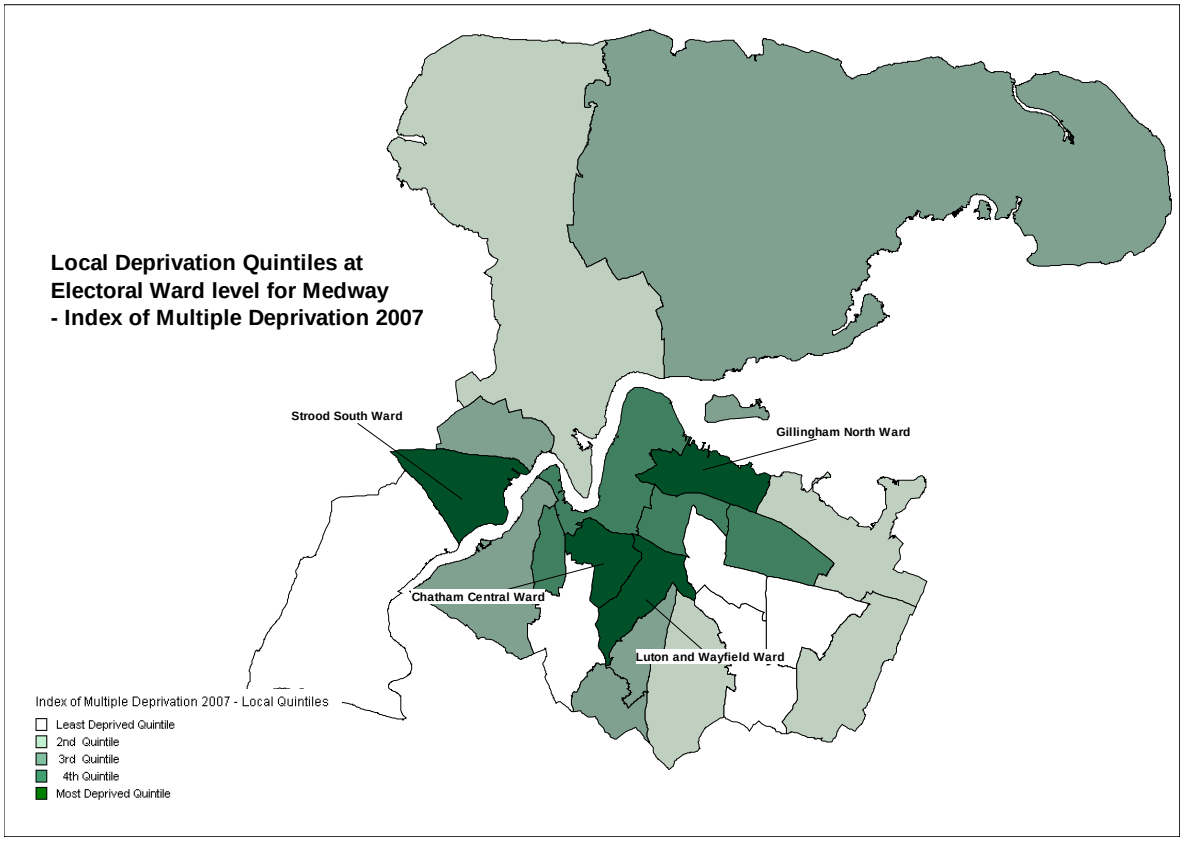
Ethnic distribution in Medway

Ethnicity	Service	Population
Asian or Asian British	1.1%	3.0%
Mixed	0.4%	1.1%
British	95.7%	92.6%
Black or Black British	0.3%	0.7%
White - Other	1.8%	2.0%
Any other ethnic group	0.2%	0.7%
Not Stated	0.5%	-

In Medway the ethnic distribution of people attending the service compares to the general population. However, the levels of ethnic minorities who access the service is lower than would be expected. Given the high prevalence of smoking in many ethnic male minorities higher levels of these groups would be expected.

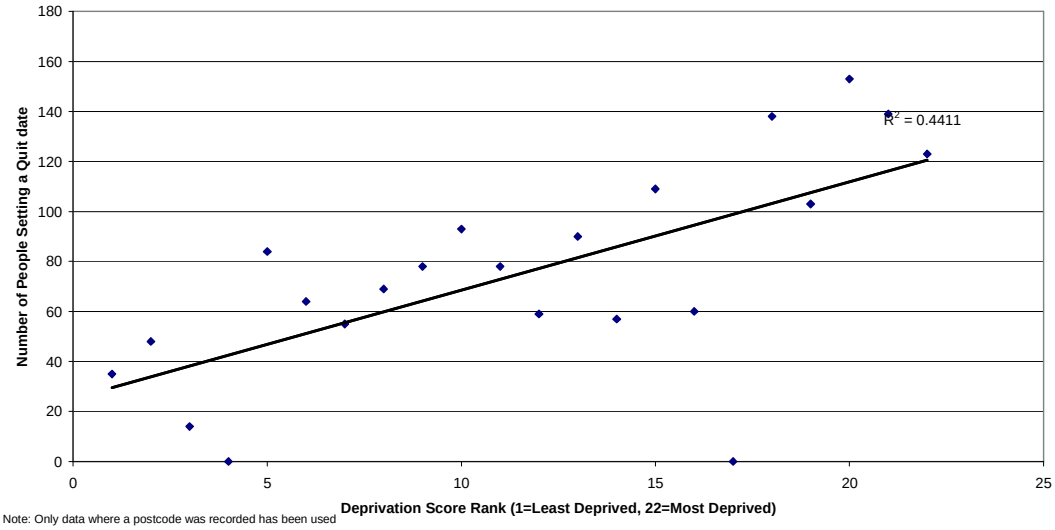
c) Deprivation and Access

It has already been shown, in the prevalence section of this equity audit, that there is a strong link between prevalence and deprivation. A deprivation map for Medway is presented below to assist in the interpretation of the subsequent analysis.



