

# Dundee Smoking and Pregnancy Project

— Final Project Report —

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**Disclaimer:** The views expressed in this report are those of the project team and do not necessarily reflect the views of the funding bodies

# DUNDEE SMOKING AND PREGNANCY PROJECT

## EXECUTIVE SUMMARY

### Introduction

Tobacco smoking is recognised as a major cause of morbidity and mortality. Smoking during pregnancy is of particular concern as it increases the risks of complications during pregnancy and labour, infant mortality and later child health. Environmental tobacco smoke has also been implicated in maternal and childhood morbidity and mortality.

In Scotland, the proportion of pregnant women who smoke has fallen slightly in recent years to around 26% in 2003. However, in young women in the more deprived areas this figure reaches nearly 50% and is thought to be rising. Alongside other measures to reduce smoking in pregnancy, national targets for reducing the proportion of pregnant women who smoke to 23% by 2005 and 20% by 2010 have been introduced.

In Dundee City, where there are around 1500 live births per year, the proportion of pregnant women who smoke was 37.6% in 2002, much higher than in neighbouring Angus (28%) and Perth & Kinross (24.1%).

During 2003, audit of an existing smoking and pregnancy care pathway in Dundee indicated that adherence to the existing protocol by midwives was relatively poor, with the result women were not always being given adequate advice and support regarding smoking cessation.

In 2003, £54,702 was provided to Dundee LHCC by Partnership Action on Tobacco and Health (PATH), part of Action on Smoking and Health (ASH) Scotland, to enable review and development of the existing pathway and a pilot of a revised model of care. Initially funded for 15 months, **Dundee Smoking in Pregnancy Project** was later extended for a further year to enable women recruited to the project to be followed up following delivery of their infants. Additional funding of £23,000 for the extension was provided by NHS Tayside Directorate of Public Health. A project Steering Group was established and a Project Health Visitor (PHV) appointed in August 2003.

The Project aimed to develop and pilot a mainstream care pathway which would encourage and support all pregnant women in Dundee not to smoke and help them to remain smoke free following the birth of their child. The project hoped to engage midwives and harness the enthusiasm of local health visitors already engaged in smoking cessation provision in the community.

During this time, two further smoking in pregnancy initiatives were also funded by PATH elsewhere in Scotland, to enable comparison of the outcomes of the different models of care developed in each area.

### **Dundee Smoking in Pregnancy Project**

Review of the existing pathway was carried out via questionnaire surveys of all Dundee midwives and health visitors and a survey of 55 pregnant smokers, who were either in hospital or attending clinics in Dundee.

Survey findings identified:

- a training gap for both midwives and health visitors
- staff concerns about the capacity to implement the protocol within existing resources

- concerns regarding the appropriateness of smoking cessation intervention within the midwife role, including concerns that pressure on women to stop smoking could compromise development of necessary close relationships;

and suggested:

- most pregnant smokers are aware of the dangers of smoking, particularly during pregnancy

During 2004, training for midwives and health visitors in motivational interviewing was provided, well attended and positively evaluated. However, midwives expressed concerns about the length of interview involved and whether they would have time during antenatal clinics to fully make use of the techniques.

Also in 2004, with the support of a local GP and Community Pharmacist, draft Patient Group Directions (PGDs) were drawn up by the PHV to enable health visitors to prescribe NRT to pregnant women wishing such support. Project funds (£5000) were set aside to cover prescribing costs. However, sufficient support to progress these proposals to the local PGD Committee for approval has not been obtained.

A revised care pathway, developed in collaboration with midwives and health visitors, was piloted during April 2004. The pathway aimed to ensure all pregnant women were asked about their smoking status during antenatal 'booking in' clinics and received appropriate literature and advice, and that those who wished it were referred to ongoing support from their health visitor or existing cessation services in the community. Women's progress was also to be monitored at one and three months following the start of a quit attempt, at delivery and at the 8 week Child Health Baby Clinic.

The pilot identified unacceptable time delays between women's initial referral and initiation of support by health visitors and that midwives did not always question women about their smoking at, or soon after, delivery.

As a result, to minimise the delay between referral and support provision and in line with Guidelines (published during 2004) recommending pregnant smokers receive specialist cessation support, it was agreed that the PHV would herself identify women wishing referral from maternity records and offer personal support. In addition, participating women would be followed up from records of their health visitor's first visit (HVFV) at approximately 11 days following delivery rather than midwives' reports at delivery. The revised pathway was introduced in June 2004.

## **Findings**

Maternity records for all women booking in (approximately 1500 women) between June 2004 and July 2005 were reviewed and information about smokers and women who reported they had stopped smoking during the previous year entered into the project database. Analysis of maternity data indicated that:

- 530 (35.3%) women reported they were current smokers
- 130 (8.7%) women reported they had stopped smoking during the previous year (approximately 20% of all women reporting being smokers in the previous year)
- 246 (37.3%) smokers/recent ex-smokers agreed to be referred for cessation support
- the majority of smokers (68.2%) resided in postcode sectors categorised as Depcat 5,6 or 7
- the average age of smokers was 26.2 years, range 15-43 years

During booking clinics, midwives collected information on project monitoring (S2) forms for 393 (60% of expected) smokers/smokers during the previous year.

- 85.5% of smokers said they would like to stop smoking
- 14.5% of smokers were willing to set a future quit date
- 69% of smokers lived with at least one other smoker
- 62% of smokers were entitled to free prescriptions

Of the 246 women referred for support, over 40% could not be contacted by phone or at home, and did not respond to messages or letters from the PHV offering support/appointments. A further 22% withdrew at first contact or did not attend arranged appointments or further respond. Only 76 women, less than a third of those agreeing to referral, agreed to participate in ongoing support.

There were few demographic differences between participants and all smokers at first booking. However, over a third of participants (25 women) were registered with just three general practices, Taybank, Erskine and Park Avenue. Two of these practices were known to have nursing staff particularly enthusiastic about smoking cessation.

Only around a quarter of participants (20 women) agreed to set a quit date either at the booking clinic or with the PHV.

Follow up was disappointing, with responses from 37 (50%) participants at 1 month following first contact with the PHV and 18 participants at 3 months post first contact. At one month, 3 women reported they had successfully remained abstinent. At three months a further 3 women reported they had successfully remained abstinent.

Of 23 participants known to have delivered by July 2005, only one participant was reported as remaining abstinent at the HVFV post delivery. None of seven participants responding at the time of the 8 week Baby Clinic reported being abstinent.

Although not followed up at the planned time points, PHV records indicated that 6 women stopped smoking as a result of the project and one was supported to remain abstinent. A further 8 women stopped smoking for a time and a further 11 reported they had cut down the amount they smoke.

## **Discussion**

The project has supported a large number of women in their individual attempts to quit smoking and emphasised, by its very existence, the importance of not smoking, particularly during pregnancy, while women may have progressed on the cycle of cessation change. The project has also raised the profile of smoking cessation with midwifery and health visiting staff, and provided training which will raise standards of care.

In terms of reducing the number of women in Dundee who smoke, the project appears to have had little effect. Of the 246 women referred, despite every effort by the PHV, only 78 women could be persuaded to consider making a quit attempt. Only 20 women ever set a quit date. Stopping smoking is not easy, only one in a hundred unsupported smokers are thought to successfully quit. In addition, given the number of women who stopped smoking in the year prior to the booking visit, it is likely that those who remained smoking were those who found it most difficult. Since use of NRT has been shown to improve the chances of smokers successfully quitting, the project's inability to provide NRT on prescription via PGD was disappointing and may have affected both the numbers of women willing to participate and the success of individual quit attempts. The position regarding prescribing of NRT during pregnancy requires clarity to ensure that GPs will prescribe, while support from Pharmacy to develop appropriate PGD(s) to enable other professionals supporting women in cessation attempts is essential.

Women in Dundee registered with General Practices with enthusiastic smoking cessation staff were more likely to participate in the Project. It may be that advice given as soon as pregnancy is confirmed is more effective than later in pregnancy. Clear information and advice could also be targeted at women planning to start a family.

Borne out by the experience of the PHV, the evidence suggests that many women who continue to smoke during pregnancy are those who are highly dependent on nicotine, have multiple and complex psychosocial problems, including poverty, debt problems, depression, illicit drug abuse and low self esteem. Research also suggests that pregnant smokers may use deception to avoid pressure to stop smoking from healthcare staff and lie about their smoking status. Care must be taken to ensure that a non-judgmental, holistic and integrated approach to pregnant smokers and their difficulties is taken, otherwise efforts to promote cessation are unlikely to be successful.

Although our study findings suggest that most pregnant women are aware of the dangers of smoking, its effects on the foetus and therefore why professionals are concerned, there is also evidence to suggest that some pregnant smokers are sceptical of the dangers of smoking and some may even welcome the prospect of a smaller baby. Continued efforts to provide education about smoking and its effects for young women is essential both to encourage cessation for those who already smoke, and also to discourage young women from taking up the habit.

The support of midwifery staff was vital to this project. Many midwives did comply with the revised protocol, however only two thirds of required S2 forms were completed. Midwives and health visitors expressed concerns about their capacity to comply with the care pathway within current staff resources. Some midwives also expressed concerns that it could compromise the trusting relationship they require between themselves and their patients.

Following revision of the protocol, the Project referral system was cumbersome and required manual record search by the PHV. Considerable duplication was highlighted within Maternity recording systems. In addition attempts to contact women wishing referral and for follow up was extremely time costly.

Similar projects within the UK and elsewhere report similar disappointing outcomes, and low numbers of women actively prepared to seek support, however those addressing smoking early in pregnancy appear to have had more success. This may be reflected within the present study by the relatively large proportion of smokers who reported quitting in the year prior to booking. Efforts to prevent young women taking up the habit need to be prioritised and implemented if the numbers of women smoking during pregnancy are to be significantly reduced.

