



STOPPING'S
Hard

but it won't kill you!...

Evaluation of Young People's
Smoking Cessation
Programme



Liverpool John Moores University

Helen Lowey and Liz Gaulton

Evaluation of Young People's Smoking Cessation Programme

In Knowsley Primary Care Trust

Helen Lowey and Liz Gaulton

FOREWORD

It is well documented that smoking has a serious impact on people's health and is a major causative factor in poor health in later years. Smoking has justly been described as a public health disaster.

Nationally, and particularly in Knowsley, there has been great success in reducing the number of adult smokers via the NHS smoking cessation service. So successful has been this approach that the national target for 2003/04 is set to rise by 2.7 times its present rate. Unless we prevent more young people from becoming established smokers in adult life the detrimental health impact of tobacco will continue.

It is perhaps human nature for some young adults to experiment with readily accessible, socially acceptable yet harmful substances such as tobacco. However, accessible and appropriate messages relating to the facts associated with smoking and support to help young people explore the risks and hopefully quit smoking need to be available. As with all major public health challenges there is a need to approach the situation in an 'upstream' manner. In addition to the national programmes of work such as a ban on tobacco advertising and inclusion of smoking prevention as part of the school citizenship curriculum there is a need for a more targeted and individual approach, which is specific to the needs of children and young people.

There is currently little evidence that considers the impact of smoking cessation initiatives upon children and young people. This report goes some way to address the present dearth of literature in this area. The study demonstrates that the children and young people's smoking cessation programme within Knowsley is effective in supporting children to quit and reduce the number of cigarettes smoked.

It is hoped that the production of this report will attract further research thereby enabling additional evidence to be gathered around smoking prevention and cessation with children and young people.

Liz Gaulton
Public Health Specialist
Knowsley Primary Care Trust

Further enquires

Any comments or enquires regarding the content of this report should be made to:

Dr Helen Lowey
Centre for Public Health
Liverpool John Moores University
70 Great Crosshall Street
Liverpool
L3 2AB

Tel: +44 (0) 151 231 4477

Fax: +44 (0) 151 231 4320

Email: h.lowey@livjm.ac.uk

January 2003

ISBN 1-902051-43-2

© Liverpool John Moores University

Acknowledgements

We would like to thank the Children and Young People's Smoking Prevention and Cessation Steering Group for commissioning this work. We thank the smoking cessation advisors who provided the data and gave guidance in carrying out this study, in particular Pat Gibney, Lynn Saunders and Karen Woosey. Thanks should also go to the schools in Knowsley that support the programme and in particular the three schools that cooperated in the questionnaire component, St Thomas and Beckett, Higherside and Prescot High. We would also like to thank Diana Leighton, Karen Hughes, Penny Cook and the IT and administrative staff at the North West Public Health Observatory and the Centre for Public Health for their invaluable support.

CONTENTS

SECTION

SUMMARY AND RECOMMENDATIONS	01
1 INTRODUCTION	03
2 METHODS	10
3 RESULTS	12
4 DISCUSSION	18
5 SUMMARY	27
6 RECOMMENDATIONS	28
7 REFERENCES	29

Appendix

- School year and corresponding age (years)
 - Type of smoker given a carbon monoxide (CO) reading
-

SUMMARY

The reason why young people smoke is multi-factorial and complex. Factors such as family members, peers, teachers, school attainment levels and policy-related factors have been described as the most influential towards young people and smoking.

To increase awareness in children and young people of the risks associated with smoking and to reduce the number of smokers in this population, the Knowsley Children and Young Person's Smoking Cessation and Prevention Initiative was established in 2000. There are essentially two components to this initiative (i) prevention and (ii) smoking cessation programme. Specially trained cessation advisors visit secondary schools and deliver the cessation programme to young people during school hours.

This report has evaluated the smoking cessation programme using three approaches:

Analysis of the monitoring forms

Distribution of a self-completed questionnaire

Focus groups for young people who have attended the programme

To summarise,

- There is a higher smoking prevalence among young people in Knowsley PCT (13.7%) compared with the national average (10%), with most young people starting to smoke at age 11.
- Friends and peer pressure were considered to be the main influential factors for young people to start smoking; parents and siblings were not as influential. Despite young people knowing the health risks from smoking, they find it easy to start smoking and difficult to stop mainly because so many other people around them smoke. Also, the addictive nature of nicotine was found to make it more difficult for young people to stop smoking.
- The smoking cessation programme was successful in targeting its intended audience as smokers and older pupils were more likely to be aware of the programme compared with non-smokers and younger pupils respectively.
- Smoking prevention should be delivered to all years but concentrated towards the younger ages, whereas the smoking cessation aspect should be available to all pupils but focused towards older pupils.
- Those pupils who smoked more and had higher CO readings were more likely to be lost to follow up. The reasons for withdrawing from the programme included other school commitments or were unknown/not stated. The programme may need to expand in order to accommodate those pupils who cannot attend the current times.
- In total, 29% of smokers who completed the programme successfully quit smoking and 56% reduced the amount smoked. These findings were confirmed by the significant decrease in the CO reading.

-
- The regular use of the CO reading appeared to help motivate young people to reduce the number of cigarettes smoked and even stop smoking.
 - Confidentiality was a major reason for pupils not attending the cessation programme, especially in the older age groups. In order for the programme to be maximised, confidentiality cannot be compromised and local schools and Knowsley PCT need to work together to encourage young people to attend the programme.

RECOMMENDATIONS

- Sustained resources should be specifically allocated for smoking prevention and cessation among young people. This would ensure that there is a tailor-made service that meets the needs of young smokers.
- Local schools and service providers should continue to maintain close links in order for the programme to be successful. In order to reach the local and national targets as set out by Government it is essential that there is support and co-operation from local schools.
- Further research around environmental tobacco smoke, e.g. around the home, in schools, which incorporates the impact of peer pressure, should be carried out. This is because findings from this study suggest that young people want to stop smoking but find it difficult to do so, mainly because so many of their friends and family smoke.
- The programme should continue to specifically target young people. However, additional research should be carried out to target young males, especially because many stated that they wanted to quit but they did not attend the cessation services.
- The cessation programme should be expanded, in particular for those smokers who drop out because of other school commitments, so that more young people can attend the sessions. This may require that the programme be available outside of school hours and/or away from the school environment.
- Many young people appear to have benefited from the cessation programme, either by stopping smoking completely or by reducing the amount of cigarettes smoked each day. As such there is the potential for this programme to be replicated elsewhere.
- The monitoring forms should be developed further, whilst ensuring that client confidentiality is maintained, and data should be recorded electronically. This will enable additional analyses to be carried out on a regular basis. The structured forms could also be used as a guide for other service providers to follow thereby resulting in a regional minimum core dataset.
- Confidentiality was found to be a major concern for many young people. As such, both the schools and the service provider should work together to ensure that the confidentiality and anonymity of the programme is continually emphasised to young people.

SECTION 1 INTRODUCTION

Concern over the rise in the number of young people starting to smoke has been recognised in policy initiatives from the UK Government. In 1998 *Smoking Kills: A White Paper on Tobacco*¹ was published and identified young people as a priority, with the aim of reducing smoking among children from 13% to 9% or less by the year 2010 (with an interim target of 11% by the year 2005). It also proposed a comprehensive set of interventions for tackling tobacco and improving health such as:

- A £50 million anti-smoking campaign over the next three years
- A new criminal offence for shopkeepers who knowingly and repeatedly sell cigarettes to children under 16
- New rules for the positioning of cigarette vending machines so that they are not accessible to children
- The development of a proof of age card to stop children buying alcohol and cigarettes
- A ban on billboard and media advertising
- A continuation of yearly increases in cigarette tax.