The graphs in this section explore whether or not the Stop Smoking Services in Medway are targeting their efforts at the more deprived populations in order to combat the high levels of prevalence that exist in those populations which in turn will lead to more people setting a quit date.

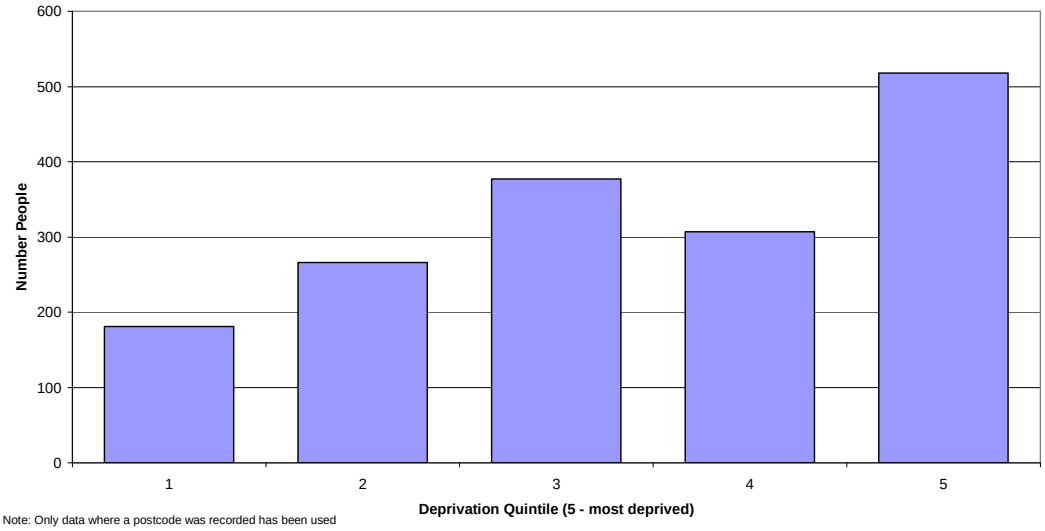
Medway - The number of people setting a quit date by IMD 2007 Score at Electoral Ward level



Note: Only data where a postcode was recorded has been used

The graphs for Medway show that the service is seeing more people from deprived areas than from the more affluent parts of Medway. Numbers of people attending the service from the second most deprived quintile appear to be lower than expected.

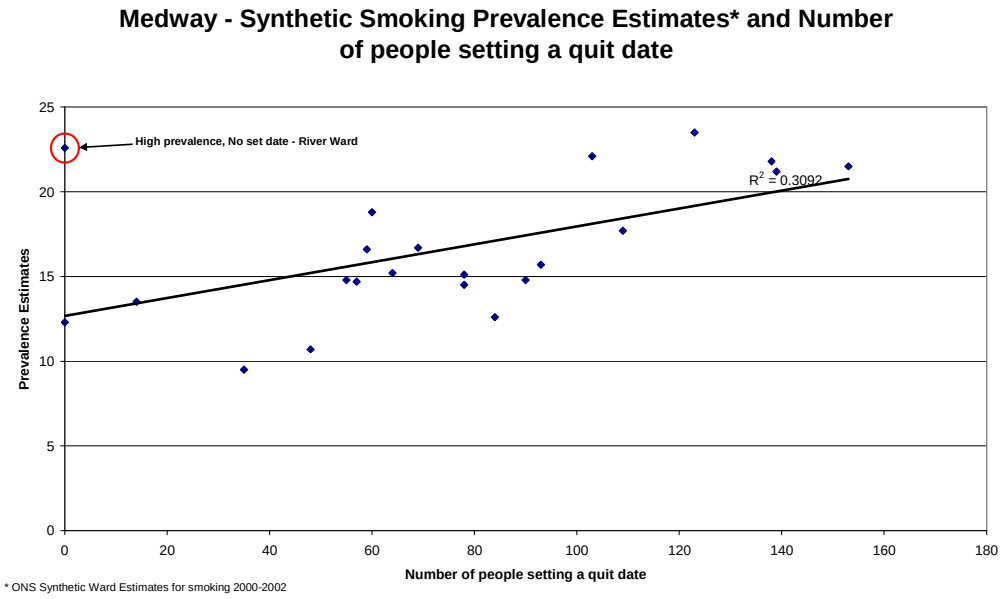
Medway - The number of people setting a quit date by deprivation quintile