## **Recommendations**

- Efforts to encourage women to stop smoking should begin as soon as a woman suspects she is pregnant or as early as possible during pregnancy. This is likely to be within the GP practice setting
- Specialist cessation support should be available during antenatal clinics for women wishing referral to such services, to avoid time wasted trying to contact women, while those with no serious intention to quit may be identified
- Clear guidelines for prescribing NRT during pregnancy are required, while development of Patient Group Directions would facilitate immediate prescribing of NRT for pregnant women who wish it

- Maternity record keeping systems should be reviewed and modernised in line with NHS Tayside's e-health strategy
- Pregnant women who smoke who do not wish referral to specialist services or who are not willing to set a quit date should continue to receive brief advice from midwives and health visitors and asked if they would like support to stop smoking at each subsequent antenatal appointment/visit
- A holistic and integrated approach to provide support for problems and enable pregnant women suffering from disadvantage to have healthier lifestyles, including smoking cessation, should be adopted
- Materials highlighting the dangers of smoking, particularly during pregnancy, which encourage cessation and include details of support services should be prominently displayed in all healthcare settings and widely throughout the community
- Work to prevent young people starting to smoke should be prioritised and pursued
- All health professionals should play a role in highlighting the dangers of smoking at suitable opportunities and refer patients onto specialists/NHS cessation services if necessary
- Specialist tailored training relating to pregnant women and smoking should be developed for all health professionals working with pregnant women, to reinforce their understanding of the health issues and increase confidence in their ability to provide effective brief advice and support on stopping smoking.

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# DUNDEE SMOKING AND PREGNANCY PROJECT FINAL REPORT

## 1 Introduction

Tobacco smoking is recognised as a major cause of premature mortality and morbidity<sup>1,2</sup>. Smoking during pregnancy not only increases the risks to health of women who smoke, but is associated with complications during pregnancy and labour such as spontaneous abortion, ectopic pregnancy and placenta praevia<sup>3,4,5</sup>. Research also links maternal smoking with perinatal mortality and low birthweight<sup>6,7</sup>, while low birthweight is itself linked to chronic illness in later life<sup>3,6,8</sup>. Environmental tobacco smoke in the home has been linked to sudden infant death syndrome (SIDS)<sup>9,10</sup>, increased incidence of childhood illness, such as lower respiratory infections and middle ear disease and associated with lower stature and reduced emotional and intellectual ability in children<sup>3,11</sup>.

In Scotland, the proportion of pregnant women who smoke has fallen slightly in recent years to around 26% in 2003<sup>12</sup>. However, in young women in the more deprived areas this figure reaches nearly 50%. In Dundee, where there are around 1500 live births per year, the proportion of pregnant women who smoke was 37.6% in 2002, much higher than in neighbouring Angus (28%) and Perth & Kinross (24.1%)<sup>13</sup>.

Following publication of the white paper Smoking Kills<sup>1</sup>, efforts to reduce the prevalence of pre and postnatal smoking in Scotland have intensified, including provision of ring-fenced government funding for Health Boards to establish smoking cessation services, the introduction of a Smoking Cessation Policy<sup>14</sup> and Guidelines<sup>15</sup>, and development of a national minimum dataset (MDS) for monitoring the outcomes of cessation services (appendix 1). Current Scottish targets for reducing the proportion of pregnant women who smoke are 23% by 2005 and 20% by 2010<sup>16</sup>.

Pregnancy has been seen as a “window of opportunity” to encourage women to stop smoking since fear of harming their infant may increase women’s motivation to stop<sup>17</sup>. Evidence suggests that cessation interventions based on smokers’ “stage of change”<sup>18</sup>, including written materials, advice and bio-feedback (e.g., saliva cotinine, carbon monoxide levels), can be effective during pregnancy<sup>19</sup>. Although shown to increase the effectiveness of cessation advice alone in the general population<sup>20</sup>, pharmacological treatments such as nicotine replacement therapy (NRT) were for some time not recommended during pregnancy, because of fears of potential harm to the foetus. However, guidelines now suggest that NRT may be considered for pregnant women in the UK, who otherwise cannot stop smoking<sup>21</sup>.

There is evidence to suggest that between 25% and 50% women hide their smoking status from health professionals during pregnancy because they feel guilty about continuing to smoke, and to avoid pressure from healthcare staff to stop<sup>22</sup>. Motivational interviewing, a technique developed to encourage drug users to stop, has been suggested as an alternative to direct persuasion for pregnant smokers<sup>21</sup>. Research suggests that smokers are more likely to stop if seen by professionals trained in cessation techniques, and professionals who are trained are more likely to intervene<sup>23</sup>.

Although information regarding cost-effectiveness of smoking cessation interventions in Scotland is limited, it has been estimated that costs per life year gained range from £21 to £711 when costs to the NHS and smokers are taken into account and that by encouraging smoking

cessation during pregnancy, health authorities can save between three and six times the cost of the intervention<sup>24</sup>.

## 1.1 Local Background

In 2003, an existing pregnancy and smoking cessation protocol in Dundee sought to ensure pregnant women who smoke were given appropriate advice and support by the community midwives. An audit of this pathway indicated that adherence to the protocol was relatively poor (appendix 2).

In 2003, £54,702 was provided to Dundee LHCC by Partnership Action on Tobacco and Health (PATH), part of Action on Smoking and Health (ASH) Scotland, to enable review and development of the existing pathway and a pilot of a revised model of care. Two further projects elsewhere in Scotland were funded by PATH, to enable comparison of the outcomes of the different models of care developed. Initially funded for 15 months, **Dundee Smoking in Pregnancy Project** was later extended for 2 further periods of 6 months to enable adequate follow up of women recruited for cessation support. Additional funding of £23,000 for the total 1-year extension was provided by NHS Tayside Directorate of Public Health.

A Project Steering Group was established and a (1WTE; Grade G) health visitor co-ordinator (PHV), appointed during August 2003. The Project has been subject to ongoing review by the Steering Group.

## **2 Dundee Smoking in Pregnancy Project**

### **2.1 Aims and Objectives**

The Project aimed to develop and pilot a mainstream care pathway which would encourage and support pregnant women in Dundee not to smoke and help them to remain smoke free following the birth of their child. It hoped to engage midwives and harness the enthusiasm of health visitors, who were already engaged in smoking cessation provision in the community.

Main objectives included:

- Review and revise the existing smoking cessation in pregnancy care pathway
- Raise and maintain levels of awareness of the importance of smoking cessation during pregnancy with health professionals
- Increase professionals' knowledge and skills in providing cessation support
- Research and liaise with similar projects elsewhere to identify emerging evidence of effective/best practice
- Investigate the feasibility of NRT provision to pregnant women who smoke through a Patient Group Direction (PGD), and implement such provision if possible
- Develop an appropriate monitoring system in line with the national MDS
- Evaluate the effectiveness of the project identifying any strengths and weaknesses

### **2.2 Review of Existing Care Pathway**

In order to assess staff awareness of and their views regarding the current smoking cessation in pregnancy protocol, questionnaires were developed and sent to all (64) health visitors and (60) midwives in Dundee (Appendix 3). 36% of Health Visitors and 65% of Midwives responded.

Findings indicated that around half the Health Visitors were unaware of the existing Smoking and Pregnancy Protocol and that few were aware of the form (S1) which was designed to inform them of pregnant women's smoking status. Most felt that such a form would be helpful to them at antenatal visits and at the time of discharge by the Community Midwife to Health Visitor care. Several Health Visitors felt that stop smoking groups specific to pregnancy would assist pregnant women to stop and more than half (14) said they would be willing to take part in a rota to lead such groups. However, only 4 Health Visitors had received relevant training in smoking cessation. The findings also indicate that the majority of pregnant women are first seen by their Health Visitor at between 32 and 36 weeks gestation.

Midwives who responded included those working in antenatal clinics, maternity wards, the labour suite, the Special Care Baby Unit and in the community. The vast majority reported being aware of the existing protocol, however few felt that it was effective in helping/encouraging women to stop smoking. Several put forward the view that pregnant women's motivation to stop smoking is internal and midwife advice has little influence. Most midwives were also aware of the existing S1 form, however less than half said they actually completed it. Over half respondents said they had neither received training nor completed the Good Practice Study Guide to helping women to stop smoking.

In collaboration with the PHV, a self-report survey of a sample of pregnant smokers in Dundee was developed and carried out by a medical student in 2003<sup>25</sup> to investigate women's

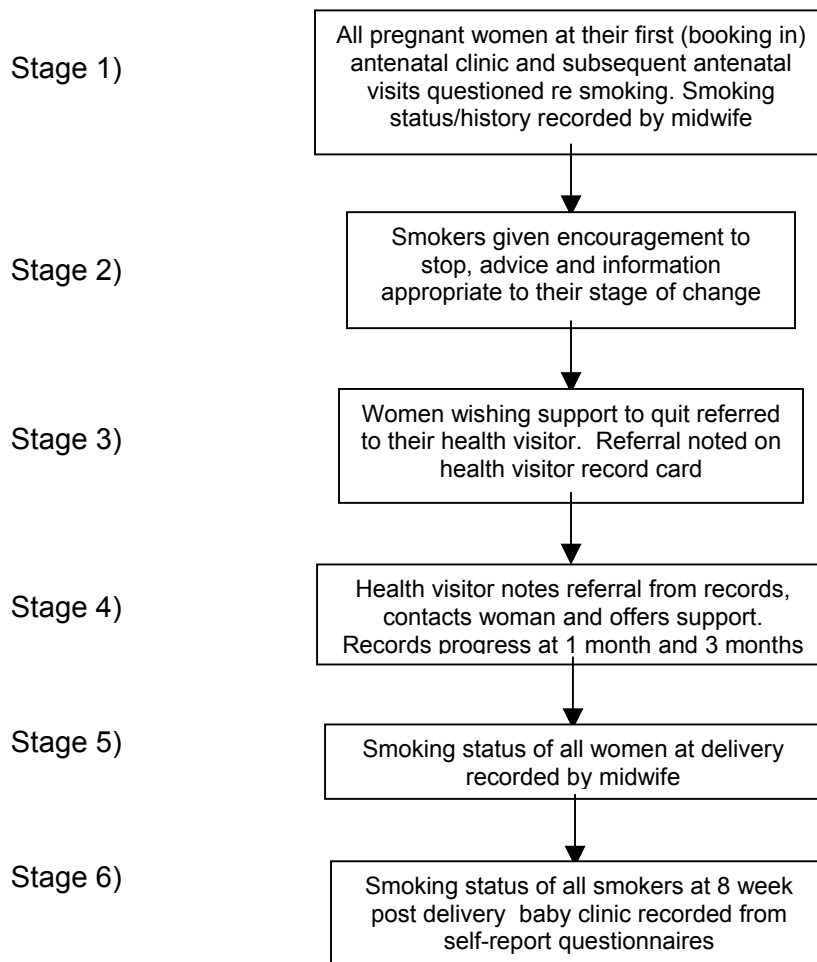
experience of advice and/or support from professionals regarding smoking. A total of 55 pregnant smokers either in hospital or attending clinics responded. Findings included:

- the majority (89%) of women reported they had been advised by health professionals to cut down their smoking, but only around three quarters (75%) had been advised to stop smoking
- under half (41%) remembered being given literature to help them stop smoking
- just over half (55%) said they had been offered assistance to stop smoking, but only on one occasion
- none of the women reported receiving group or individual cessation support
- most (95%) of the women said they were aware of reasons why health professionals were concerned about smoking in pregnancy.