A further initiative was the establishment of NHS smoking cessation services throughout England to help adults give up smoking. These services have been found to be effective at targeting adult smokers and are contributing to decreasing the gap in health inequalities between the least and most deprived areas². This focus and direction is valid as there are around 13 million adults who smoke cigarettes in the UK and there is a strong positive relationship between smoking and deprivation³. Given that over 80% of adult smokers started smoking as teenagers, then it can be expected that the increasing numbers of young people (aged under 16 years) who smoke will eventually feed through into adult smoking rates. Although from a public health approach prevention is better than cessation, the Government has recently set a target for 800,000 smokers to quit over a three year period, which is a 2.7 times increase on this year's target. It is therefore important to consider services that aim to help young people stop smoking, as reductions in this population will directly affect adult smoking rates. Knowsley Primary Care Trust (PCT) has put into practice a smoking prevention and cessation service, which takes both a population and high-risk approach. In this report, the proportion of young people who regularly smoke cigarettes⁴ and the impact smoking has on their health is presented together with an evaluation of the young people's smoking cessation programme in Knowsley PCT.

Smoking and young people

In the UK about 450 young people start smoking every day and on average 10% of young people aged between 11 and 15 years regularly smoke (9% of boys and 12% of girls)⁴ (figure 1.1). Although relatively few pupils are regular smokers when they begin secondary school (about 1% of 11 year olds) the likelihood of smoking increases with age, with most taking up the habit at age 13. It is estimated that nearly a quarter of 15 year olds are regular smokers, with consistently more girls (26%) being smokers than boys (21%) (figure 1.2). Overall, the proportion of smokers among young people continues to be higher among girls than boys. In addition to these regular smokers, approximately 5% of boys and 6% of girls smoke occasionally⁵.

Young people may not often realise the addictive nature of nicotine, probably because it is legal and so it is not perceived by many to be as harmful as illegal substances. However, because of the intensely addictive properties of nicotine, many young people quickly become 'hooked' and are classed as 'nicotine dependent'. Research has suggested that because young people's brains are still developing, they are more predisposed than adults to the addictive effects of nicotine. Young people also experience nicotine withdrawal symptoms similar to those observed in adult smokers and although young people do not always smoke a large quantity of cigarettes they often perceive that they are addicted to tobacco⁶. Previously, it was thought that young people needed to smoke over nine cigarettes a day to become addicted. However, a recent study by DiFranza and colleagues⁷ found that teenagers who smoked just two cigarettes per week showed signs of addiction.

Although two thirds of young smokers want to stop smoking and have tried, about half are dependent on nicotine and so find it difficult to quit the habit. Girls are more likely to try and stop smoking compared with boys (74% and 58% respectively)⁶. A recent survey found that over half (58%) of regular smokers aged 11-15 years would find it difficult to stop smoking for a week while over two thirds (72%) thought that they would find it difficult to give up smoking altogether⁸.

The younger a person is when they begin to smoke, the more likely they are to develop long-term nicotine addiction, have an increased chance of becoming a current smoker during adulthood and also to be heavier smokers in later life. As such, it is important that interventions are available both to prevent young people from smoking and to delay the onset of smoking, although it is often difficult to recruit teenagers into specific programmes⁹. However, it is acknowledged that the impact and success of cessation programmes for young people is difficult to measure.

^a A regular smoker is someone who smokes, on average, at least one cigarette per week.

Figure 1.1 Proportion of pupils aged between 11 and 15 who are regular smokers⁴

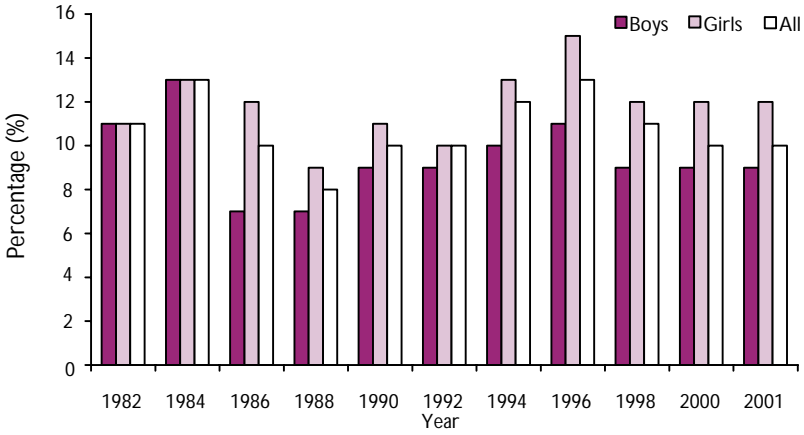
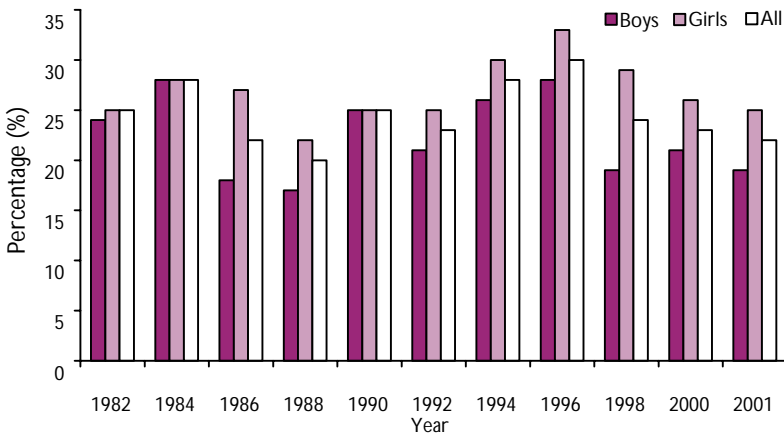


Figure 1.2 Proportion of pupils aged 15 who are regular smokers⁴



Influencing factors

The factors that influence smoking are complex and there is often no single cause. The most consistent findings that arise from research towards young people are the influences from:

- Family members, in particular parents and siblings
- Peers and teachers
- Policy-related factors, i.e. advertising and prices
- Levels of school attainment.

Family members, in particular parents and siblings

Evidence has found that young people are three times as likely to smoke if both of their parents smoke and nearly half (42%) of children in the UK are exposed to passive smoke at home¹⁰. These children are also more likely to come from disadvantaged rather than affluent homes (54% and 18% respectively). The smoking habits of an older sibling also influence whether or not a younger person smokes. In fact, young people are four times more likely to be a regular smoker if their sibling smokes compared with those people whose siblings do not smoke⁸.

Peers and teachers

The effect of peer smoking becomes more significant with increasing age¹¹ and children are more likely to experiment with cigarettes if they are in a class with a high proportion of smokers¹². It is important that young people receive clear and consistent messages, especially in the school environment. It has been suggested that they require a non-smoking environment within the school and non-smoking role models from the teachers¹³.

Levels of school attainment

Levels of school attainment influence the smoking behaviour of young people; the lower the level of school achievement, the increased chance of tobacco use⁹.

Policy-related factors, i.e. advertising and prices

Tobacco advertising is a very serious issue for all concerned, but especially so for young people. It is widely acknowledged that cigarette advertising increases the risk of young people smoking and that the most heavily promoted brands are the most popular with this population⁸. The Tobacco Advertising and Promotion Bill¹⁴ has recently been introduced and includes proposed legislation to ban billboard, press and Internet advertising of tobacco and to end sponsorship of sporting and other events by tobacco companies. Both initiatives should directly affect smoking among young people.

Increased prices and legislation on under age sales of cigarettes (i.e. it is illegal to sell any tobacco products to young people under the age of 16 through the Children and Young Person (Protection from Tobacco) Act 1991¹⁵), are further ways in which young people are deterred from smoking. However, despite these tactics, many young people still become addicted to tobacco.

The health effects of smoking have been included in the National Curriculum of most primary and secondary schools for many years. Although smoking rates have not been found to decrease as a result of the anti-smoking education alone, they do help to empower young people and may postpone the initiation of smoking⁹. Further deterrence can be provided through a 'no-smoking policy' for schools.