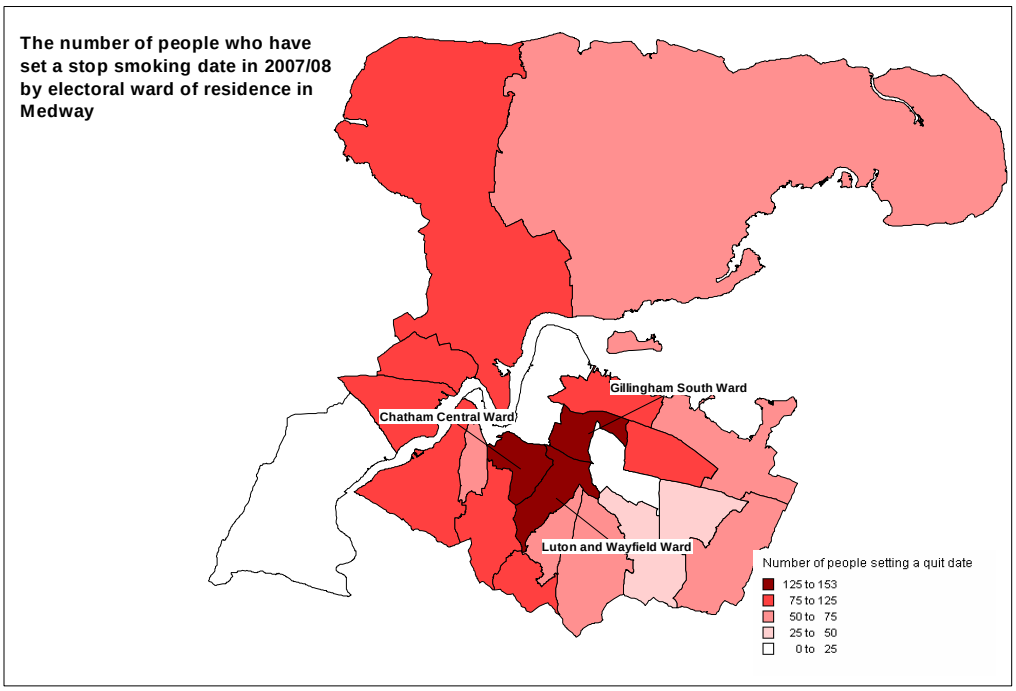
Note: Only data where a postcode was recorded has been used

d) Prevalence and Access

The same methodology for looking at deprivation and access has been used to analyse prevalence and access. Scatterplot graphs at electoral ward level for the PCT area shows that, in general, services are target in the areas of highest prevalence



The final map in this section shows the number of people who have set a '*stop smoking date'* in the PCT area.

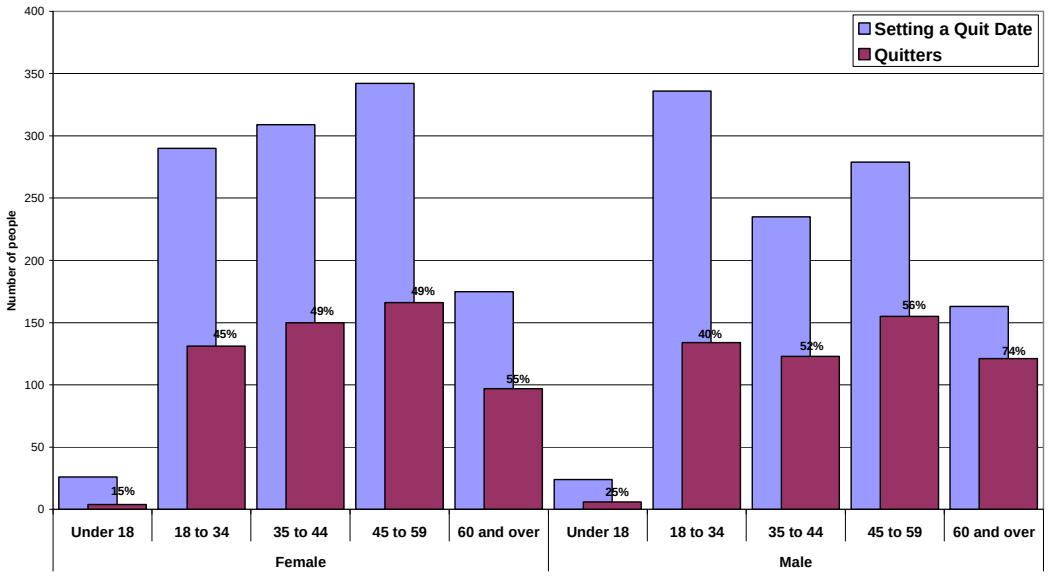


8. Outcomes – Results

a) Age & Sex

On the following graph the relative success of those who have set '*stop smoking dates'* and gone on to become a four week quitter is detailed. The percentage of those people who have successfully '*quit'* smoking at four weeks is also given.

Medway - Age & Sex Profile of People Attending the Service



Men (52%) in Medway were more likely to quit smoking than women (48%). The chances that people would quit smoking improved with age in both sexes. However, the success rate of men in the over 60s age bracket was much greater than that of women of the same age (74% to 55% respectively).