### 2.3 Revised Care Pathway

Following the review and in conjunction with professional staff, a modified care pathway (appendix 5) was developed. A summary of the pathway, including follow up monitoring points, is shown in figure 1.

**Figure 1 Revised smoking cessation in pregnancy care pathway**



The revised protocol required that at each clinic attendance midwives should ascertain women's smoking history, provide brief advice and to those who smoke, ask if they were willing to set a quit date and whether they would like to be referred to their Health Visitor for cessation support. A monitoring (S2) form, designed to remain with smokers' hand held maternity records, was developed for data recording (appendix 6).

## **2.4 Staff Training**

The review identified a need for training for health professionals to support them in their work with pregnant smokers. As a result, and on the basis of evidence from elsewhere, a programme of training for midwives and health visitors in behavioural change/motivational interviewing was introduced in January 2004. This kind of interviewing usually involves a minimum of 10-15 minutes for each individual session. 15 training places were initially offered with project funding. Uptake was equally balanced between midwives and health visitors. Evaluation of the session was very positive (appendix 4), however during further discussion between the PHV and midwives it became clear that the majority of midwives did not feel that there was sufficient time during antenatal clinics for them to undertake this form of interview because of competing priorities, while others felt it was inappropriate for example during labour, or that it could compromise the development of the close, trusting relationship necessary between a woman and her midwife. Further training sessions were therefore restricted to health visitors.

## **2.5 Piloting the Pathway**

The revised protocol was piloted with 20 pregnant smokers during April 2004. The pilot identified difficulties for both midwifery and health visiting staff, both groups feeling unable to dedicate sufficient time to the process because of competing work priorities. In addition, referrals for support were often not picked up from maternity records by Health Visitors until their first visit to women, often much later in pregnancy or even following delivery if women were not experiencing problems with their pregnancy.

It was therefore proposed and agreed by the Steering Group and staff that, to avoid delay between referral and the provision of support, the PHV should identify all smokers wishing support either during booking clinics and/or from maternity records and inform the appropriate health visitor directly. However, following the official launch of the project in May 2004, unacceptable delays between initial referral and Health Visitor contact with women wishing support were still occurring. Manual searching of maternity records by the PHV to identify women wishing support was time-consuming, as was identifying and contacting relevant health visitors. Health visitors also reported difficulty finding time to contact/visit women referred because of existing workloads and competing priorities. It was therefore agreed by the Steering Group that the PHV should initiate contact with referred women and herself provide specialist cessation support. The PHV subsequently undertook a two-day smoking cessation training course.

From July 2004 all pregnant smokers identified at booking as wishing to stop smoking were congratulated by their midwife and support from the PHV offered. Women refusing support at this stage were given appropriate written materials<sup>26</sup> and project contact details and invited to get in touch at any time. Women seeking referral for cessation support were identified by the PHV either during antenatal clinic sessions or from manual search of maternity records, and approached by telephone, or in person at home or at the clinic, as appropriate. If the PHV was

unable to obtain a response following several attempts (minimum 6) to contact women in these ways, a letter explaining the service offered and inviting contact was sent to the woman's home address. In the latter stages of the Project the PHV included an appointment time within letters.

Following successful contact, ongoing encouragement and support was provided by the PHV through discussion of motivators and cessation aids and continuing support either by telephone or in person, arranged at the woman's request and convenience. Information about the local "Buddy" project was also provided and women wishing such support referred to that service. Women were also asked about other smokers in their household and appropriate advice provided, including details of locally available cessation services. Support was terminated only at the request of the woman or following a missed appointment and, following subsequent attempts by the Project Health Visitor to re-engage the woman, failure to make alternative arrangements.

Throughout the project, the PHV met regularly with health visiting and midwifery staff both during staff meetings and less formally during antenatal clinics to obtain their views and to update them on progress. Three Project Newsletters were also produced and distributed to all relevant staff. Media coverage of the project in the press and local radio publicised the project to local women.

## **2.6 Nicotine Replacement Therapy**

Although pharmaceutical licensing warns against NRT use in pregnancy, the 2004 Smoking Cessation Guidelines<sup>15</sup> suggest that provision of NRT should be considered if it can improve a pregnant smoker's chances of stopping smoking. The feasibility of NRT provision by the health professional supporting cessation with pregnant women was investigated early in the project. Following discussions with consultants in Pharmaceutical Public Health, Project funds (£5,000) were set aside for provision of NRT and draft Patient Group Directions (PGDs) prepared by the PHV, supported by a local community pharmacist and GP. Draft PGDs were prepared to enable midwives or health visitors and, following operational changes to the project, the PHV to prescribe NRT. It was proposed that a PGD be piloted in the Whitfield area of Dundee where it had the support of the local Community Pharmacist and GP. However, approval by the local PGD Committee for the proposals remains to be achieved. The PHV was therefore able to provide advice only regarding NRT and appropriate products. If NRT was desired, a letter for women to take to their own GP was provided including information about the project, current recommendations regarding NRT products during pregnancy, and informing the GP that the project HV was providing the woman with ongoing cessation support.

## **2.7 Project monitoring**

Monitoring data from maternity records and project S2 forms was collected between June 2004 and July 2005 and analysed using Microsoft Access.

### 3 Findings

#### 3.1 At the first booking clinic:

Based on an average of previous years, around 1500 women attended first or “booking in” antenatal clinics in Dundee during the duration of the project (24/6/04 to 4/7/05).

**Table 1 Information from maternity records of ‘first booking’ clinics between 15/6/04 and 4/7/05**

	<i>Number of women/denominator</i>	<i>%</i>
<i>All women at first booking</i>	<i>1500*</i>	<i>100.0</i>
<i>Current smoker/ smoker in the previous year</i>	<i>660/1500*</i>	<i>44.0</i>
<i>Current smoker</i>	<i>530/1500*</i>	<i>35.3</i>
<i>“S2” form completed</i>	<i>393/660</i>	<i>59.5</i>

*\* Estimated figure based on previous years’ data*

- 530 (35.3%) women reported being current smokers
- 130 women (19.7% of smokers) reported having stopped smoking in the previous year
- 246 (37.3%) smokers/recent ex-smokers agreed to be referred for cessation support
- the average age of smokers was 26.2 years, range 15-43 years
- the majority of smokers (68.2%) resided in postcode sectors categorised as Depcat 5,6 or 7 (appendix 7). In particular, 11.8% smokers resided in DD48 (Douglas/Angus, Mid-Craigie, Linlathen and Happyhillock); 11.6% in DD24 (Menziesshill, Charleston and Gowrie Park); 9.6% in DD49 (Fintry, Claverhouse, Mill 0’ Mains, Trottick) and 8.6% in DD30 (Downfield, Strathmartine, Kirkton, Bridgefoot, Auchterhouse).

Smoking status was recorded for all women for maternity records by midwifery staff, however only 393 (60% of expected) project (S2) monitoring forms were completed.

Project monitoring data (table 2) indicated:

- 85.5% of smokers said they would like to stop smoking
- 14.5% of smokers were willing to set a future quit date
- 69% of smokers lived with at least one other smoker
- 62% of smokers were entitled to free prescriptions.

Asked if they would like to stop smoking, most smokers (86%) said “yes”, and around half of these (49%) said they were “*ready to stop*”. However, intended quit dates were recorded for only 52 (8%) smokers – it is not known whether this is because the women did not wish to set a date, or were not asked to do so by the recording midwife.

Around a third (33%) of smokers and ex-smokers, 207 smokers and 6 women who had recently stopped smoking, agreed to be referred to a health visitor for cessation support.

