Smoking cessation support in pregnancy in Scotland

February 2008
Acknowledgements

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Introduction
Smoking during pregnancy is a major concern in Scotland. At least 23% of women smoke during early pregnancy, with teenagers and more disadvantaged populations more likely to smoke. Smoking in pregnancy harms women and unborn children, and reducing its prevalence is important both for improving population health and for reducing health inequalities. Scotland has established national targets to reduce the proportion of women who smoke during pregnancy (from 29% in 1995 to 20% by 2010), and to reduce inequalities in this area by increasing the rate of improvement for the most deprived communities by 15%. This study aimed to map and describe smoking cessation support for pregnant women, to provide examples of promising practice, to examine existing national monitoring data on smoking in pregnancy (including SMR02 records and the National Smoking Cessation Database), and to compare current practice with the existing Scottish guidelines and the guidance issued by NICE in England in February 2008.

Methods
A mixed methods approach was employed across four elements, with findings from each element informing those that followed. Element 1 involved telephone enquiries with the main tobacco lead(s) in each health board area to explore service provision \((n = 16)\). Element 2 gathered more detailed information about support, incorporating self-completion questionnaires for specialist services \((n = 10)\) and telephone interviews with senior midwifery staff in the remaining areas \((n = 10)\). Element 3 involved site visits to six services in Scotland and England to obtain more detailed insights into service delivery and examples of promising practice \((n = 28)\). In parallel with Elements 1 to 3, Element 4 involved an audit of routinely collected data at five different stages of identification and treatment of smokers.

Key findings
This study examined the provision of smoking cessation support for pregnant women in Scotland. It identified a variable picture across the country in terms of the treatment models and extent of support available, which indicates that appropriate services and support are not available for all pregnant smokers. Focusing in particular on direct cessation support, the study categorised provision into three broad ‘types’ – specialist, intermediate and generic. Five ‘specialist’ services were identified, characterised as being well established, with trained staff for whom cessation support is their main employment. They served 10 hospitals/units in five health board areas. Staff numbers in individual services tended to be low, with between one and three individuals who were usually working part-time, which meant that services were often stretched. In addition, staff ratios did not necessarily reflect the prevalence of pregnant smokers. ‘Intermediate’ support services were identified in four health board areas or parts of health boards, and were characterised by staff members with a limited designated period allocated to smoking cessation (usually up to 1 day a week). This category includes a recently developed multi-element support service incorporating financial incentives. In the remaining areas, direct cessation support was mainly provided by ‘generic’ community-based services. Findings indicate low uptake of generic services. In addition, new approaches were identified in some areas, in particular broader capacity building among professionals and service providers who come into contact with pregnant women, instead of (or in addition to) specialist services.

The study suggests that several broad areas need to be considered when determining ‘what works’ in cessation services for pregnant smokers in particular, as well as overall reduction of smoking in this group. First, it is important to facilitate engagement – getting people through the door –
before support can be given. Effective identification of smokers is largely achieved through booking visits, and referral often depends on whether smoking is identified and the women concerned express an interest in support. Tools such as the carbon monoxide (CO) breath test can overcome under-reporting issues. Universal referral of all smokers to specialists is possible, with clients opting out if they wish once telephone contact has been made. Earlier referrals and self-referral were encouraged in some areas – for example, at the initial confirmation of pregnancy, by sending information prior to booking, by attending relevant clinics such as family planning, and by more innovative approaches such as financial incentives. Targeting of specific populations was more apparent in some areas, in particular those located in disadvantaged areas. Specific work with women's families and friends was not well developed. Although advice was offered if they attended a consultation, they were more commonly referred to generic services for ongoing support.