Health and smoking

In the UK, about 120,000 people die from a smoking related disease every year, which equates to about 13 people dying every hour¹⁶. It has been estimated that on average, out of 1,000 young people who carry on smoking, half will eventually die prematurely because of smoking¹⁷. Not only does smoking cause mortality, it is also a major cause of morbidity. Young people who smoke cigarettes experience asthma and respiratory problems to a greater extent than non-smokers. They also suffer poorer health, have more school absences and are less fit¹⁷.

Despite the vast array of health warnings that are available with regard to smoking, many people still underestimate the health risks of smoking and the effects of passive smoking and often, young people do not perceive health to be important¹⁸. These perceptions are likely to occur because it can be many years before the serious consequences of smoking become evident. There is no sudden ill-health when one cigarette is smoked but the fatal diseases that develop as a result of smoking have long latent periods and thus young people do not always see the direct link between smoking and ill-health.

By incorporating a wide range of initiatives, such as tax increases, youth-orientated mass media campaigns, enforcement of minors' access laws, and school-based smoking policies, it is possible to reduce the numbers of teenage smokers. The evidence suggests however that to have an impact on the public health of a population, a more direct approach is needed⁹.

Information is limited around the success of cessation programmes for young people. It is often more difficult for young people to access the NHS smoking cessation services, partly because the services are targeted towards adults, sometimes during school hours, and partly because young people have concerns around confidentiality within the services. Furthermore, because the current NHS cessation services do not specifically target young people, they are less likely to address the needs of this population. Knowsley PCT has recognised this shortfall and has delivered a school-based smoking cessation programme as part of a broader and larger prevention programme that is specifically designed for young people.

Knowsley PCT initiative: Young people's smoking cessation and prevention programme

In November 2000, the Knowsley Children and Young Person's Smoking Cessation and Prevention Initiative commenced. The aims of this initiative are:

- To increase awareness in children and young people of the risks associated with smoking and the need to make healthy lifestyle choices.
- To reduce the number of children and young people who smoke. The long-term objective is to reduce morbidity and premature mortality of smoking related diseases for Knowsley residents.

Further details of how this service was established can be found in the initiative's Activity Report, January-December 2001¹⁹.

The initiative is delivered in schools by specially trained advisors and addresses smoking prevention in addition to cessation. The advisors are from outside the school, which is an important component of the programme as this is the preferred approach by young people²⁰. A flexible approach has been adopted in which young people are educated about smoking related matters in order to encourage and help them to stop smoking and to enable them to make informed choices throughout their lives.

The perceived benefits of the programme to young people are as follows:

- Increased knowledge regarding smoking and other health issues
- The ability to make a more informed choice regarding smoking both now and in the future
- Further discussion of the topics raised outside the group
- Greater confidence and ability to say 'no'.

This report is evaluating the smoking cessation programme component of the overall initiative. Therefore, an outline of the cessation programme is provided.

The Smoking Cessation Programme

Smoking cessation programmes have been established within secondary schools across Knowsley PCT (11 schools are currently involved) and all young people who smoke are encouraged to attend. The cessation programme in general, follows a specific and structured format, although the programmes are adapted to the needs of each school and therefore the guidelines may change slightly depending on the individual school's needs and requests.

The outline of the programme, which usually runs for 6 sessions with each session lasting for approximately one hour, is as follows (as taken from the Activity Report 2001¹⁹):

1. In the first session assessments are carried out on a one-to-one basis within the group, which includes motivation and desired outcomes. Monitoring forms are completed by the young people during this session.
2. The remaining five sessions discuss, in a group environment, topics such as the content of cigarettes, why people smoke and why people want to stop, and withdrawal symptoms.
3. The last session, follow up, is carried out when young people have attended at least six sessions and is on a one-to-one level. A second monitoring form is completed by the young person during this session

Purpose of the Evaluation Study

It is unknown whether the young people's smoking cessation programme is accessible and attractive to its target population and whether this programme is having any impact on reducing the number of young people who smoke. This evaluation study aims to establish whether the Knowsley PCT smoking cessation programme for young people is making a significant contribution to impacting on the smoking status and number of cigarettes smoked by young people, hence making a significant contribution to morbidity and mortality from smoking related diseases.

SECTION 2 METHODS

To evaluate the young people's smoking cessation programme in Knowsley PCT three methods were employed and are as follows:

- Analysis of the monitoring forms that are completed by young people at the start and the end of the smoking cessation programme
- Development and distribution of a self-completed questionnaire for young people who attend schools in the Knowsley area
- Focus groups for young people who used the services (a group that had successfully quit and a group that had not)

Ethical approval was sought prior to commencing the study and was granted by St Helens and Knowsley Local Research Ethics Committee (July 2002). Each school that has an established smoking cessation programme for young people was approached and asked to take part in the study. From those that agreed, three schools were randomly selected. For the self-completed questionnaire and focus group components, all participants were given a written information sheet explaining the research project and they were asked to complete a consent form. A consent form was also sent to each parent/guardian of the young person who was willing to take part in the questionnaire. Only one parent and one young person refused to take part.

Analysis of monitoring forms

Each school collects and records information about young people who attend the programme through monitoring forms. There are two monitoring forms that are used throughout the programme which are completed by each young person with the help of the cessation advisors. One form is completed during the initial session whereas the second is completed during the final session (referred to as follow up). These forms contain a number of different elements including age, sex, school year, number of people who set a quit date and their success at the end of the programme. For this evaluation study, all data from the paper records were input, in an anonymised format, onto a computer system using SPSS®. All young people who accessed the smoking cessation programme between January and June 2002 (6 month period) in the selected schools were included in the study.

Analyses were carried out to determine the sex, age and ethnic origin of young people who attended the programme. After completing the course, there were three groups of young people that could be identified (i) those who had successfully quit smoking, (ii) those who had reduced the number of cigarettes smoked and (iii) those who had obtained advice and information from the services.

Self-completed questionnaire

A pilot study was carried out to validate and assess the feasibility of the questionnaire, and reveal where revisions were required. A small number of young people (n=15) who lived outside the Knowsley PCT area were asked to participate in the pilot study. Overall, the responses were positive and appropriate suggestions were incorporated into the final questionnaire.

Young people (school year 7-11; age 11-16) were randomly asked to complete the questionnaires in exam-like conditions during school time. Out of all of the young people asked, only one child refused to take part in the study. Data from the questionnaires were input and analysed using SPSS®.

Focus group

Focus groups were carried out to further explore and explain the findings from the quantitative study. The advantage of incorporating focus groups are to enable additional ideas and information to be explored regarding the implementation of the smoking cessation programme without the researcher imposing their own judgments. Thus, young people can raise issues that may not have otherwise been foreseen. From one of the selected schools that had participated in the questionnaire study, eleven students were randomly asked to take part in a focus group; five students who had successfully quit smoking and six who had not. Possible reasons for the outcome were explored, in addition to what factors influence young people to start and stop smoking.

The young people were asked to sign a consent form before the focus groups started. The interview was tape recorded although names were not recorded so that confidentiality and anonymity were maintained as far as was reasonably possible. The areas of interest that were discussed were the individual's smoking habits, the importance of the services, the strengths and weaknesses of the services and ways in which the services may be improved. The findings from this qualitative piece of research are included in the discussion.

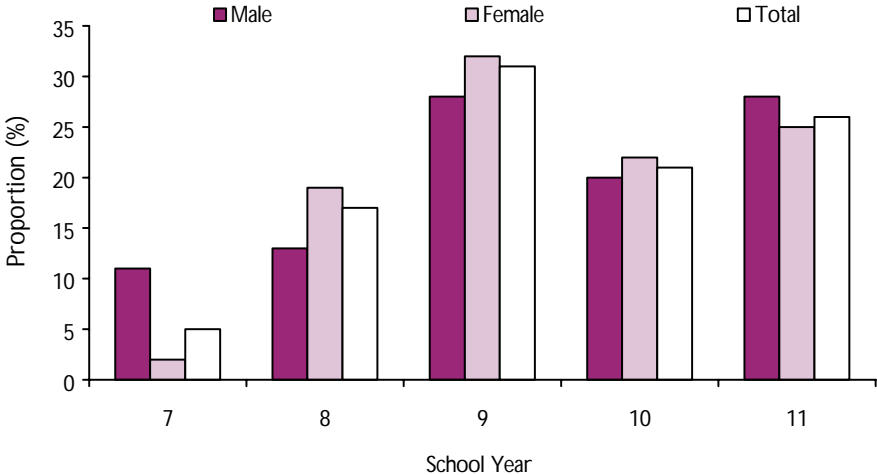
SECTION 3 RESULTS

Analysis of monitoring forms

In total, 117 students attended^b the Knowsley smoking cessation programme during the study period, of whom 40% were males. No student stated that they were pregnant and of those who answered the ethnicity question (n=75), all classified themselves as White British.