b) Ethnicity

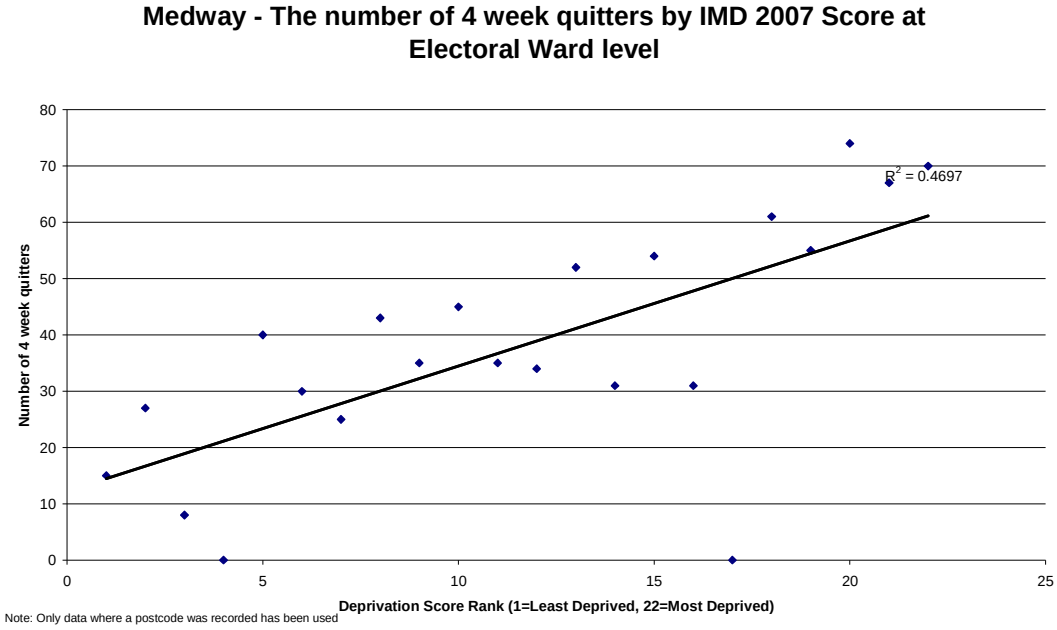
The quit rates of those setting a quit smoking date by ethnicity shows that ethnic minorities are less likely to stop smoking at four weeks. People from asian, mixed and black ethnicities have quit rates that are lower than 50%.

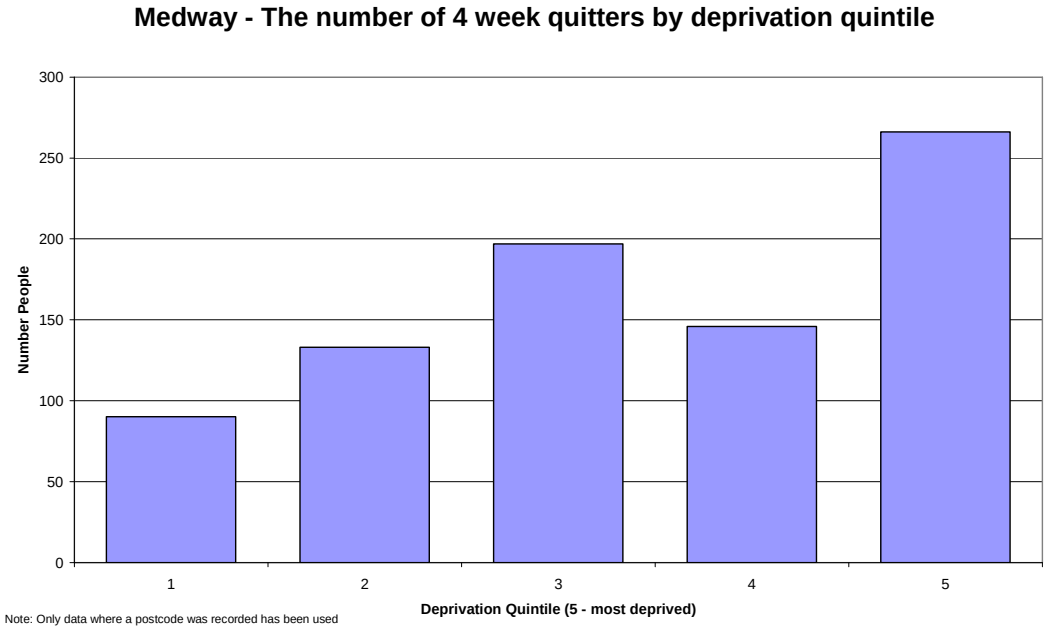
Percentage of Four Week Quitters by Ethnicity in Medway

Ethnic Group	Number & Percentage of People Setting a Quit Date	Quit Rate
White Other	39	64.1%
Any Other Ethnic Group	5	60.0%
White - British	2090	50.0%
Asian or Asian British	23	47.8%
Not Stated	11	45.5%
Mixed	8	25.0%
Black or Black British	7	0.0%

c) Deprivation and Outcomes

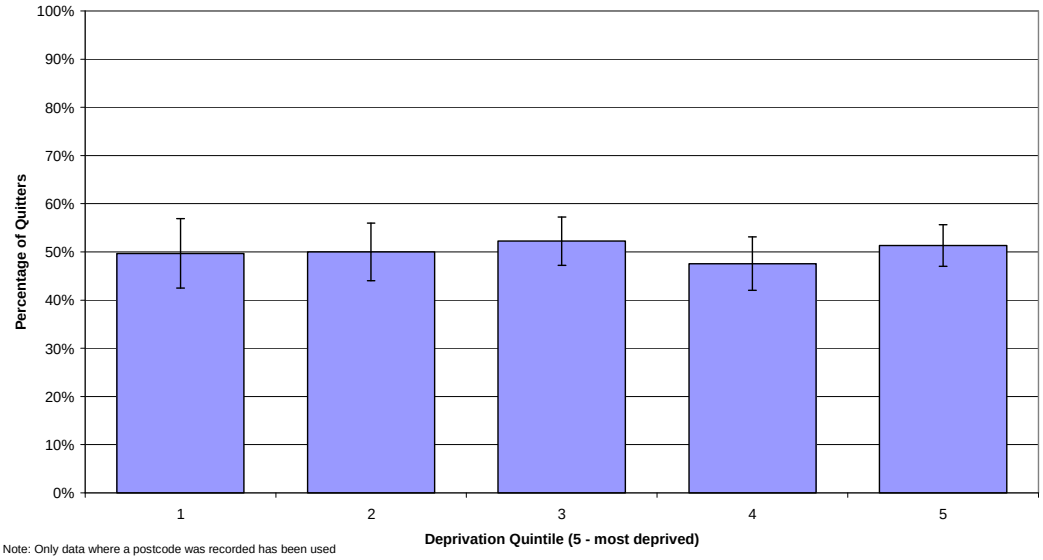
The relationship between the number of people setting a ‘stop smoking date’ and deprivation has already been demonstrated as it is therefore no surprise that this relationship continues when looking at the number of ‘quitters’. This is set out in the scatterplot and bar chart below.