Secondly, a number of key elements of service provision once a woman had reached the service seem to work particularly well. These include one-to-one intensive support that is responsive to women's needs but which addresses key issues such as the risks of smoking, the benefits of quitting, and potential cessation approaches. In addition, flexibility around the scheduling of support sessions was seen to be beneficial. Both home-based and clinic/telephone support showed 4-week quit rates comparable with those of English services, but the latter approach contributed to higher numbers being supported by fewer staff. Post-holders in most specialist services are midwives, which is seen to have many benefits, but these need to be considered in relation to resources and midwifery staffing generally. Post-holders with nursing backgrounds can also fulfil this role. NRT is widely used as an integral part of cessation support, but there is scope to further explore routes for dispensing. Whatever approach is adopted, at all stages it is important to enhance recording, data entry and monitoring procedures.

Finally, support of women when addressing smoking issues and quitting should continue at all stages of contact, whether or not the smoker chooses to engage with specialist services. Providing midwives and others with brief advice training and support in addressing smoking is likely to contribute to a broader shift in attitudes and approach with regard to cessation. Relying on one or two specialists to change such an entrenched behaviour on their own is likely to prove less effective. This has considerable resource implications, but such training could, for instance, be made mandatory for all midwives.

The study also revealed ongoing and significant problems with regard to the quality of all routine data on smoking in pregnancy in Scotland. The SMR02 gives important prevalence measures and is used to assess national targets, and we also suggest that these figures should be used as a denominator to assess both service reach and quit successes. However, there have been considerable gaps in reporting, with variation in different hospitals. This is only in part attributable to women under-reporting, but routine use of identification tools such as CO breath tests can enhance the identification process. Services should also continue to improve record keeping with regard to the number of pregnant women referred to services, the number who engage with services, and the number who set a quit date and who quit. Comprehensive input to the National Smoking Cessation Database is essential to improve understanding at a national level and to contribute to considerations of effectiveness, in addition to guiding local services. Trained support staff can facilitate comprehensive and accurate data entry for submission to national databases.
Discussion in relation to guidelines
The current Scottish guidelines recommend that pregnant smokers should, as far as possible, be offered structured, face-to-face, one-to-one behavioural support at locations and schedules to suit them. The findings indicate that where support is provided, it is largely in line with these recommendations. Support tends to be offered on a one-to-one basis, and there is flexibility in content, timing and length of input to suit individual needs. Locations are more varied, with most services giving home-based contact, but one large service offers an initial clinic contact followed by telephone support, and in another the main behavioural support is provided through community pharmacies.

The guidelines also make a number of recommendations that are relevant to the wider context in which cessation provision for pregnant women operates, including brief advice from a range of health professionals. The main opportunity for brief advice is seen to be at booking, but it is recognised that there is scope for others to be involved, and for this to occur at all stages of the pregnancy. The study reveals an aspiration for training in brief advice and smoking issues to be offered and accessed. This is felt to enhance referrals as well as capacity for broader quitting support. However, attendance is often low, reflecting demanding workloads and competing training requirements. It may be that such training should be made mandatory.

It is also recommended that there should be arrangements to ensure timely referral, and the development, management and funding of dedicated smoking cessation services within each health board in Scotland, ideally with one or more designated posts. In general post-holders should be midwives. The study shows that the booking visit is the most common source of referral but, as outlined above, some areas encourage earlier referrals. In most specialist services, support is usually provided by midwives, but in a few of these services post-holders have a community nursing background, and in generic services support is unlikely to be offered by midwives. Opinions on this issue varied.

The 2007 update of guidelines highlights the extension to licensing for NRT products to pregnant and breastfeeding women recommended by the Committee on Safety of Medicines. It specifies that a risk–benefit assessment should be conducted prior to use of NRT, the 24-hour patch should not normally be used during pregnancy, and NRT use should ideally be discontinued after 2 to 3 months. Again, practice generally reflects these recommendations. Specialist services have clear protocols and assessment forms for use of NRT. Around 80% of clients use NRT support, with the 16-hour patch being the most widely used. In one area, however, a separate protocol was developed for more intensive NRT support for inpatients experiencing acute withdrawal symptoms, which includes 24-hour patch and combination therapies. More varied approaches were also identified in services delivered in England. Specialist service providers rarely prescribe, but undertake the risk–benefit assessment and make recommendations, either to the GP or to the community pharmacist. Irrespective of the prescribing route, pregnant women generally collect NRT from the local pharmacy, rather than NRT being dispensed to them by the service provider, although this occurs in one intermediate service with midwife delivery and in one case in England.
Overview