Figure 3.1 displays the distribution of young people who attended the programme by school year. It can be seen that very few students in Year 7 (5%) attended and that overall, the highest proportion of attendees occurred in Year 9 (31%). Nearly half (42.7%) said that their parents knew that they smoked (35% males and 65% females). The median number of cigarettes smoked per day was 6 (range 1-50) and the median carbon monoxide (CO)^c reading was 7 (range 0-34). (Refer to appendix for further details).

Figure 3.1 Distribution of attendees at the smoking cessation programme across the school years (January – June 2002).

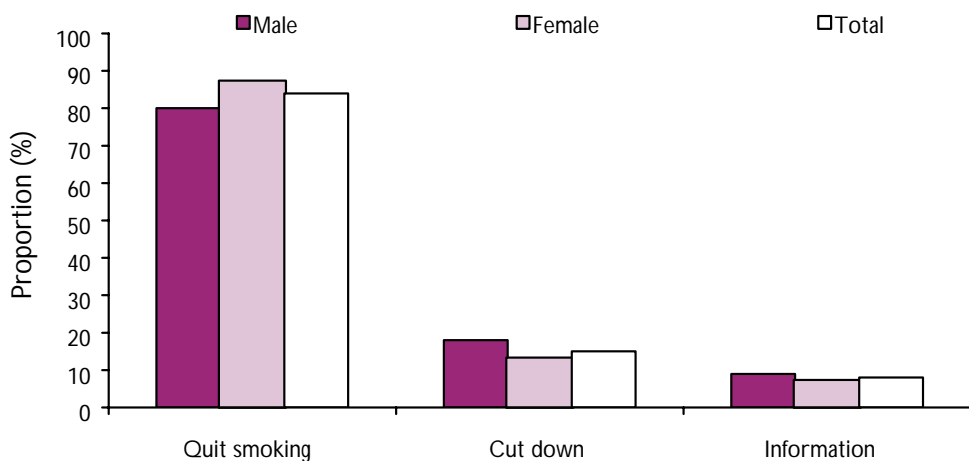


^b Attended at least one session of the cessation programme

^c CO increases with the number of cigarettes smoked (Appendix)

The majority of young people who attended the programme did so with the desire to stop smoking altogether^d; 80% of males stated that they want to give up smoking compared with 87% of females (figure 3.2). A small proportion would have liked to cut down on the number of cigarettes they smoked (18% males and 13% females) and a smaller proportion wanted to obtain advice/information from the programme (9% of males and 7% of females). Overall, 83% of students were receiving support, which was mainly from friends. A slightly higher proportion of females received support (87%) compared with males (77%) although the results were not statistically significant ($p=0.17$).

Figure 3.2 Desired outcome of young people at the beginning of the smoking cessation programme (January – June 2002).



The median number of sessions attended by the young people was 5 (range 1-10). At follow up, which is usually after 6 sessions, two thirds of the students attended (61% males and 71% females). Reasons for not attending the programme included 'other school commitments' and 'unknown/not stated'.

Of those pupils who did not complete the programme 47% ($n=18$) were males and 53% ($n=20$) were females. Overall, 90% of pupils who completed the programme also received support from other people outside of the group compared with 60% for those who did not complete the programme. In general, with advanced age the proportion of young people who were not followed up also increased (table 3.1).

^d Some students stated more than one reason for attending the programme

Table 3.1 Follow up status of young people who attended the cessation programme

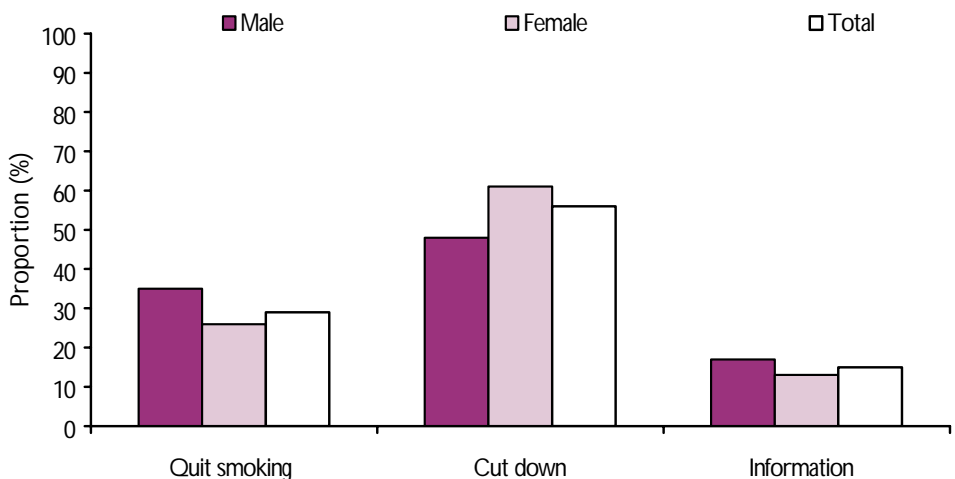
Follow up completed:	School Year					Total
	7	8	9	10	11	
Yes	57.1 (4)	78.9 (15)	91.2 (31)	54.2 (13)	43.3 (13)	65 (76)
No	42.9 (3)	21.1 (4)	8.8 (3)	45.8 (11)	56.7 (17)	35 (38)
Total	7	19	34	24	30	114 ^e

It was observed that those students who did not complete the programme smoked more cigarettes per day and had a higher CO reading at the beginning compared with those who were followed up, although the results were not statistically significant ($p=0.36$).

Figure 3.3 displays the smoking status of young people at the end of the programme, of whom nearly a third had quit smoking altogether (29%) and over half (56%) had cut down on the daily number of cigarettes smoked. Although fewer than 10% of students had required information at the beginning of the programme, this proportion rose to 15% by the end.

The decrease in the number of cigarettes smoked from the beginning of the programme to end was significant (paired $p<0.001$); from an average of 8.59 per day (range: 2-20) to 3.83 per day (1-10). To confirm the decreased quantity of cigarettes smoked, 74 students had a CO reading at both the beginning and end of the programme. It was found that the CO reading was significantly lower at the end of the programme compared with initial readings (paired $p=0.008$).

Figure 3.3 The final outcome of smoking status of young people at the end of the programme (January – June 2002).



^e3 Pupils did not state their school year

Self-completed questionnaire

In total, 665 pupils completed the questionnaire. The characteristics of pupils from each school are similar and therefore all results within this report are presented in a combined format. The baseline characteristics are as follows:

- 48.0% Males
- 98.9% White British
- 95.3% Have siblings

Smoking habits

Overall, 13.7% of young people smoke cigarettes (8.8% boys and 18.3% girls) and the average age to start smoking is 11. It can be seen from figure 3.4 that those young people in years 7 and 8 have the lowest proportion of smokers whereas school years 9 and 10 have the greatest proportion of male and female smokers respectively. In each school year there are a higher proportion of females than males who smoke cigarettes (figure 3.4).