The relative success of those who set a quit smoking date and then go on to become four week quitters in Medway is not related to deprivation. The graph below shows quit rates by deprivation quintile.

Medway - The Rate of 4 week quitters by deprivation quintile



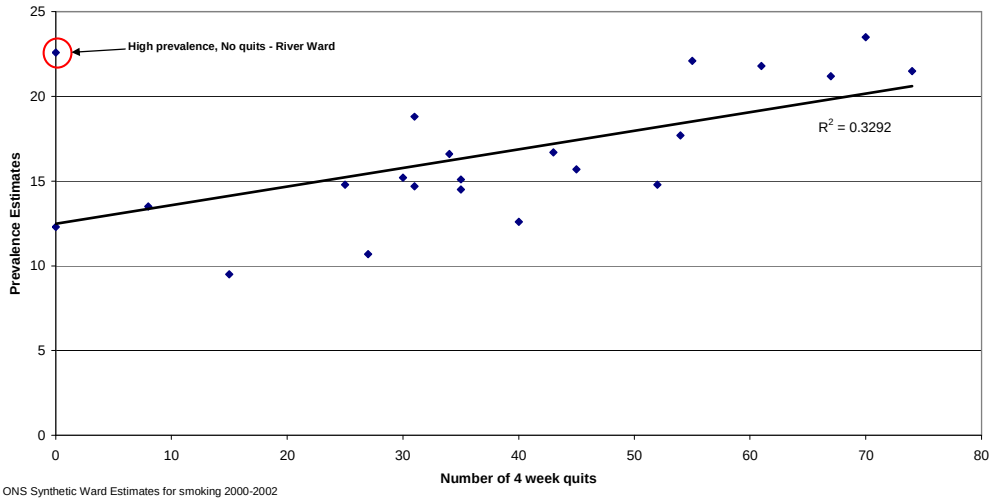
Note: Only data where a postcode was recorded has been used

The quit rates, by deprivation quintile, in west Kent range from 48% in the second most deprived quintile to 52% in the middle quintile. There are no significant differences in quit rates by deprivation in Medway.

d) Prevalence and Outcomes

As with deprivation, the relationship between smoking quitters and prevalence generally exhibits a positive relationship ie there are more quitters in areas with greater prevalence. This can be seen from the following scatterplot graph.