Findings from this study reveal a number of key learning points for the development and delivery of cessation support in pregnancy, which are described in detail in the Conclusions section. These largely relate to provision through specialist services, but also take into account broader approaches that are likely to support reduction of smoking in pregnancy, and related data collection and monitoring issues. They are outlined under the following themes: behavioural support approaches; staffing and service structures; targeting, identification and referral; pharmacotherapy support; training and awareness raising; and recording, monitoring and national data.

Finally, this study highlights a number of issues that require further research not only in the Scottish context, but also further afield. This includes research on the effectiveness of different models of behavioural support for pregnant women, as well as on the location of services, the pros and cons of midwives or others as advisers on smoking in pregnancy, and NRT in pregnancy. The study has also identified very significant gaps in data collection, from the stage when smokers are identified through to the recording of cessation outcomes. This suggests the need for regular monitoring and audit.

Smoking in pregnancy remains a substantial public health challenge. Findings suggest that, in many parts of the country, significant progress has been made. However, it is also apparent that much more needs to be done to improve the availability and intensity of support available to women and their families, if the rates of smoking in pregnancy are to be significantly reduced in the future.
1. Introduction

Smoking during pregnancy is a major concern in Scotland. Figures suggest that at least 23% of women smoke during early pregnancy (Information Services Division Scotland, 2006). There is a clear age gradient within these figures, with teenagers between the ages of 16 and 19 years over three times more likely to smoke than mothers over 45 years of age. Smoking in pregnancy also reflects the same social gradient as that seen for women’s smoking overall, with smoking prevalence being higher among more disadvantaged groups (Information Services Division Scotland, 2006).

Smoking in pregnancy harms women and unborn children. The adverse effects include 4000 deaths per year in the UK from miscarriage and stillbirth, more preterm and low-birth-weight babies (Royal College of Physicians, 1992; Charlton, 1996), and an increase in sudden infant death syndrome, asthma and attention deficit hyperactivity disorder (Charlton, 1996; Batstra et al., 2003). Reducing smoking in pregnancy is therefore an important policy priority in terms of both improving population health and reducing health inequalities.

Scotland has established national targets to reduce the proportion of women who smoke during pregnancy (from 29% in 1995 to 20% by 2010), and to reduce inequalities in this area, increasing the rate of improvement for the most deprived communities by 15%. NHS Stop Smoking Services have an important role to play in achieving these targets. Recommendations for the provision of smoking cessation support to pregnant women were made in the Smoking Cessation Guidelines for Scotland (NHS Health Scotland/ASH Scotland, 2004). Some health boards have sought to build on these guidelines by establishing tailored support and specialist services for pregnant women. Some of these services are now well established, while others are at an earlier stage of development.

The 2004 guidelines made specific recommendations with regard to helping pregnant women to stop smoking. Recommendation 3 (NHS Health Scotland/Ash Scotland 2004: 22) stated that:

- specific populations of NHS patients, such as hospital inpatients and pregnant smokers, should as far as possible be offered smoking cessation treatment appropriate to their circumstances, at locations and schedules to suit them
- pregnant smokers should as far as possible be offered structured, face-to-face, one-to-one behavioural support at locations and schedules to suit them
- NHS board smoking cessation coordinators should build relationships with maternity services to ensure timely referral of pregnant smokers to intensive support. A specific strategy will need to be developed, organised locally, ideally with one or more designated posts. In general, post-holders should be midwives.

The guidelines also made a number of recommendations that are relevant to the wider context in which cessation provision for pregnant women operates, including brief advice from health professionals, and the development, management and funding of dedicated smoking cessation services within each health board in Scotland.