Figure 3.4 Proportion of young people who smoke

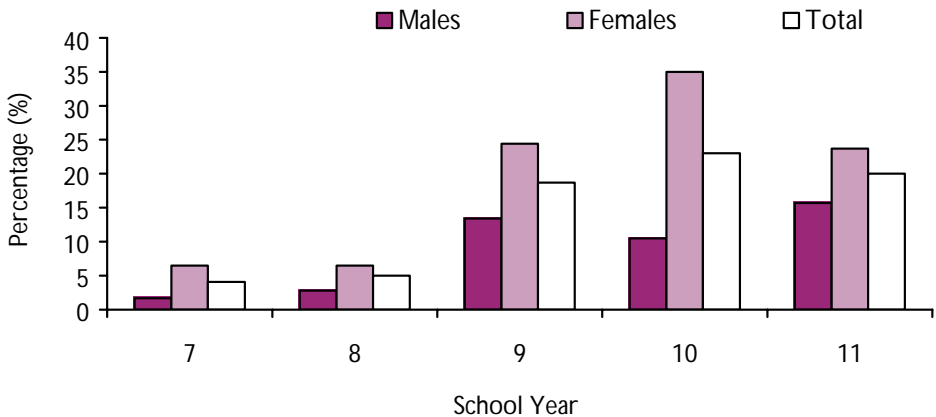
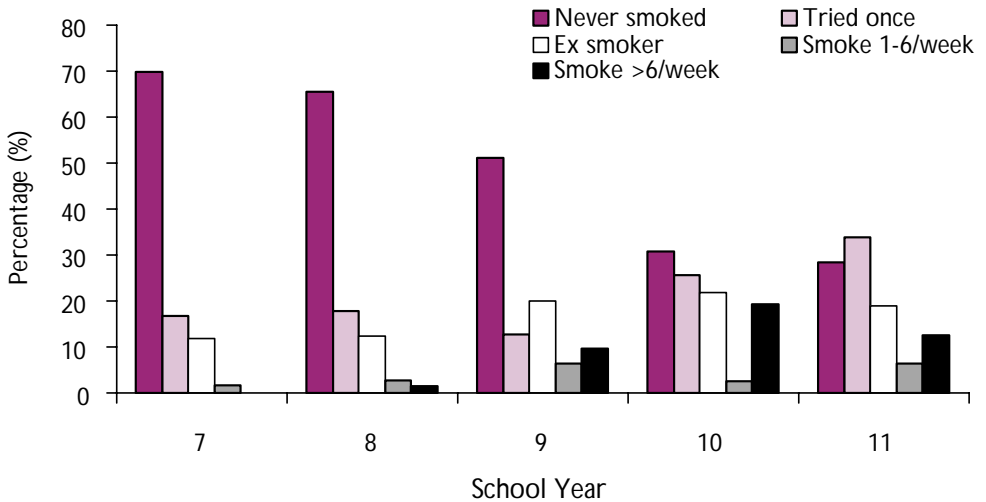


Figure 3.5 shows the classification of smoking behaviour patterns of young people. Of the young people who answered this question, 51.1% of pupils had never tried smoking, of which most were pupils in years 7 and 8. By year 9, about 50% of pupils had tried smoking at least once and by year 11 this proportion rose to nearly 75%. In year 10, there is a low proportion of pupils who smoke between 1 and 6 cigarettes per week, but a much higher proportion who smoke more than 6 cigarettes per week.

Figure 3.5 Classification of smoking behaviour patterns of young people



The top three reasons that young people choose **not** to smoke are as follows:

- Because of health warnings 80.0%
- Didn't want to 74.8%
- Do not like the taste/smell 56.3%.

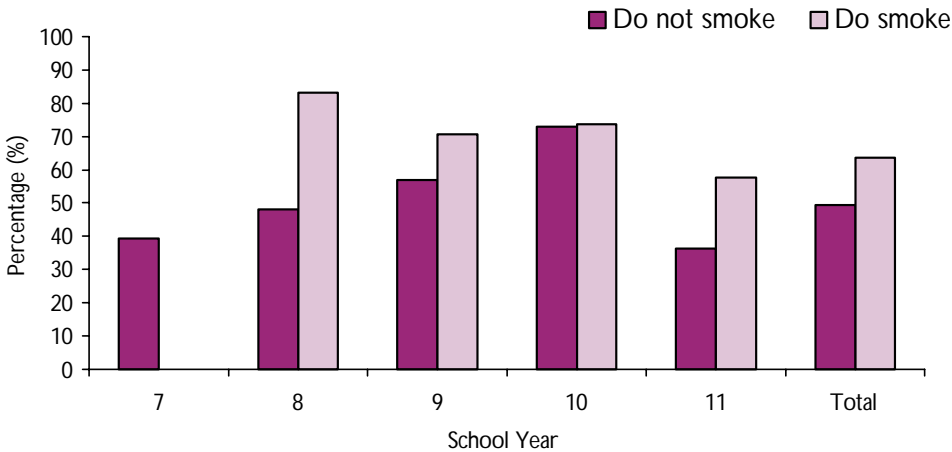
The top three reasons that young people choose **to** smoke are as follows:

- Because their friends do 57.9%
- To make them feel good 39.7%
- Because their siblings do 13.7%.

Nearly two-thirds (62.5%) of pupils who are ex-smokers stopped over six months ago and most stopped by themselves (84.4%). From the questionnaire, a higher proportion of boys than girls would like to give up smoking (54.5% and 43.6% respectively) and have tried to stop smoking (90.9% and 72.7%). The main reasons young people wanted to quit the habit were cost (39.7%) to become fitter (33.3%) and because they were worried about their health (69.8%). Of the many young people who have tried to stop smoking, they chose to do so either by themselves (56.5%) or with their friends (48.4%).

Overall, smokers are significantly more aware of the smoking cessation programme compared with non-smokers (64% and 49% respectively; $p=0.01$). Those pupils in school years 8, 9 and 10 are most likely to be aware of the programme whereas pupils in year 7 are least likely to be aware, irrespective of whether or not they smoke (figure 3.6).

Figure 3.6 Proportion of young people who are aware of the smoking cessation programme



In total, 11.1% of smokers attended the programme (18.5% boys and 7.9% girls) and the reasons stated for attendance are as follows:

- Their friends had asked them to go
- They wanted to stop smoking

The reasons for not going to the programme differed by school year. Those students in year 7 said that they did not know that they could attend the programme whereas older pupils, i.e. above year 8, were predominately concerned about other people finding out that they went and also many did not think that they needed to go. No student stated that the timing of the sessions was inconvenient.

SECTION 4 DISCUSSION

Smoking and young people in Knowsley

Knowsley PCT has a higher than national average of young people who smoke cigarettes: 13.7% in Knowsley compared to the national average of 10%. The results from this study found that younger people were less likely to attend the smoking cessation programmes (figure 3.1), were less likely to smoke regularly compared with older pupils (figure 3.4), that the likelihood of smoking increases with age (figure 3.4) and that average age to start smoking was 11 years, agreeing with national trends. Similar to national figures, girls were more likely to smoke cigarettes than boys (18.3% and 8.8% respectively). The average number of cigarettes smoked per day by young people attending the programme was 6, with those pupils in the quit focus group having smoked slightly more cigarettes (between 10 and 12 per day) compared with pupils from the non-quit focus group (between 5 and 10 per day).

Smoking and Influential factors

Peer pressure

Literature suggests that for young people the smoking habits of family members, such as parents and siblings are often more influential than the pressures that arise from friends⁸. However, this study found that influence from friends and the associated peer pressure was the most common factor for young people to start smoking. Over half (52.6%) of the young people said that they started to smoke because their friends did, and this finding was confirmed from both of the focus groups. Furthermore, many young people in the focus groups said that they do not like to smoke but do so because:

- | | |
|--|-----------------------|
| ‘Smoking makes you look good in front of your friends’ | Quit Group (QG) |
| ‘Because all of my friends were smoking’ | QG |
| ‘I just wanted to try it but also I felt a lot of peer pressure’ | QG |
| ‘We just bought some cigarettes and tried it’ | Non Quit Group (NQG). |

Influence from parents and siblings did not appear to play a significant role for pupils in the quit group, and this was despite all but one pupil stating that at least one of their parents smoked. Thus, these young people may not recognise that the smoking behaviour of their family can be influential. For the non-quit group pupils initially felt that their parents did not influence their smoking habits, but one participant said:

‘They [parents] don’t mean to influence you, but they don’t think that you’re going to follow their smoking habits.’