**Table 2 Information from completed S2 forms**

	<i>Number of women/denominator*</i>	<i>%</i>
<i>Entitled to free prescriptions</i>	214/343	62.4
<i>White Scottish</i>	365/384	95.1
<i>Made quit attempt in last year</i>	167/660	25.3
<i>Quit in the last year</i>	129/660	19.5
<i>Pregnant during quit attempt</i>	46/79	58.2
<i>Cigarettes smoked/day:</i>		
10 or less	281/399	70.4
11-20	107/399	26.8
21-30	7/399	1.8
>30	3/399	0.8
<i>Time to first cigarette after waking:</i>		
< 5 minutes	76/327	23.2
5-30 minutes	67/327	20.5
31-60 minutes	86/327	26.3
> 60 minutes	100/327	30.6
<i>Lives with a smoker</i>	254/368	69.0
<i>Would like to stop smoking</i>	306/358	85.5
<i>Ready to stop smoking</i>	150/358	41.9
<i>Quit date set</i>	52/358**	14.5
<i>Agreed to referral to health visitor</i>	213/358**	59.5

\*denominator varies due to partial completion of S2 forms

\*\* approximated denominator as it is unknown if the question was asked or was answered in the negative

### 3.2 Participants

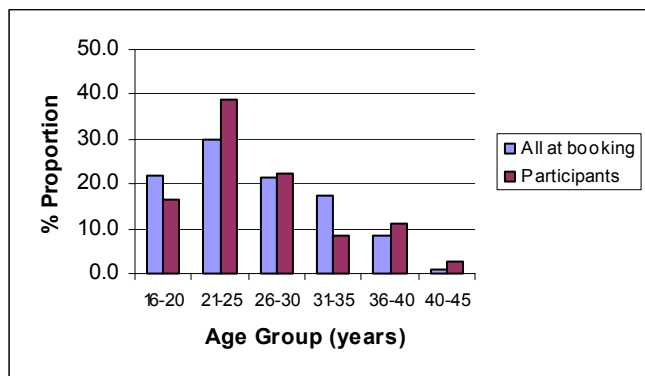
A total of 246 women were referred for cessation support (Table 3). However, only around 60% could subsequently be contacted by the PHV. The remainder (over 40%) could not be contacted by phone or at home, and did not respond to messages or letters from the PHV offering support/appointments. A further 22% of women referred for support withdrew at first contact or did not attend arranged appointments or further respond. A few women (6%) were either already receiving support, or had stopped smoking, or withdrew because of recent personal trauma. Only 76 women, 11.5% of all smokers/exsmokers at booking and less than a third of those agreeing to referral, agreed to participate in ongoing support.

**Table 3 Project referrals**

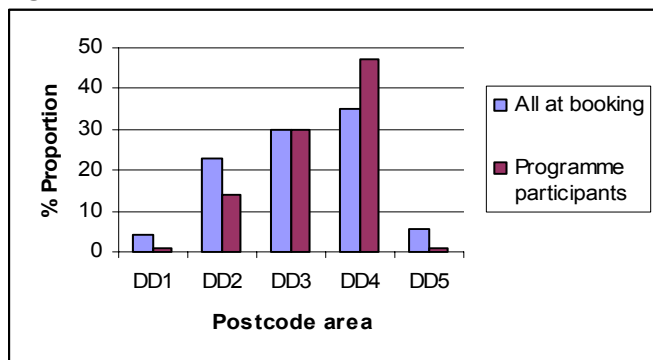
	<i>Number of referrals</i>	<i>% referrals (n= 246)</i>
<i>Unable to contact/no response</i>	100	40.7
<i>Withdrew at first contact</i>	31	12.6
<i>Referred to Buddy project</i>	3	1.2
<i>Already receiving cessation support</i>	4	1.6
<i>Already stopped smoking</i>	1	0.4
<i>Did not attend first arranged appointment &amp;no further response</i>	24	9.8
<i>Withdrew following some support</i>	16	6.5
<i>Quit attempt abandoned (personal trauma)</i>	7	2.8
<i>Ongoing project HV support</i>	60	24.4
<i>Total</i>	246	100.0

There were few demographic differences between participants and all smokers at first booking (Figure 2 and 3).

**Figure 2 Age groups of smokers/ex-smokers at booking and project participants**



**Figure 3 Post code areas of smokers/ex-smokers at booking and project participants**



However, fewer participants were entitled to free prescriptions than all smokers (54% and 62.4% respectively). Over a third of participants (25 women) were registered with just three of the 28 general practices in Dundee - Taybank, Erskine and Park Avenue (Table 4). Two of these practices were known to have staff particularly enthusiastic about smoking cessation.

**Table 4 Participants' GP Surgery**

<i>GP Surgery</i>	<i>Number of women</i>	<i>GP Surgery</i>	<i>Number of women</i>
<i>Ancrum</i>	2	<i>Lochee</i>	1
<i>Ardler</i>	2	<i>Maryfield</i>	4
<i>Coldside</i>	1	<i>Mill</i>	4
<i>Douglas</i>	5	<i>Muirhead</i>	3
<i>Downfield</i>	1	<i>Park Avenue</i>	7
<i>Erskine</i>	9	<i>Princes Street</i>	3
<i>Fintry Mill</i>	1	<i>Ryehill</i>	1
<i>Grove</i>	2	<i>Stobswell</i>	2
<i>Hawkhill</i>	1	<i>Taybank</i>	11
<i>Hillbank</i>	4	<i>Westgate</i>	3
<i>Invergowrie</i>	1	<i>Wallacetown</i>	3

A summary of participants' smoking history is shown in Table 5.

**Table 5 Summary of participants' smoking history**

<i>Smoking History</i>	<i>Number of participants/denominator</i>	<i>% participants</i>
<i>Never made a quit attempt</i>	<i>40/74</i>	<i>53.6</i>
<i>Made one previous quit attempt</i>	<i>24/74</i>	<i>31.9</i>
<i>Made 2 or more previous quit attempts</i>	<i>10/74</i>	<i>13.5</i>
<i>Made quit attempt in last year</i>	<i>15/74</i>	<i>20.3</i>
<i>Quit in the last year</i>	<i>2/15</i>	<i>13.3</i>
<i>Pregnant during quit attempt</i>	<i>3/15</i>	<i>20.0</i>
<i>Lives with a smoker</i>	<i>48/74</i>	<i>65.0</i>
<i>Ready to stop smoking</i>	<i>33/74</i>	<i>44.6</i>
<i>Quit date set at first booking</i>	<i>13/74</i>	<i>17.6</i>
<i>Quit date set during project</i>	<i>20/74</i>	<i>27.0</i>

Just over half (53.6%) of those completing questionnaires had never made a quit attempt, while around a third (31.9%) had made one previous attempt and 13.5% had made 2 or more unsuccessful attempts to stop smoking.

25 had tried using NRT before, 2 had used both NRT and Zyban - 14 had used patches alone, 1 patches and microtabs, 3 used gum alone, 1 gum and patches, 1 gum and inhaler, 1 had used lozenges, 1 microtabs.

Of 33 multiparous women, two thirds (67%) had continued to smoke during a previous pregnancy, while the remainder had stopped during a previous pregnancy. Reasons given by these women for starting to smoke again included:

- Stress (2)
- promised themselves a cigarette after birth (2)
- other family members smoke (3)
- when on night out
- when moved down to lower strength of patch
- boredom in hospital
- Started smoking after baby was born. Did not mean to do this. Due to demands of caring for baby and other matters. Easier to stop in previous pregnancy as working. Not in this pregnancy- gets bored and smokes

Asked how keen they were to stop smoking on a scale of 1 to 10, most women (54) scored between 8 and 10, over half (35) scored 10. However, asked to rate how confident they were they could stop smoking, over half the women scored 5 or less, only 6 women rated themselves at 10.

Only around a quarter of participants (20 women) agreed to set a quit date either at the booking clinic or with the PHV.

### **3.3 Follow up**

Given the one year data collection period, only around half of participants could be followed up after 3 months and only around a third following delivery. In addition, attempts to obtain a response from participants about their smoking status at follow up points was extremely time consuming and often not achieved.

- At **one month** following first contact with the PHV, 64 participants could be followed up, of whom 37 (57.8%) responded:
  - 3 women reported not smoking in the previous two weeks (Carbon Monoxide (CO) level confirmed),
  - 3 women reported smoking 1-4 cigarettes per day,
  - 31 women remained smoking 5 or more per day.
- **At 3 months** following their first contact with the PHV, 36 participants could be followed up, of whom 18 (50%) responded:
  - One of the three women abstaining at one month responded at 3 months and remained abstinent (CO confirmed).
  - Two further women who had not responded at one month, reported not smoking in the previous two weeks (CO confirmed)
  - The remainder reported smoking 5 or more cigarettes a day

All women at one and three month follow up who reported being abstinent had set a quit date.

- **HVFV records** (at 11 days postpartum) form part of routine SMR02 data reported annually to NHS Health Scotland and should therefore include information on all participants who had delivered by the end of the project. Data were available for 26 (34%) participants, including two of the five women reporting abstinence at one and three month follow up. Only one participant, who had earlier withdrawn from the project (and therefore was not followed up at one and three months), reported being abstinent at this time.

Information regarding smoking status at the HVFV was also available for 299 smokers/recent ex-smokers who had booked for delivery during the project. A total of 222 (74.2%) women were recorded as smoking, a reduction of around 6% since first booking. Since their first booking appointment, 35 (11.8%) smokers reported they had stopped smoking. However, 19 (24.7%) recent ex-smokers at first booking reported having relapsed.

- Questionnaire follow up of smokers and recent ex-smokers (as recorded at booking) at the time of the **Child Health Surveillance Programme Baby Clinic** (approximately 8 weeks post delivery) provided information from 7 (9%) participants. All reported having smoked in the last two weeks.

76% of (92) questionnaire respondents reported currently smoking, slightly lower than the proportion at first booking. Of 29 respondents who reported having stopped smoking in the year prior to first booking, 14 (50%) had relapsed, 8 of these since the HVFV. However 9 (14%) smokers reported they had stopped smoking since first booking.

Since all women could not be followed up at the pre-determined points, **PHV personal records** of contacts with participants were searched. At the end of the project data collection period, a total of 6 (8%) participants had reported to the PHV they had succeeded in stopping smoking, but only one had been successfully followed up at the one and three month points. One recent ex-smoker also reported remaining abstinent. A further 8 (11%) participants reported they had managed to stop for a time, but relapsed, two of whom intended to try again later, two were still trying to stop. A further 24 (32%) participants reported they had cut down the amount they smoke.

## 4 Discussion

The Project has supported a large number of women in their individual attempts to quit smoking and emphasised, by its very existence, the importance of not smoking, particularly during pregnancy to all successful and attempted contacts. Since most smokers make several attempts to quit before finally succeeding, it is to be hoped and anticipated that the personal encouragement smokers in this study received will help to motivate them to a successful next attempt. It is encouraging that PHV records indicate around 20% of participating women stopped smoking at least for a time, and around a third of participants reported they had cut down the amount of cigarettes smoked.