Medway - Synthetic Smoking Prevalence Estimates* and Number of 4 week quits

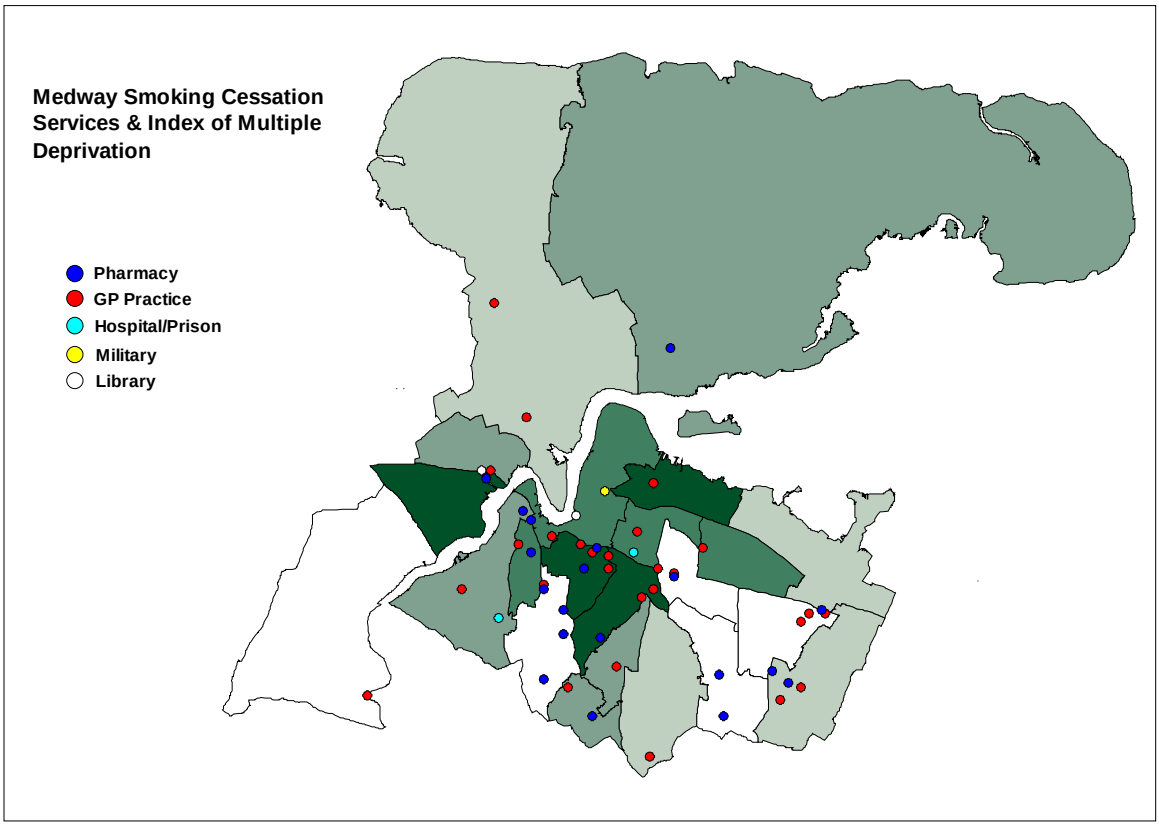


* ONS Synthetic Ward Estimates for smoking 2000-2002

River ward, an area of high prevalence (and deprivation), recorded no four week quitters in 2007/08.

e) Settings and Outcomes

The settings (where the smoking cessation service/advice was delivered from) for the Stop Smoking Service range from GP Practices, Pharmacies and In House/Core sessions to Prisons, Hospitals, Workplaces and Colleges. Other people accessed the service via the telephone or community groups. The locations of these Stop Smoking Services have been mapped and overlaid with local deprivation quintiles below.



Stop smoking services in Medway are well distributed although possibly limited in the Strood area where the services are clustered close to the river. Also there are no GP practices or pharmacies in River ward where there were no smoking quitters (see previous section on prevalence and quitters).

Numbers and Percentage of Quitters by Setting (only settings with more than 10 quitters included) by Age and Sex

		Community Groups		GP/L2		Pharmacy		Acute Service	
Gender	AgeGroup	Number of Quitters	Percentage of Quitters	Number of Quitters	Percentage of Quitters	Number of Quitters	Percentage of Quitters	Number of Quitters	Percentage of Quitters
Female	Under 18	2	18%	2	25%		0%		
	18 to 34	37	48%	51	44%	26	46%	7	47%
	35 to 44	62	56%	47	41%	20	41%	6	50%
	45 to 59	76	55%	44	41%	22	54%	12	34%
	60 and over	31	54%	31	49%	18	58%	12	67%
Female Total		**208**	**53%**	**175**	**42%**	**86**	**48%**	**37**	**46%**
Male	Under 18	2	29%	1	13%		0%	2	100%
	18 to 34	40	45%	27	29%	16	34%	3	43%
	35 to 44	46	51%	36	45%	24	59%	7	70%
	45 to 59	65	64%	40	39%	21	60%	17	68%
	60 and over	40	71%	42	78%	20	77%	11	61%
Male Total		**193**	**56%**	**146**	**43%**	**81**	**53%**	**40**	**65%**
Grand Total		**401**	**54%**	**321**	**43%**	**167**	**50%**	**77**	**54%**

		Army		Drop-in		Telephone Service		Prison	
Gender	AgeGroup	Number of Quitters	Percentage of Quitters	Number of Quitters	Percentage of Quitters	Number of Quitters	Percentage of Quitters	Number of Quitters	Percentage of Quitters
Female	Under 18								
	18 to 34	1	50%	3	43%	2	40%	1	100%
	35 to 44			4	67%	5	71%	2	100%
	45 to 59			7	100%	1	50%		0%
	60 and over			3	75%	2	100%		
Female Total		**1**	**50%**	**17**	**71%**	**10**	**63%**	**3**	**75%**
Male	Under 18	1	50%						0%
	18 to 34	37	59%	1	50%	2	100%	7	23%
	35 to 44	4	50%	2	100%	3	100%	1	100%
	45 to 59		0%	6	86%	4	80%		
	60 and over			4	100%	3	75%		
Male Total		**42**	**57%**	**13**	**87%**	**12**	**86%**	**8**	**24%**
Grand Total		**43**	**57%**	**30**	**77%**	**22**	**73%**	**11**	**30%**

There are a wide range of settings in Medway. The number of people who quit smoking by setting varies. Most people use either a community group or their GP to quit smoking, however the highest quit rates occur with Drop-In centres and via the telephone service, especially in males.

f) Intervention

The two main interventions that are used by the Stop Smoking Services in east Kent are groups and one-2-one. People who used groups to stop smoking had more success than those choosing one-2-one.