Following this statement, many of the other participants in the non quit focus group recognised that family members did in fact influence their smoking habits, although not to the same extent as their friends' smoking habits.

Many pupils from the non quit group felt that it was easier to smoke if parents and/or siblings smoke:

'Because my parents smoke they don't recognise the smell of smoke on me' NOG
'Parents won't punish you as much for smoking if they also smoke' NOG

These findings emphasise how the smoking habits of family members, and more importantly friends, do affect whether a young person starts to smoke, even if the message occurs sub-consciously.

These findings agree with other studies, where self-image and social identity are critical influential factors^{8,9}. Approaches that aim to decrease smoking rates need to employ different methodologies. Adult and young person's services may be considered to be beneficial to reduce smoking rates although other interventions should also be recommended, such as family and community studies together with a stronger promotion of non-smoking images. Without these additional services, it becomes very difficult for young people to stop smoking without the continual support from cessation advisors, especially when so many other friends and family members around them smoke.

Health

Riedel and colleagues²¹ found that health concern was a main motivator for adolescents to quit smoking, which agrees with findings from this study (69.8% of smokers wanted to stop because of health warnings). Many young people in this study were found not to take up the habit because of health warnings (80%), because they do not want to (74.8%) or because they do not like the taste or the smell (56.3%). These findings were further supported from the focus group. All pupils in the focus group were aware of the detrimental and addictive effects of smoking cigarettes:

'It [smoking] gives you cancer and they're horrible, nasty things' QG
'Cigarettes give you a horrible cough and you get chest infections,
that's why I've got one now'' NOG.

The health effects from smoking are of concern, in both the long and short term. The long-term ill health effects are substantial and well recognised, such as cancer, coronary heart disease, stroke, and respiratory problems. However, when considering the short term effects of smoking, the level of chest infections and absenteeism must be considered because on average, pupils who smoke take about twice as many days off sick as non-smokers¹³. Although this study did not specifically identify the number of days off sick, many young people in the non-quit focus group said that they had been off school because of chest infections and breathing difficulties. If school days are being missed because of smoking related illnesses, then it is likely that smokers have lower attendance and possibly lower achievement levels compared with non-smokers. If this occurs, then the local targets 'life chances for children' as set out in the Priorities and Planning Framework 2003-2006²² may become more difficult to achieve. Thus, by decreasing the number of young people who smoke, attendance and education levels may be improved in this population thereby helping to deliver these local targets in addition to achieving the national smoking targets as set out in Smoking Kills¹. Further investigation into smoking-related absenteeism is therefore required.

Nicotine

Young people are aware that nicotine is addictive, but does not deter them from smoking. However, the addictive properties of nicotine does make it much more difficult for young people to successfully quit smoking. This was demonstrated in this study by the high percentage of young people who had tried to quit by themselves, with friends or through the smoking cessation programme. Over 80% of young people who attended the smoking cessation programme wanted to quit smoking (figure 3.2) whereas the final outcome of actual smokers was a 29% quit rate (figure 3.3). From the focus groups most pupils (5/5 quitters; 4/6 non-quitters) did not enjoy smoking and all agreed that smoking cigarettes was addictive, and that cigarettes gave them a 'nicotine rush'.

'Cigarettes make you go dizzy but sometimes you just want a nicotine rush – so you have a cigarette, that's all' QG.

Even though young people did not like to smoke, and most had tried to stop smoking, the nicotine addiction made it very difficult for them to stop

'You just can't get out of smoking' NOG
'It's hard to stop smoking because it's so addictive' NOG.

One component of the cessation programme found to help young people to either cut down or quit smoking was the regular monitoring of carbon monoxide (CO) in their lungs. A person with a CO reading of 0-6ppm is considered to be a non to light smoker and above 6ppm a mid smoker (full table in Appendix). Young people attending the cessation programme were, in general classified as 'mid smokers', with a CO reading of 7 ppm (0-34). By using the test, many young people felt that they could monitor how well they were reducing the amount of cigarettes smoked throughout the programme, mainly because they wanted to decrease their own CO reading. As such they did not smoke as many cigarettes on both the day before and the day of the CO reading.

'You were always thinking about the CO monitor and you didn't want a high reading, so you'd try and not smoke before the sessions' QG

'You wanted to decrease the reading each week and get better each time' NQG.

The reduction in the amount of cigarettes smoked was confirmed by the significant decrease in the CO reading at the beginning of the programme compared with the end (Paired $p=0.008$). Therefore it appears that young people have been able to decrease successfully the amount of cigarettes smoked via the cessation programme with the support of the advisors and by regular use of the CO test, and without nicotine replacement therapy (NRT). The use of NRT for young people is a contentious issue and currently there are no available guidelines, and as such the use of NRT is controversial. This issue requires further exploration and is beyond the scope of this evaluation study. It should however be acknowledged that young people have quit through the programme without its use, although how many more would have been successful if NRT had been offered is unknown.

Another issue that needs consideration with regard to the CO reading is the influence of smoking cannabis. Cannabis, like smoking, can increase the CO reading and therefore if young people smoke cannabis in addition to, or instead of, cigarettes then the reading may still be high. A growing number of young people are using cannabis and it is estimated that in 1999, 35% of UK students aged 15-16 had tried cannabis (39% boys, 32% girls) and 16% had used in last 30 days (18% boys, 15% girls)²³. Indeed, the cessation advisors have observed that many young people who attend the programme smoke both cigarettes and cannabis. This is an area that merits further investigation with and developing of clearly defined guidelines for the smoking cessation advisors, as they may offer advice to young people about cannabis use but may not have had appropriate training.

Smoking cessation programme

Knowledge

Young people found out about the cessation programme during morning assembly, when a smoking cessation advisor spoke about the effects of smoking and the programme itself. After obtaining relevant information many young people wanted to find out about the services that were being offered to help them stop smoking. Other reasons for attending the services included:

'To see what the programme was like'	QG
'To get out of classes'	QG
'Just to try and stop smoking'	NQG
'I wanted to stop smoking because I was running'	QG.

Most young people who attended the programme simply wanted to stop smoking (figure 3.2), with most young people stating that they do not like smoking. Furthermore, many young people had tried to stop smoking either by themselves or with their friends, which agrees with a study by Gillespie and colleagues²⁰ who found this was the preferred method of quitting smoking. Half of all smokers wanted to stop smoking and just over half of respondents felt that it would be difficult to stop smoking (either very or fairly difficult). However, many smokers find it very difficult to stop partly because of the addictive nature of nicotine and, for young people, partly because of peer pressure (as discussed previously), as one female pupil said:

'When you try and stop smoking your friends just give you another cigarette' QG.

The findings from this study suggest that there is a need for smoking cessation programmes within schools, that young people are motivated to stop smoking and that many are confident enough to self-refer to the programme.

Target audience

This study has demonstrated that the smoking cessation programme has been successful in targeting its intended audience. Figure 3.6 shows that smokers were more aware of the services compared with non-smokers, and that in years 8, 9 and 10, over 70% of smokers said that their school had a smoking cessation programme. Very few pupils in year 7 were aware of the programme, irrespective of whether or not they smoked. This finding was likely to occur because of the timing of the questionnaire, which was distributed in the first term of the new academic year. The smoking cessation advisors had not, at the time of the study, spoken to year 7 pupils about the programme. Therefore, the small percentage of year 7 pupils who knew of the programme are likely to have heard about it from siblings, friends and/or posters in their school. If this study were to be repeated later in the academic year then a higher awareness from year 7 would be expected.