The project has raised the profile of smoking cessation with midwifery and health visiting staff and encouraged staff to ask and provide brief advice to smokers at every appointment. Although no 'hard' data are available to support this, the PHV reported an increase in compliance with the smoking protocol as the project progressed and felt her presence and encouragement at booking clinics was an important factor. Training in motivational interviewing has also been introduced.

The project has also provided a large amount of information about women in Dundee who continue to smoke when pregnant, while the evaluation findings provide pointers for the development of future interventions to reduce the number of women smoking during pregnancy and into the postnatal period.

In terms of reducing the proportion of pregnant women in Dundee who smoke, the project has had little apparent success. However, quitting smoking is not easy, with evidence suggesting that only around one in a hundred unsupported smokers successfully remain abstinent one year following a quit attempt<sup>27</sup>. Since use of NRT has been shown to improve the chances of smokers successfully quitting, the project's inability to provide NRT on prescription was disappointing and may have affected both the numbers of women willing to participate and the success of individual quit attempts. Unfortunately, efforts by the PHV to facilitate development of appropriate Patient Group Directions from the early beginnings of the project were unsuccessful. Several women approached by the PHV were keen to receive pharmacological support, but had to arrange appointments themselves with a GP in order to obtain a prescription, which for working women may have been problematic. In addition, the initial momentum for a quit attempt inspired at the booking appointment or when seen by the PHV may be transient and lost because of inability to obtain an immediate supply of NRT. Few women were known to have actually obtained prescriptions and one woman's GP had refused to prescribe.

The position regarding prescribing of NRT during pregnancy requires clarity to ensure that GPs will prescribe, while support from Pharmacy to develop appropriate PGD(s) to enable other professionals supporting women in cessation attempts is essential.

Pregnancy is seen as a "window of opportunity" for a cessation attempt. Given the number of women who self-reported quitting either just before or soon after becoming pregnant (20% of those smoking in the previous year), it may be that this window exists only early in pregnancy. Certainly women in Dundee registered with General Practices with enthusiastic smoking cessation staff seemed more likely to participate in the Project. It may be that cessation advice given as soon as pregnancy is confirmed is more effective than later in pregnancy.

Borne out by the experience of the PHV, the evidence suggests that many women who continue to smoke during pregnancy are those who are highly dependent on nicotine, have multiple and complex psychosocial problems, including poverty, debt problems, depression, illicit drug abuse and low self esteem<sup>12</sup>. Smoking is often perceived by such women to reduce stress/anxiety and even boredom, while some women use smoking as a method of weight control. Guilt about smoking while pregnant may exacerbate feelings of low self esteem, and lead to a cycle of greater cigarette consumption and even lower self esteem. Research also suggests that pregnant smokers may use deception to avoid pressure to stop smoking from healthcare staff and lie about their smoking status<sup>26</sup>. Within this study, over 85% of smokers at first booking said they would like to quit, however few were actually prepared to undertake a quit attempt. Nearly half of women admitting to smoking at booking initially agreed to referral for cessation support, but subsequently either did not respond to the offer of support or quickly withdrew from the Project. Some may not have had sufficient motivation to stop to return the PHV's calls, lost motivation since the booking visit, or simply agreed to support to avoid further discussion/pressure to stop from midwifery staff.

While future interventions may be more effective if cessation support is available directly at the point of initial contact, clearly care must be taken to ensure that a non-judgmental, holistic and integrated approach to pregnant smokers and their difficulties is taken, otherwise efforts to promote cessation are unlikely to be successful.

Although our study findings suggest that most pregnant women are aware of the dangers of smoking, its effects on the foetus and therefore why professionals are concerned, there is also evidence to suggest that some pregnant smokers are sceptical of the dangers of smoking and some may even welcome the prospect of a smaller baby<sup>28</sup>. Continued efforts to provide education about smoking and its effects for young women is essential both to encourage cessation for those who already smoke, and also to discourage young women from taking up the habit.

The project referral process was initially set up to enable health visitors to identify women wishing cessation support from referral cards. However, this process was cumbersome and time-consuming once the PHV took over provision of cessation support. Attempting to contact and follow up women also took up considerable PHV time. If specialist support services are to be provided in future for pregnant women, more efficient referral and reporting systems should be investigated.

The support of midwifery staff was vital to this project. Many midwives did comply with the revised protocol, however less than two thirds of S2 forms were completed. The initial project survey and further discussions with midwives indicated that some do not see addressing smoking as appropriate to their role and have concerns that being seen to put pressure on women about their smoking can adversely affect development of the close, trusting relationship they seek to achieve. Others expressed the view that midwives could have little effect on women's motivation to stop smoking. In addition, as women are presented with large amounts of information at the booking visit, some midwives felt it is unrealistic and ineffective to burden them further at this time with the issue of smoking.

Midwives also reported being under considerable time pressure during booking clinics and were reluctant to take on additional tasks. The amount of paperwork in particular was a concern. Maternity record keeping systems are currently complex, with some difficulties around the introduction of a new electronic system (PROTOS) and resulting confusion about what was, and was not, included in the system. The PHV found considerable duplication within women's paper

held maternity records with, for example, their smoking status being recorded on three separate forms. Some rationalisation of maternity recording systems would appear to be desirable, perhaps making more use of electronic systems.

Evidence from recent projects directed at smoking cessation in pregnancy and carried out elsewhere has not been encouraging. A randomised control trial in Glasgow investigating provision of motivational interviewing for pregnant smokers carried out by a specialist team of midwives versus brief advice at clinic appointments found no differences in the number of women successfully stopping or cutting down their smoking<sup>29</sup>. However, this project was also directed at women in the mid-trimester of pregnancy and may have suffered similarly to the Dundee Project in that it approached women too late in pregnancy to be effective and was unable to provide NRT. A Specialist Smoking Cessation Service set up in Sheffield which encouraged referrals right from the beginning of pregnancy from midwives, consultants, medical staff, GPs, health visitors and pharmacies reported that seventy women and thirty partners had stopped smoking at the 4 week monitoring stage, from a complement of more than 200 women self-accessing the service in one year<sup>30</sup>, however this represented only 10.8% of pregnant smokers in the area. A randomised-controlled pilot study carried out in Australia looked at cessation in mid-trimester pregnant women allocated to counselling only or counselling and NRT. Notable features of this study included low interest in participation, high withdrawal rates and low quit rates<sup>31</sup>.

Efforts to find ways to prevent young women from taking up smoking must be prioritised and implemented.

## 5 Recommendations

- Efforts to encourage women to stop smoking should begin as soon as a woman suspects she is pregnant or as early as possible during pregnancy. This is likely to be within the GP practice setting
- Specialist cessation support should be available during antenatal clinics for women wishing referral to such services, to avoid time wasted trying to contact women, while those with no serious intention to quit may be identified
- Clear guidelines for prescribing NRT during pregnancy are required, while development of Patient Group Directions would facilitate immediate prescribing of NRT for pregnant women who wish it
- Maternity record keeping systems should be reviewed and modernised in line with NHS Tayside's e-health strategy
- Pregnant women who smoke who do not wish referral to specialist services or who are not willing to set a quit date should continue to receive brief advice from midwives and health visitors and asked if they would like support to stop smoking at each subsequent antenatal appointment/visit
- A holistic and integrated approach to provide support for problems and enable pregnant women suffering from disadvantage to have healthier lifestyles, including smoking cessation, should be adopted
- Materials highlighting the dangers of smoking, particularly during pregnancy, which encourage cessation and include details of support services should be prominently displayed in all healthcare settings and widely throughout the community
- Work to prevent young people starting to smoke should be prioritised and pursued
- All health professionals should play a role in highlighting the dangers of smoking at suitable opportunities and refer patients onto specialists/NHS cessation services if necessary
- Specialist tailored training relating to pregnant women and smoking should be developed for all health professionals working with pregnant women, to reinforce their understanding of the health issues and increase confidence in their ability to provide effective brief advice and support on stopping smoking.

### 5.1 Next Steps

The lessons learned from this project will inform the approach to smoking cessation in Tayside in the future. During 2005, a multi-agency Best Value Review of smoking cessation activities was also carried out. As a result, an action plan has now been developed to take forward efforts to reduce the numbers of pregnant woman in Tayside who continue to smoke (Appendix 8).

**The Minimum Dataset (Final Revised Version)**  
**PATH August 2004**

<b>For office use only</b>			
1. Client ID:			
2. Health Board area:		3. LHCC: <input type="checkbox"/> Tick here if not applicable	
<b>Client Information</b>			
4. Full postcode:	5. Date of Birth: __/__/__	6. Gender: <input type="checkbox"/> Male <input type="checkbox"/> Female	
7. If female, pregnant? <input type="checkbox"/> Y <input type="checkbox"/> N		8. Does client receive free prescriptions? <input type="checkbox"/> Y <input type="checkbox"/> N	
9. Employment status? (please tick one box)			
<input type="checkbox"/> In paid employment		<input type="checkbox"/> Full-time student	
<input type="checkbox"/> Homemaker/full-time parent or carer		<input type="checkbox"/> Unemployed	
<input type="checkbox"/> Retired		<input type="checkbox"/> Permanently sick or disabled	
<input type="checkbox"/> Other (please specify) _____			
10. Which of the following best describes the client's ethnic origin? (Ask client to choose one section from A-E, and then tick one box only within that section):			
<i>A. White</i>	<i>B. Mixed Background</i>	<i>C. Asian, Asian Scottish or Asian British</i>	<i>D. Black, Black Scottish or Black British</i>
<input type="checkbox"/> Scottish <input type="checkbox"/> Other British <input type="checkbox"/> Irish <input type="checkbox"/> Any other white background (Please specify) _____	<input type="checkbox"/> White & Black Caribbean <input type="checkbox"/> White & Black African <input type="checkbox"/> White & Asian <input type="checkbox"/> Any other mixed background (Please specify) _____	<input type="checkbox"/> Indian <input type="checkbox"/> Pakistani <input type="checkbox"/> Bangladeshi <input type="checkbox"/> Chinese <input type="checkbox"/> Any other Asian background (Please specify) _____	<input type="checkbox"/> Caribbean <input type="checkbox"/> African <input type="checkbox"/> Any other Black background (Please specify) _____
<i>E. Other Ethnic Background</i> (Please specify) _____		<i>F. Not Stated</i> <input type="checkbox"/>	
<b>Tobacco Use and Quit Attempts</b>			
11. On average, how many cigarettes does the client usually smoke per day?		12. How soon after waking does the client usually smoke their first cigarette?	
<input type="checkbox"/> 10 or less <input type="checkbox"/> 11-20 <input type="checkbox"/> 21-30 <input type="checkbox"/> More than 30		<input type="checkbox"/> Within 5 minutes <input type="checkbox"/> 6-30 minutes <input type="checkbox"/> 31-60 minutes <input type="checkbox"/> After 60 minutes	
13. How easy or difficult would the client find it to go without smoking for a whole day?		14. How many times has the client tried to quit smoking in the past year?	
<input type="checkbox"/> Very Easy <input type="checkbox"/> Fairly Easy <input type="checkbox"/> Fairly Difficult <input type="checkbox"/> Very Difficult		<input type="checkbox"/> No quit attempts <input type="checkbox"/> Once <input type="checkbox"/> 2 or 3 times <input type="checkbox"/> 4 or more times	