Number and Percentage of Quitters by Interventions by age and sex for Medway

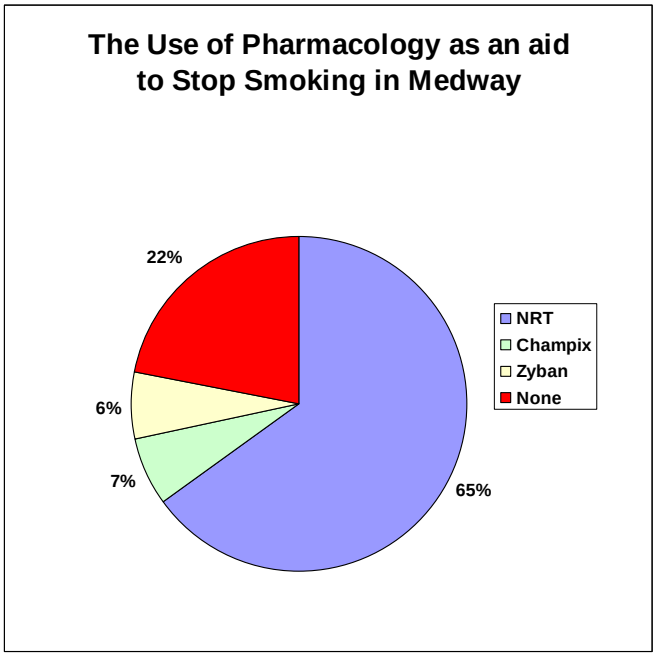
		Groups		One-2-One	
Gender	**AgeGroup**	**Number of Quits**	**Percentage of Quits**	**Number of Quits**	**Percentage of Quits**
Female	Under 18	2	12%	2	22%
	18 to 34	47	48%	84	44%
	35 to 44	71	56%	79	43%
	45 to 59	91	51%	75	46%
	60 and over	43	57%	54	54%
Female Total		**254**	**51%**	**294**	**45%**
Male	Under 18	5	42%	1	8%
	18 to 34	87	46%	47	32%
	35 to 44	58	53%	65	52%
	45 to 59	82	64%	73	48%
	60 and over	51	69%	70	79%
Male Total		**283**	**55%**	**256**	**49%**
Grand Total		**537**	**53%**	**550**	**47%**

The distribution of intervention choices is consistent across all ages and sex. Successful outcomes generally improve with age irrespective of intervention.

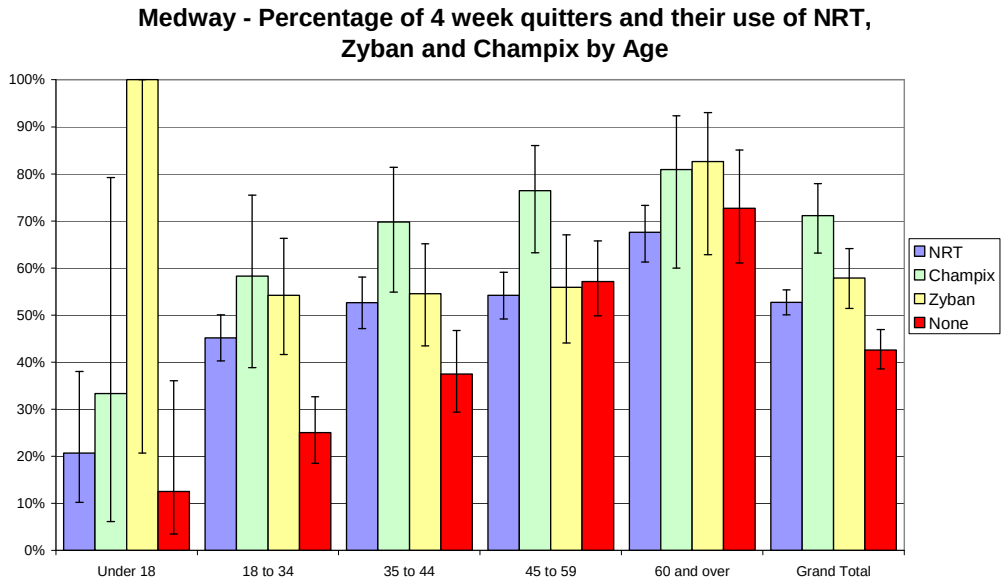
g) Use of Pharmacology - Outcomes

This section looks at the quit rates of people using different pharmaceuticals to help them to stop smoking. These split into the following: Nicotine Replacement Therapy (NRT), Zyban and Champix.

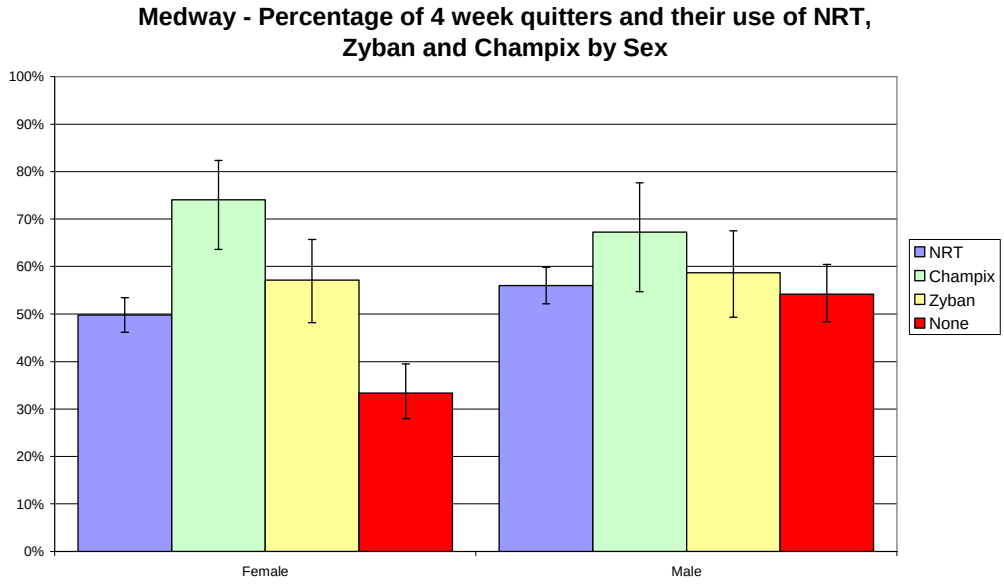
Nicotine Replacement Therapy was the most popular aid to quit smoking with 65% choosing this method, 22% of people opted for nothing at all.