The highest proportion of attendees of the smoking cessation programme were year 9 (age 13-14), which is around the time when many young people have started to smoke; 11 was found to be the most common age for starting the habit. As expected, those pupils in Year 7 (age 11-12) were least likely to attend the services, predominately because they do not regularly smoke and therefore the cessation programme does not address their specific need and also because, as explained previously, most were not aware of the programme because of the timing of the study. It is important that the prevention aspect of the programme should continue to be delivered to all years, but should specifically target those in year 7. This intervention could possibly delay the onset of smoking. Those young people in year 11 age (age 15-16) were also less likely to be aware of the programme and not attend, probably because they were not specifically targeted. The schools that were randomly selected for the questionnaire component had previously requested smoking cessation advisors to target the middle years of 8, 9 and 10. This was reflected in both the monitoring form results of these years (figure 3.1) and the questionnaire findings (figure 3.6). Thus, targeting specific school years appears to be effective and increases the numbers of pupils attending the services. The prevention component needs to be delivered to all years but focus should be towards pupils in year 7. The cessation component however should be available to all pupils but should continue to target school years 8 and above. These direct approaches have been critical in delivering a successful and viable programme.

It was found that younger females have a higher smoking prevalence than males (18.3% and 8.8% respectively). The programme is therefore successful in targeting those in most need as younger females were more likely to attend the services to try and stop smoking compared with males (60% and 40% respectively). However, males were more likely than females to state (in the questionnaire) that they wanted, and had tried, to give up smoking. This may suggest that males find it more difficult to attend services, which is an issue that needs addressing. The programme may need to identify how it could meet the needs of male smokers as well as the needs of females.

Success of programme

The Government's target is to reduce smoking among children from 13% to 9% by 2010 (with an interim target of 11% by the year 2005)¹, which is a national decrease of 0.4% per year. In the study 13.7% of young people were estimated to be regular smokers and 29% of smokers had successfully quit smoking via the cessation programme², with a further 56% having reduced their cigarette intake, findings that were confirmed by the CO reading. Using these figures, it is estimated that 3.2% of smokers quit via the programme, which results in an overall decrease of smoking among children of 0.44%. This demonstrates that the Knowsley PCT smoking cessation programme is set to achieve the Government's 10-year targets. However, this estimation does not take into account the proportion of young people who start smoking and it is important to acknowledge that the cessation programme is only part of the wider project, which also addresses prevention.

A potential way to increase further the success of the cessation programme may be to target those young people who drop out of the programme, as these pupils tend to be heavier smokers with much higher CO readings (section 3). How this can be achieved requires further investigation and co-operation between schools and Knowsley PCT. This is because other school commitments often prevented young people from continuing with the programme. One way in which this could be addressed may be through providing alternative times and venues, such as after school, twice a week or via youth centres. By having alternative sessions overall attendance rates may increase thereby potentially contributing to improved success rates. Young people in the focus groups indicated that they would attend sessions after school and through youth services. They were not aware of any other smoking cessation services apart from a clinic where general advice could be obtained, although most did not use this service.

Confidentiality

Confidentiality is a major issue for young people and this was reflected in the study. Although confidentiality was not considered to be a major deterrent to the use of the cessation programme for younger pupils (years 7 and 8), it was for older pupils (years 9, 10 and 11). On further investigation through focus groups, it was evident that pupils would not attend the services if they knew that their confidentiality could be compromised. Client confidentiality clearly has a major impact on the success of the cessation programme. It is important that a balance between confidentiality and encouragement occurs so that young people do not feel that their details are being disseminated to other members of staff, but at the same time supporting their decision to attend. Thus confidentiality must be maintained to a high level from both the school aspect and the service itself, which should contribute substantially to the success of cessation programmes.

Role of schools

The role that schools play in preventing young people from smoking and helping young smokers quit is very important and as such schools should aim to create supportive environments for their pupils. Poulsen and colleagues²⁴ found that adolescent smoking was positively associated with teachers smoking habits during school hours (odds ratio 1.8; 95% CI 1.2, 2.8). Although this evaluation study did not specifically address this issue, it does raise the importance of schools sending out clear and consistent messages to young people, such as developing a no-smoking policy.

¹Using a 6 month time period

It is important that programmes be developed to encourage cessation in addition to prevention, similar to the programme that has been implemented by Knowsley PCT. Currently the schools in Knowsley implement the cessation programme during school lessons, often in Personal Health and Social Education lessons, as smoking is included on the National Curriculum for this subject. This method has proved to be effective and many young people do not feel that they use the cessation programme as a way to get out of lessons. Therefore, the programme should continue to run during these lessons. However, the programme should not become complacent and ways in which to improve the services should also be addressed. This may include extending the programme for more than six weeks, as this time period may not be sufficient for young people to stop smoking, or having an after school programme so that young people are not missing lessons and/or have a drop-in centre within the school so that support may be received as and when required. These extra services and support could potentially increase the number of attendees and ultimately decrease the number of smokers among young people.

Tobacco control

Although previous studies have found that school interventions alone are insufficient to tackle the problem of smoking among young people, this evaluation study has shown that interventions can contribute significantly towards decreasing prevalence. To decrease smoking prevalence further, the issue around tobacco control needs addressing. It is clear from this study that young people smoke because so many other people around them smoke, which also makes it very difficult for them to stop smoking, even when they attend the cessation programme. This is a similar situation to adult smokers.

Environmental tobacco control is central to reducing smoking prevalence in young people and also the general population. Once this issue is adequately implemented, together with successful cessation programmes, then the prevalence of smoking is likely to decrease substantially.

Monitoring forms

One way to enhance the smoking cessation programme would be to develop the monitoring forms that are used within the sessions. These forms have evolved from the adult services and over time they have become specific towards young people, and as such they have enabled valuable information to be collated and analysed. However, there is room for improvement and the questions need to be tightened up. For example, regarding the purpose of attending the programme (quit, reduction, advice), some advisors have ensured that only the main reason is indicated while others have stated more than one reason. It may be necessary to state the order of importance as to why young people attend the services. This inconsistency can be avoided if there are clear and explicit protocols to follow with appropriately developed monitoring forms.

Conclusion

This study has provided valuable information on the smoking behaviours of young people in Knowsley. It has found that there is a need to tackle smoking among young people, from both a national and local direction and that cessation programmes which specifically target young people appear to be reducing the number of smokers in this population.

The number of young people who are starting to smoke cigarettes remains high and as such, clear and effective interventions are required to prevent more young people from starting to smoke. The cessation programme that has been employed by Knowsley PCT appears to successfully attract its target audience and reduce the number of young people who smoke cigarettes. However, there are many young people who do not manage to quit smoking and many are lost to follow up. Therefore the programme needs to determine how it could increase the quit rates and decrease attrition rates, possibly through the extension of services.

This report recognises that full support and cooperation from each school and Knowsley PCT is required to make a significant contribution in the overall decrease in smoking prevalence among young people and this positive working relationship needs to be maintained.

SECTION 5 SUMMARY

- There is a higher smoking prevalence among young people in Knowsley PCT (13.7%) compared with the national average (10%), with most young people starting to smoke at age 11.
- Friends and peer pressure were considered to be the main influential factors for young people to start smoking; parents and siblings were not as influential. Despite young people knowing the health risks from smoking, they find it easy to start smoking and difficult to stop mainly because so many other people around them smoke. Also, the addictive nature of nicotine was found to make it more difficult for young people to stop smoking.
- The smoking cessation programme was successful in targeting its intended audience as smokers and older pupils were more likely to be aware of the programme compared with non-smokers and younger pupils respectively.
- Smoking prevention should be delivered to all years but concentrated towards the younger ages, whereas the smoking cessation aspect should be available to all pupils but focused towards older pupils.
- Those pupils who smoked more and had higher CO readings were more likely to be lost to follow up. The reasons for withdrawing from the programme included other school commitments or were unknown/not stated. The programme may need to expand in order to accommodate those pupils who cannot attend the current times.
- In total, 29% of smokers who completed the programme successfully quit smoking and 56% reduced the amount smoked. These findings were confirmed by the significant decrease in the CO reading.
- The regular use of the CO reading appeared to help motivate young people to reduce the number of cigarettes smoked and even stop smoking.
- Confidentiality was a major reason for pupils not attending the cessation programme, especially in the older age groups. In order for the programme to be maximised, confidentiality cannot be compromised and local schools and Knowsley PCT need to work together to encourage young people to attend the programme.