<b>Interventions Used</b>	
15. Quit date    __ / __ / __	
16. Did the client receive NRT and/or Bupropion (Zyban) <i>in this quit attempt?</i>	
<input type="checkbox"/> NRT only	<input type="checkbox"/> Both NRT and Bupropion (Zyban)
<input type="checkbox"/> Bupropion (Zyban) only	<input type="checkbox"/> Neither NRT or Bupropion (Zyban)
17. What intervention(s) did the client use <i>in this quit attempt?</i> (Tick <b>ALL</b> that apply)	
<input type="checkbox"/> Group support	<input type="checkbox"/> Buddy Scheme
<input type="checkbox"/> One-to-one sessions	<input type="checkbox"/> Telephone support
<input type="checkbox"/> Both group and one-to-one sessions	<input type="checkbox"/> Couple/Family based support
<input type="checkbox"/> Pharmacy Scheme including support	<input type="checkbox"/> Other (please specify) _____
<b>1 month follow up (for office use only)</b>	
18. Was the client contacted for 1-month follow-up?	
<input type="checkbox"/> No -> Please state reason: <input type="checkbox"/> lost to follow-up	<input type="checkbox"/> other reason (e.g. client did not consent)
<input type="checkbox"/> Yes -> Date information collected:	Please now complete questions 19-20
19. Has the client smoked at all (even a puff) in the last two weeks?	20. Does carbon monoxide reading confirm quit?
<input type="checkbox"/> No (please conduct 3 and 12 month follow up)	<input type="checkbox"/> No
<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
<input type="checkbox"/> Not known	<input type="checkbox"/> Not known (e.g. CO reading not taken for service reasons, client followed-up by phone/post)
<b>3 month follow-up (for office use only)</b>	
21. Was the client contacted for 3-month follow-up?	
<input type="checkbox"/> No -> Please state reason: <input type="checkbox"/> lost to follow-up	<input type="checkbox"/> other reason (e.g. client did not consent)
<input type="checkbox"/> Yes -> Date information collected:	Please now complete questions 22-24
22. Has the client smoked at all (even a puff) in the last two weeks?	23. Has the client smoked at all since the one-month follow-up?
<input type="checkbox"/> No	<input type="checkbox"/> No
<input type="checkbox"/> Yes	<input type="checkbox"/> Yes, less than 5 cigarettes in total
<input type="checkbox"/> Not known	<input type="checkbox"/> Yes, more than 5 cigarettes
	<input type="checkbox"/> Not known
24. How many weeks was NRT and/or Bupropion (Zyban) used <i>in this quit attempt?</i>	
<input type="checkbox"/> NRT for _____ weeks	
<input type="checkbox"/> Bupropion (Zyban) for _____ weeks	
<input type="checkbox"/> Did not use either NRT or Bupropion (Zyban)	
<b>12 month follow up (for office use only)</b>	
25. Was the client contacted for 12-month follow-up?	
<input type="checkbox"/> No -> Please state reason: <input type="checkbox"/> lost to follow-up	<input type="checkbox"/> other reason (e.g. client did not consent)
<input type="checkbox"/> Yes -> Date information collected:	Please now complete questions 26-27

**SMOKING AND PREGNANCY PROTOCOL  
AUDIT FEBRUARY 2003**

Numbers booking in and smoking/stopping

	<b>TOTAL</b>	<b>DUNDEE (Ninewells only)</b>	<b>PERTH &amp; KINROSS</b>	<b>ANGUS</b>
Number at booking 2002	TBC	1594	1336	TBC
Number smoking at booking	TBC	487 (31%)	228 (17%)	TBC
Number smoking at delivery	TBC	436 (27%)	193 (14%)	TBC
Number stopped between booking and delivery		51	35	TBC
% of total smoking at booking who had stopped at delivery		51/487 10.5%	35/228 15.4%	TBC

Random (very random) sample of case notes  
which are in the purple folder locked away in the filing cabinet

	<b>TOTAL</b>	<b>DUNDEE (Ninewells only)</b>	<b>PERTH &amp; KINROSS</b>	<b>ANGUS</b>
Number of case notes audited	118	65	29	24
Was smoking status/support and information recorded at booking	Yes 118 (100%)	Yes 65 (100%)	Yes 29 (100%)	Yes 24 (100%)
Was smoking status/ongoing support and information recorded at mid trimester/19 weeks	Yes 20 (17%)	Yes 10 (15%)	Yes 5 (17%)	Yes 5 (21%)
Was smoking status/ongoing support and information recorded at 32-36 appointment	Yes 52 (44%)	Yes 18 (28%)	Yes 15 (52%)	Yes 19 (79%)
Was S1 recording form completed at discharge	Yes 15 (13%)	Yes 0 (0%)	Yes 1 (3.4%)	Yes 14 (58%)
Was form separated and one copy sent to HV	Yes 0 No 118 (0%)	Yes 0 No 65 (0%)	Yes 0 No 29 (0%)	Unknown

**Health Visitor Questionnaire**

Please circle the most appropriate answer.

1. Prior to reading the enclosed documents were you aware of the TUH Protocol for women who smoke during pregnancy? Yes    No
  
2. Were you familiar with form S1 that is used in conjunction with the protocol? Yes    No
  
3. When do you see antenatal women? .....
  
4. Do you have contact at the intervention times mentioned on form S1, which are (Please tick): -
  - At about booking in time
  - Second trimester
  - 32- 36 weeks gestation
  
5. Could you specify when you give smoking cessation advice during a woman's pregnancy? .....
  
6. Would it help your work to see this form at each antenatal contact with a woman who smokes? Yes    No  
 Any Comments?.....
  
7. Would it help your work to see a copy of this form when the woman is discharged from the community midwife to you care? Yes    No  
 Any Comments?.....
  
8. On a scale of 1 to 10 (1=very likely, 10 =very unlikely) how likely do you think it is that a woman would contact the person named in the Best Guide Ever ?
  
9. If you would like to comment generally on what you like or do not like about the protocol and form S1 please do so now  
 .....
  
10. What type of interventions do you think might help pregnant women who smoke to stop smoking? Please comment  
 .....
  
11. Would you be interested in taking part in a rota to lead a group for pregnant and postnatal women who smoke ? Yes    No  
 Any Comments?.....
  
12. Have you received training about stopping smoking in pregnancy? Yes    No  
 Any Comments?.....
  
13. What training needs re smoking cessation in pregnancy do you have?  
 .....

**Midwives Questionnaire**

1. To help us classify your answers statistically, may I ask in which midwifery area you presently work?.....

Protocol and Form S1. Please circle the most appropriate answer.

2. Prior to reading the enclosed documents, were you aware of the Tayside University Hospitals protocol for women who smoke during pregnancy? **Yes** **No**

3. On a scale of 1 to 10 (1=no effect, 10 = very effective) how effective do you think the protocol is in helping /encouraging women to stop smoking ?

4. If appropriate, please describe how you feel the protocol could be improved  
.....

5. Were you familiar with form S1 that is used in conjunction with the protocol? **Yes** **No**

6. Do you use form S1? **Yes** **No**

7. Do you complete the smoking section of form S1 at:

- Booking? **Always** **Most of the time** **Sometimes**  
**Never**
- Mid-trimester Contact? **Always** **Most of the time** **Sometimes**  
**Never**
- 32-36 weeks gestation? **Always** **Most of the time** **Sometimes**  
**Never**
- Discharge to Health Visitor? **Always** **Most of the time** **Sometimes**  
**Never**

8. Are the S1 forms and leaflets kept in a convenient place where you work? **Yes** **No**

9. Any comments ? .....

10. Do you feel you have sufficient knowledge to discuss the following items in the section in form S1 for women who are booking in?

	<b>Yes</b>	<b>No</b>
a) Fetal effects	<b>Yes</b>	<b>No</b>
a) Maternal effects	<b>Yes</b>	<b>No</b>
b) Passive smoking	<b>Yes</b>	<b>No</b>
c) SIDS	<b>Yes</b>	<b>No</b>

11. Any comments ? .....

12. Do you give out the Best Guide Ever? **Yes** **No**

13. On a scale of 1 to 10 (1= very unlikely, 10 = very likely) how likely do you think it is that a pregnant woman who smokes would contact a named person in the Best Guide?