The following graphs analyse these pharmaceuticals by age, sex and deprivation quintile.

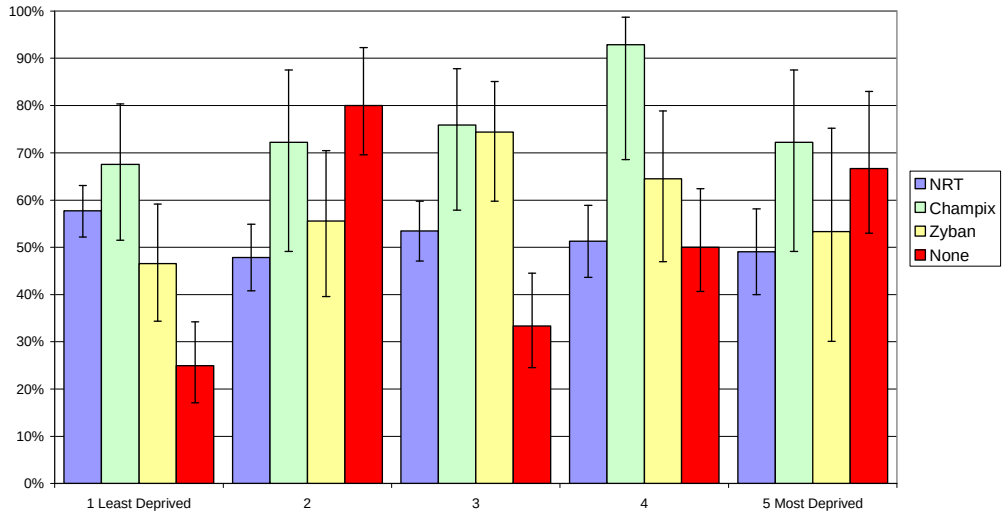


The use of Champix as an aid to stopping smoking produced the best results across all age ranges 18-59. The results for Zyban in the under 18 age range is based on just one case. The use of NRT, Champix or Zyban as an aid to stopping smoking gave significantly better results than no pharmacogical aid across all ages. Champix also gave significantly better resuls than NRT in the 34-44 yr old age group.



The success of those people who used either NRT, Champix and Zyban to stop smoking was similar across both males and females although Champix use was significantly better than NRT in females. Males were more likely to quit than females when no pharmaceutical was used.

Medway - Percentage of 4 week quitters and their use of NRT, Zyban and Champix by local deprivation quintile



The use of NRT, Champix or Zyban produced significantly better results than the use of no pharmaceuticals in the 20% least deprived and middle quintile areas. The use of Champix produced the best results across all areas except the second least deprived quintile where no pharmacological use was best.

9. Smoking in Pregnancy

The level of 'smoking in pregnancy' varies across Kent & Medway from 14% to 20% (PCT Vital Signs 'Smoking at Delivery' returns). The following table uses this information to derive an indication as to how many mothers to be, smoked in 07/08 and how many of those mothers accessed the Stop Smoking Services.

The number of mothers known to be smoking at the time of delivery (SATOD) and the number who accessed the service

Stop Smoking Service	Number of maternities	SATOD	Number known to have accessed service	Percentage Accessing Service	Percentage who quit
East Kent	7705	1503	176	11.7%	38%
West Kent	7903	1183	770	65.1%	60%
Medway	3437	639	41	6.4%	55%

The percentage of pregnant mothers, who smoke, accessing stop smoking services is far higher in west Kent than east Kent or Medway. West Kent also has the highest rate of pregnant women who go on to become four week quitters.

Analysis of the types of interventions pregnant smokers use shows no one method works any better than another. Most pregnant mothers opt for NRT or no pharmaceutical but the quit rates are very similar.

10. Conclusions

Prevalence is greatest in South Strood, River, Rochester East, Chatham Central, Gillingham North and South and Luton & Wayfield where it is greater than 30%.

There are high rates of prevalence in ethnic minority males who are found mostly in Chatham Central, Rochester South, Strood North and Gillingham South.

The numbers of ethnic minorities who access the service is low when compared to expected estimates.

Prevalence is very strongly associated with deprivation in Medway.

More people from deprived areas access the service than those from the less deprived areas.

Quit rates are not affected by deprivation.

Stop Smoking Service access is generally well distributed across Medway but maybe be limited in Strood South and River electoral wards (areas of high prevalence and deprivation).

People are more likely to quit smoking when using a group intervention.

Most people choose NRT as an aid to stopping smoking, the use of Champix produces better results especially in the 18-59 age range and the more deprived communities.

The number of pregnant women who access the service is very low.

11. Recommendations

Continue with equity audit cycle process to ensure best possible outcomes for stop smoking service in west Kent, this should include the use of a Mosaic analysis of people who set a stop smoking date and for those who go on to become 4 week quitters. This will enable the service to target their interventions to specific community groups.

Collect details on people who access the service but do not go on to set a quit date and include in future equity audit process.

Form a strategy on how to access ethnic communities, especially asian males.

Form a strategy to target under 18s and over 60s across both sexes.

Review access to stop smoking services in River ward.

Review strategy for accessing mothers to be that smoke.