SECTION 6 RECOMMENDATIONS

- Sustained resources should be specifically allocated for smoking prevention and cessation among young people. This would ensure that there is a tailor-made service that meets the needs of young smokers.
- Local schools and service providers should continue to maintain close links in order for the programme to be successful. To reach the local and national targets as set out by Government it is essential that there is support and co-operation from local schools.
- Further research around environmental tobacco smoke, e.g. around the home, in schools, which incorporates the impact of peer pressure, should be carried out. This is because findings from this study suggest that young people want to stop smoking but find it difficult to do so, mainly because so many of their friends and family smoke.
- The programme should continue to specifically target young people. However, additional research should be carried out to target young males, especially because many stated that they wanted to quit but they did not attend the cessation services.
- The cessation programme should be expanded, in particular for those smokers who drop out because of other school commitments, so that more young people can attend the sessions. This may require that the programme be available outside of school hours and/or away from the school environment.
- Many young people appear to have benefited from the cessation programme, either by stopping smoking completely or by reducing the amount of cigarettes smoked each day. As such there is the potential for this programme to be replicated elsewhere.
- The monitoring forms should be developed further, whilst ensuring that client confidentiality is maintained, and data should be recorded electronically. This will enable additional analyses to be carried out on a regular basis. The structured forms could also be used as a guide for other service providers to follow thereby resulting in a regional minimum core dataset.
- Confidentiality was found to be a major concern for many young people. As such, both the schools and the service provider should work together to ensure that the confidentiality and anonymity of the programme is continually emphasised to young people.

SECTION 7 REFERENCES

- ¹ Department of Health (1998). Smoking Kills: A white paper on tobacco. London: The Stationary Office.
- ² Lowey H, Fullard B, Tocque K and Bellis MA (2002). Are smoking cessation services reducing inequalities in health? An evaluation study. Liverpool John Moores University. ISBN 1-902051-38-6
- ³ Jarvis MJ and Wardle J (1999). Social patterning of individual health behaviours: the case of cigarette smoking, In Marmot M and Wilkinson R (eds.). Social Determinants of Health. Oxford: Oxford University Press. Chapter 11 pages 240-254.
- ⁴ Department of Health. Drug use, smoking and drinking among young people in England in 2001. Department of Health press release. <http://www.doh.gov.uk/public/press15march02.htm>. Accessed 3rd January 2003.
- ⁵ Higgins V (2000). Teenage Smoking Attitudes in 1998. London: The Stationary Office.
- ⁶ Foulds J (1999). Smoking cessation in young people. Should we do more to help young smokers to quit? Health Education Authority
- ⁷ DiFranza JR, Savageau JA, Rigotti NA, Fletcher K, Ockene JK, McNeill AD, Coleman M and Wood C (2002). Development of symptoms of tobacco dependence in youths: 30 month follow up data from the DANDY study. *Tobacco Control* 11:228-235.
- ⁸ Action on Smoking (2002). Fact sheet No 3. Young People and Smoking <http://www.ash.org.uk/>. Accessed 3rd January 2003.
- ⁹ U.S. Department of Health and Human Services. Preventing Tobacco Use Among Young People: A Report of the Surgeon General. Atlanta, Georgia: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 1994. <http://www.cdc.gov/tobacco/sgr2.htm> Accessed 3rd January 2003.
- ¹⁰ Action on Smoking (2002). Fact sheet No 8. Passive Smoking <http://www.ash.org.uk/>. Accessed 3rd January 2003.
- ¹¹ Department of Health, Department of Health and Social Services, Northern Ireland, The Scottish Office Department of Health, Welsh Office (1998). Report of the Scientific Committee on Tobacco and Health. London: The Stationary Office. Part Four. Smoking and young people. <http://www.archive.official-documents.co.uk/document/doh/tobacco/report.htm> Accessed 3rd January 2003.

-
- ¹²Molyneux A, Lewis S, Antoniak M, Hubbard R, McNeill A, Godfrey C, Madeley R and Critton J (2002). Is smoking a communicable disease? Effect of exposure to ever smokers in school tutor groups on the risk of incident smoking in the first year of secondary school. *Tobacco Control* 11:241-245.
- ¹³Offord L (1998). Smoking Policies in Schools. Oswestry Borough Council, Oswestry.
- ¹⁴Department of Health. Consultation on the draft: Tobacco advertising and promotion (sponsorship) transitional regulations, Tobacco advertising and promotion (point of sale) regulations, Tobacco advertising and promotion (brandsharing) regulations. Department of Health: London, 2002.
- ¹⁵Department of Health (1991). Children and Young Persons (Protection from Tobacco) Act 1991 (c. 23) London: The Stationary Office.
- ¹⁶Callum C (1998). The UK smoking epidemic: deaths in 1995. London: Health Education Authority.
- ¹⁷Action on Smoking (2002). Basic Facts No 2. Smoking and Disease. <http://www.ash.org.uk/>. Accessed 3rd January 2003.
- ¹⁸Oakley A, Bendelow G, Barnes J, Buchanan M and Husain OAN (1995). Health and cancer prevention: knowledge and beliefs of children and young people. *British Medical Journal*. 310: 1029-1033.
- ¹⁹Gaulton L (2002). Knowsley Children and young person's smoking cessation/prevention initiative. Activity Report January – December 2001. Knowsley Primary Care Trust.
- ²⁰Gillespie A, Stanton W, Lowe JB and Hunter B (1995). Feasibility of school-based smoking cessation programmes. *Journal of School Health*. 65: 432-437.
- ²¹Riedel BW, Robinson LA, Klesges RC and McLain-Allen B (2002). What motivates adolescent smokers to make a quit attempt? *Drug and Alcohol Dependence* 68: 167-174.
- ²²Department of Health (2002). Improvement, expansion and reform: the next three years. Priorities and Planning Framework 2003-2006. London. <http://www.doh.gov.uk/planning2003-2006/improvementexpansionreform.pdf> Accessed 3rd January 2003.
- ²³Hibell B, Andersson B, Ahlstrom S, Balakireva O, Bjarnasson T, Kokkevi A and Morgan M (2000). The 1999 ESPAD Report. The European School Survey Project on Alcohol and Other Drugs. Alcohol and Other Drug Use Among Students in 30 European Countries. Stockholm: The Swedish Council for Information on Alcohol and Other Drugs (CAN).
- ²⁴Poulsen LH, Osler M, Roberts C, Due P, Damsgaard MT and Holstein BE (2002). Exposure to teachers smoking and adolescent smoking behaviour: analysis of cross sectional data from Denmark. *Tobacco Control* 11: 246-251.
-

APPENDIX

Table A.1 School year and corresponding age (Years)

New school year	Old school year	Age (years)
7	1st	11-12
8	2nd	12-13
9	3rd	13-14
10	4th	14-15
11	5th	15-16

Table A.2 Type of smoker given their carbon monoxide (CO) reading

CO (ppm) Reading	Type of smoker
0-6	Non to light
7-11	Mid smoker
12-20	Heavy smoker
20+	Very heavy smoker

Carbon monoxide (CO) is a colourless, odourless tasteless and non-irritant gas, which is rapidly absorbed through the lungs. Exposure to CO can result in a significant reduction in the oxygen carrying ability of blood. The test itself measures the amount of CO in the breath by blowing into the monitor. A reading is given immediately.



NorthWest
Public Health
Observatory



merseyside
**health
action**
zone

Knowsley
Primary Care Trust



**STOPPING'S
Hard**
but it won't kill you!



Centre for Public Health

Liverpool John Moores University,
70 Great Crosshall Street, Liverpool L3 2AB
Tel. 0151 231 4477 Fax 0151 231 4320

The
Knowsley
Partnership 