14. Please describe any suggestions you have for changes to form S1  
.....

15. Do you discuss smoking cessation in pregnancy with other health care professionals regarding women you are looking after? **Yes** **No**

16. If yes, please circle all that apply: **GP** **Health Visitor** **Both** **Other**

**Smoking Cessation in Pregnancy Training**

17. Have you received training/completed the good practice study guide? Please circle the most appropriate answer **Both** **Training** **Study Guide** **Neither**

18. What training needs re smoking cessation in pregnancy do you have now?

**Please describe**.....

Thank you for taking the time to complete this form. Please return in the envelope provided to:

**Clinical Governance  
Dundee LHCC  
Kings Cross  
Cleington Road  
Dundee  
DD3 8EA**

## EVALUATION

## NEGOTIATING BEHAVIOUR CHANGE IN HEALTHCARE SETTINGS

WEDNESDAY 19 &amp; THURSDAY 20 NOVEMBER, 2003

Discovery Point, Dundee

To help us ensure that future courses are of maximum benefit, please take time to fill in the evaluation form. On a scale of 1 to 10 tell us what you thought of the day, adding any additional comments you might wish to make. Thank you for your co-operation.

	1	2	3	4	5	6	7	8	9	10
<b>WORKSHOP AIM:</b> To equip participants with a basic knowledge of the principles and practice skills of motivational interviewing and Health Behaviour Change Counselling.						1		5	2	8
<b>LEARNING OUTCOME 1:</b> Have an understanding of motivation, ambivalence and readiness to change.					1		1	5	5	4
<b>LEARNING OUTCOME 2:</b> Understand the principles and spirit of a directive, person-centred interviewing style.				1			2	5	7	1
<b>LEARNING OUTCOME 3:</b> Have begun to develop practical skills.					1	2	3	5	3	2
<b>LEARNING OUTCOME 4:</b> Be able to recognise appropriate situations in which these skills may be utilised.						1	5	3	3	4
<b>LEARNING OUTCOME 5:</b> Have the confidence to attempt using these techniques.						1	3	9	2	1

## Appendix 4

### WHAT DID YOU FIND HELPFUL IN THIS WORKSHOP?

- Collaborative agenda setting and patient centred interviewing. Will definitely think twice before I tell someone why they must do something. Very good 2 days.
- I found the 2 day workshop extremely helpful. It made me aware of my negotiating behaviour change practice and how MI techniques can hopefully improve my practice. I feel at this moment in time slightly confused as it is a huge topic and endeavour to study MI more as I feel it would be hugely beneficial in caring for people with diabetes which necessitates behaviour change to control this condition.
- Being made aware of the techniques used and how to process them in different situations, using MI. A new subject - hence I feel I need to reread notes and some other information e.g. one of the books - to help put it into practice. A lot to take in!
- Exercises with colleagues. Understood listening skills. Critical evaluation of my own work throughout 2 days. My personal limitations to active listening. To stop giving advice routinely.
- I found all aspects of the workshop most helpful. The group exercises were very useful in linking the theory with practice. It made me think about my own practice with clients and how I could improve it for them. Confidence to take MI forward. Encouragement to know that I am moving in the right direction.
- I found it helpful to identify my own strengths and weaknesses and to understand the concepts of motivational interviewing and how it can be related to my practice. Enjoyed exercises. Very well presented. Jeff was excellent - made one feel relaxed. Good range of resources. Good interaction with group members. Would love to have more updates/information and read material on subject.
- I found the practical workshops a great opportunity to put theory into practice. Before I came I had some idea of what MI was. Now I have had the change to practice some bit. This has increased my confidence in using it more and let me see the difference it can make to outcomes with clients. I enjoyed the different ways the programme was arranged. I didn't realise how important chips were in a diabetics diet!
- The techniques used by the trainer to move us effortlessly along the learning curve. I say effortlessly - when really I mean that there was a lot of effort involved for him but for me I felt that I was taken along that curve without any worry/misunderstanding on my part with a result of understanding how each component feeds into the next one - and the desire to find out a whole lot more!
- I found the workshop helped me to reflect on my practice. It has given me the incentive to find out more about MI. I also feel it has given me knowledge and information to use in my practice. Group work was helpful in sharing information, written materials and an asset to help me understand and reflect and will help me to use some of the material and ideas in my workplace.
- I found the workshop stimulating and thought provoking and feel I will definitely use the information and skills in my dealing with pregnant women both ante-natally and post-natally. I really enjoyed the workshop but felt two days was not really long enough so therefore will glean more information from the books.

## Appendix 4

Use of practical exercises and video clips to back up presentation. Excellent trainer/presenter - very knowledgeable, lots of practical examples.

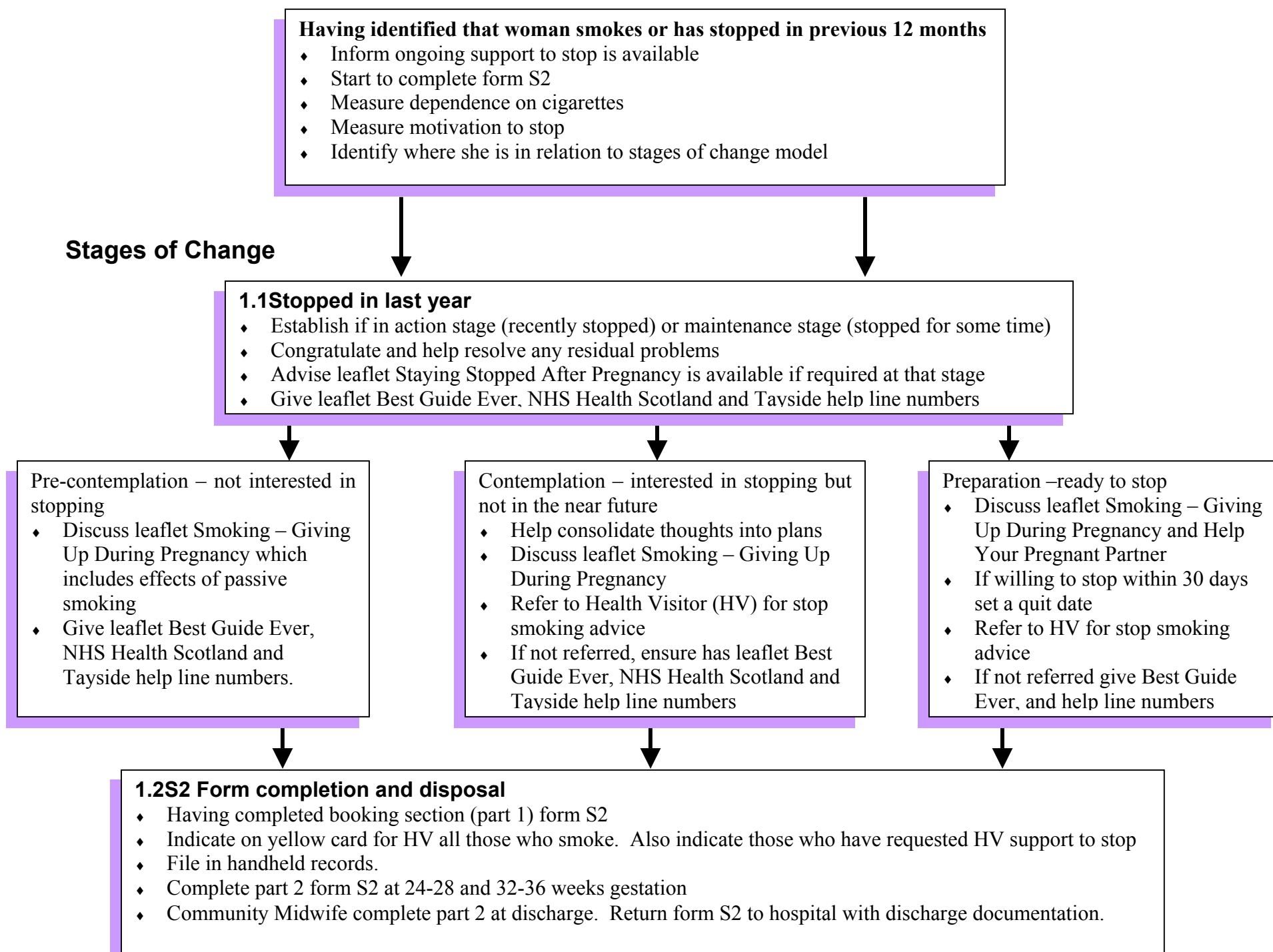
To provide an understanding of MI and it has provided me with enthusiasm to develop it further. Will definitely change practice of interviewing/communicating.

The workshop has helped me to look at the way I work, and hopefully to be able to improve and utilise MI on a daily basis. I found it really enjoyable and non-threatening.

I found the video and working in the small groups particularly helpful, also personal examples from Jeff clarified things. Do not enjoy role play but feel it may have been beneficial for these days, or more work in smaller groups. Would like to have another day, perhaps in a few months time, to discuss any changes in practice we have noticed.

Listening skills important, non judgemental. When to ask questions, when to reflect. This will hopefully help in my practice. Also knowing when clients are "ready", importance of change in outlook.

## DUNDEE PREGNANCY AND SMOKING CARE PATHWAY PILOT FLOW CHART



**Dundee Pregnancy and Smoking Project.**

**Advice sheet for use of form S2 with women from Dundee during pilot of care pathway.**

Use form S2 and flow chart with women from Dundee only. Continue to use form S1 with women out with Dundee.

**The Midwife at Booking Clinic is asked to identify whether an antenatal woman is a smoker or has stopped smoking in the last 12 months. Entitlement to free prescriptions out with pregnancy is included as an additional measure of socio-economic status, to determine uptake by people on lower incomes (a priority group). Ethnicity is used to measure uptake by different ethnic groups.**

In the smoking history section of form S2 the Midwife finds out details about the woman's dependence on cigarettes.

**If the woman is an ex-smoker she is asked when she stopped smoking. The World Health Organisation defines former smokers as those who have not smoked in the last year. The client is asked if she was pregnant at the time.**

Raising motivation to stop and next appointments sections are based on the stages of change model developed by Prochaska and DiClemente (1983). They suggested that behaviour change is a cyclical process passing through 5 defined stages

- **Pre-contemplation** - not wishing to stop
- **Contemplation** - thinking about stopping but not in the near future
- **Preparation** - planning to stop in the near future.
- **Action** - trying to stop.
- **Maintenance** - have stopped for some time

**Indicate at smoking section on yellow antenatal booking card for Health Visitor (HV) whether woman smokes. If woman wishes to be referred to HV for support to stop smoking, please write referred to HV for stop smoking advice at objective E on this card.**

Having completed part 1 form S2, file in maternity handheld records. Project Health Visitor (HV) will record details from part 1 prior to hand held records being given to the woman at 19 weeks. Midwife will update part 2 of form S2 at 24-28 weeks and 32-36 weeks gestation, and at discharge from the Community Midwife. Project HV will record information from part 2 when hand held records returned to hospital after discharge. Client's smoking status will be recorded on computerised discharge information sheet for HV.

Please note for this pilot, which is for women with Dundee addresses, there is consent to be completed. If woman does not want to consent please continue to complete form S2 however information will not be uplifted from her records for audit purposes.



**Dundee Pregnancy and Smoking Project  
Pilot of Form S2 Part 1**

**(Complete only for woman who smoke or who have stopped in the last 12 months)**

**\*\*\*\*PLEASE ASK PATIENT TO COMPLETE CONSENT OVERLEAF\*\*\*\***

Surname:		Postcode:	
Forename:		DOB:	
Address:		CHI:	
<b>Client Identifier (For Office Use Only)</b>			
<b>Booking Gestation</b>			
Are you entitled to free prescriptions when you are not pregnant?		Yes <input type="checkbox"/> No <input type="checkbox"/>	
<b>Ethnicity (please select from list below)</b>			
1. White Scottish	5. Indian	9. Chinese	13. Any mixed background
2. Other White British	6. Pakistani	10. Caribbean	14. Other ethnic group
3. White Irish	7. Bangladeshi	11. African	
4. Other White	8. Other South Asian	12. Black Scottish / other black	
<b>Smoking History (measuring dependence on cigarettes)</b>			
1. Are you a current smoker?		Yes <input type="checkbox"/> No <input type="checkbox"/>	
2. Have you stopped in the last 12 months?		Yes <input type="checkbox"/> No <input type="checkbox"/>	
<b>If YES go to question number 3</b>		<b>If NO go to question number 5</b>	
3. How long ago was this?			
4. Were you pregnant when you stopped?		Yes <input type="checkbox"/> No <input type="checkbox"/>	
<b>Congratulate. Leaflet Staying Stopped after Pregnancy may help resolve any residual problems. If lives with someone who smokes, see question 12 below.</b>			
5. Number of cigarettes smoked per day?			
6. How soon after waking do you smoke your first cigarette?			
7. How many times have you tried to stop in the past year?			
<b>Raising the issue of stopping smoking (measuring motivation to stop)</b>			
8. Are you interested in stopping smoking?		Yes/No	• As per flow chart
9. Are you ready to stop?		Yes/No	• As per flow chart
10. Planned stop date. Please state.			• As per flow chart
11. Do you want to be referred to your Health Visitor for advice/support to stop smoking?		Yes/No	Midwife record on Health Visitor (HV) yellow antenatal card all women who smoke and indicate on this card at objective E if wants referred to HV for advice to stop smoking.
12. Do you live with someone who smokes?		Yes/No	If yes, does partner/other want Tayside help line card?

## Midwife Information about Nicotine Replacement Therapy (NRT)

This is not available by Patient Group Direction (PGD) for pregnant woman in Dundee yet. If it becomes available by this method, the advice will be: -

Only if all else has been tried, discuss NRT. It is hoped that the Midwife or Health Visitor will commence a risk/benefit analysis for NRT, which would be completed by the Community Pharmacist, who would then issue NRT. There will eventually be a section in Form S2 for this assessment, which will assist all health professionals to decide about NRT. Health Professionals can access Form S2 in a woman's hand held records. Please note that woman do not receive these until 19 weeks, thus if woman wishes to be considered for NRT prior to this, the Community Pharmacist will refer to related referral paperwork alone. With/without availability of hand held records there will be a referral letter for the woman to take to the community pharmacist. A woman who has agreed to have NRT will receive counselling during this treatment from her Community Pharmacist and the Midwife/Health Visitor who has referred her.

Form S2 Part 2 Next appointments	24-28 weeks	32-36 weeks	Postnatal discharge from Community Midwife to Health Visitor
Date			
Current Smoker? Yes/No			
Have you recently stopped smoking? Yes/No How long ago was this?			
Have you started smoking again (having stopped during this pregnancy)? Yes/No How long ago was this?			
Have you received advice about stopping smoking from your Health Visitor during this pregnancy? Yes/No			
Are you interested in stopping? Yes/No			
Are you ready to stop? Yes/No What is your planned stop date? If yes, see *			
* Only after Booking Clinic can Midwife refer to Health Visitor (HV) by HV yellow antenatal record card. Midwife will have to liaise by phone or via GP surgery with HV following "next" appointments if woman wishes to be referred to HV.			
Woman referred to HV at this stage? Yes/No and enter date			

### ASK TO COMPLETE CONSENT

Consent to information on this form being used for audit purposes. **Health Visitor with Dundee Pregnancy and Smoking Project will record information from this form on a database so as to monitor your progress with stopping smoking. Personal information will be held within Dundee and will not go out with this smoking cessation service. It will not be used for any other purpose or given to any other authority. Following today, in about 1 month's time, your Health Visitor may contact you about how you are getting on with stopping smoking. The Midwife at the antenatal clinic will ask at one of your antenatal appointments later on in your pregnancy. In a few months' time, your Health Visitor will ask how you got on. See information leaflet. Please note that if you do not consent to information being obtained from this form you are still entitled to receive support with stopping smoking.**

I have been informed about use of personal information and understand what will happen

Signature \_\_\_\_\_ Date \_\_\_\_\_

### Post code area of pregnant women at booking-in antenatal clinics in Dundee June 2004 to June 2005

Post code area	Depcat		Number of smokers/recent ex-smokers	% of smokers with known postcodes
DD1 1	6	Dundee Centre; the Howff	2	0.4%
DD1 2	5	Dundee E of Centre; Victoria Road	3	0.6%
DD1 3	7	Docks, University Campus; Stannergate	3	0.6%
DD1 4	4	Perth Road (city end)	5	1.0%
DD1 5	5	Dundee W of Centre; Blackness Road; Polepark	7	1.4%
DD2 1	2	Backness Road; Magdalen Yard	11	2.2%
DD2 2	4	Menzieshill;Balgay Hill; Logie; Dryburgh	14	2.8%
DD2 3	6	Lochee; Ardler; Beechwood	26	5.2%
DD2 4	6	Menzieshill; Charleston; Gowrie Park	58	11.6%
DD2 5	2	Invergowrie; Lonforgan, Liff; Muirhead; Birkhill	9	1.8%
DD3 0	6	Downfield; Strathmartine; Kirkton; Bridgefoot; Auchterhouse	43	8.6%
DD3 6	4	Hilltown; Glens; Law Hill; Dudhope	24	4.8%
DD3 7	6	Hilltown; Football Grounds; Clepington	35	7.0%
DD3 8	3	Fairmuir; Downfield	15	3.0%
DD3 9	4	Downfield; St Mary's; Brackens	29	5.8%
DD4 0	6	Whitfield; Tealing	27	5.4%
DD4 6	5	E of Centre, Princes St; Arbroath Road; Stobswell	30	6.0%
DD4 7	3	Cragiebank; Baxter Park	20	4.0%
DD4 8	6	Douglas/Angus; Mid Craigie; Linlatheen; Happyhillock	59	11.8%
DD4 9	6	Fintry; Claverhouse; Mill o' Mains; Trottick	48	9.6%
DD5 1	1	W. Broughty Ferry, West Ferry	6	1.2%
DD5 2	2	E. Broughty Ferry; Barnhill	10	2.0%
DD5 3	1	N. Broughty Ferry, Forthill, Balgillo, Monikie, Wellbnk	7	1.4%
DD5 4	1	Monifieth	3	0.6%
DD7 7	3	S Carnoustie, Barry & District	1	0.2%
PH12 8	3	Newtyle, Meigle and District	1	0.2%
PH14 9	2	Inchture, Abernyste and District	2	0.4%
All known			498	100%
Missing			162	

### Decreasing the numbers of pregnant smokers in Tayside

#### BACKGROUND

An evidence-based intervention has been designed to address the issue of the prevalence of smoking in pregnant mothers. This paper describes the objectives, critical success factors, progress with implementation and scheduled tasks:

1. Development of an information package specifically for the needs of pregnant mothers.
2. Implementation of an electronic referral pathway for smoking to enable practitioners making contact with smokers to make contact with services.
3. Provision of practice update on meeting the needs of pregnant mothers who smoke.
4. Work with communities to maximise the ability of smoking cessation support to reach pregnant mothers.
5. Identify the locations from where pregnant smokers can be most effectively reached.
6. Ensure that pregnant mothers can access NRT safely and effectively.
7. Develop a monitoring report that informs the smoking in pregnancy service development group and stakeholders of the effectiveness of services.

Further details are available on the Directorate of Public Health website:

<http://www.taysidepublichealth.com>

## Summary Financial Statement

### SMOKING CESSATION - Smoking in Pregnancy

#### Final Project Costs

	Year	Year	Year	Sum:
	2003/04	2004/05	2005/06	
	£	£	£	£
Nurse Scale G	18,287	35,661	21,307	75,255
Admin/Clerical Gr 4		1,107		1,107
Provisions	254	16		270
Furniture Other		234		234
Travel Supplies Costs	789	1,280	776	2,846
Training Costs	557	300	286	1,143
Printing			90	90
	<b>19,887</b>	<b>38,599</b>	<b>22,459</b>	<b>80,945</b>

Funded BY:

PATH approx	55,000
THB Health Promotion approx	25,000
	<b>80,000</b>

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