In 2007 these guidelines were updated with the inclusion of new guidance on brief advice, pharmacotherapy and other recent developments (NHS Health Scotland/ASH Scotland, 2007). In relation to smoking in pregnancy, this update was particularly important as it highlighted the extension to licensing for NRT products to pregnant and breastfeeding women recommended by the Committee on Safety of Medicines (CSM) in 2005. The CSM specified that pregnant women could use NRT, but that a risk–benefit assessment should be conducted as early in pregnancy as possible, the 24-hour patch should not normally be used during pregnancy, and NRT use should ideally be discontinued after 2 to 3 months. Other smoking
cessation medications (bupropion and varenicline) are not recommended for use during pregnancy (Committee on Safety of Medicines, 2005).

Despite this encouraging progress, a number of challenges remain with regard to supporting pregnant women in stopping smoking, and accurately measuring progress in this area. First, there are still significant problems in terms of identifying which women are smoking during pregnancy in Scotland. Studies both in the UK and internationally have shown that pregnant women have a tendency to under-report smoking (Walsh et al., 1996; Owen and McNeill, 2001). Recent research in Scotland has also suggested that there are problems with the quality of the main data source used to estimate smoking prevalence during pregnancy in Scotland, namely the SMR02 (Bauld et al., 2007a). Data quality problems affect some parts of Scotland (and some maternity hospitals) more than others. Secondly, identifying the best way to reach pregnant smokers and encourage them to accept support with stopping remains problematic. As stated in a recent systematic review of the effectiveness of smoking cessation services, conducted for NICE, there are ‘numerous barriers to recruiting pregnant women into smoking cessation programmes’ (Bell et al., 2007). Finally, the same review and others in this area have highlighted the fact that once women have agreed to accept support to help them to stop, there is still limited evidence about how interventions might be tailored for pregnant smokers to achieve the best outcomes (Lumley et al., 2004; Bell et al., 2007). Overall, then, it is important that future developments in smoking cessation interventions for pregnant women in Scotland are informed by and build on accurate information about the nature and extent of provision for pregnant smokers, for each health board.

This report outlines findings from a national audit of smoking cessation support for pregnant women in Scotland. The research aimed to map the current extent and nature of support, highlighting gaps and also providing examples of promising practice.

The specific objectives of the study were as follows:

1. to describe and map the current provision of smoking cessation support for pregnant smokers for each health board area in Scotland
2. to explore specific elements of current provision, including:
   - initial referral links and pathways within and across settings
   - assessment and recording of smoking status
   - data capture/recording methods and systems used
   - referral pathways to and protocols with regard to smoking cessation services and other providers
   - provision and recording of brief advice
   - range of support interventions offered, and by whom
   - uptake of smoking cessation services by pregnant smokers
   - accessibility and suitability, especially for groups at risk of exclusion.
3. to explore knowledge, understanding and current practice among key informants
4. to determine the extent of smoking cessation training among midwives and other key staff, and the extent and characteristics of staff with dedicated time in that role
5. to identify key examples of cessation service provision for pregnant women in Scotland and England
6. to examine existing monitoring data on smoking in pregnancy, including SMR02 records and the ISD Minimum Data Set
7. to consider findings in relation to the guidance issued by NICE in England in February 2008.

A consideration of findings in relation to the recent NICE guidance on smoking cessation in England is included in Appendix 1. In addition, we have taken into account the content of this guidance in developing the conclusions to our report.

In order to provide both broad-level evidence on the range of activities currently under way in Scotland and more detailed information on the delivery of
individual services, a mix of methods was employed, incorporating face-to-face interviews, telephone enquiry, self-completion questionnaire, and collection and analysis of service documentation and monitoring data. The study included four data collection stages (summarised in Figure 2.1):

- Element 1: initial insight into range of services by health board area
- Element 2: overview of services in terms of support offering, referrals, etc.
- Element 3: analysis of selected services using a case-study approach to identify and document examples of promising practice
- Element 4: audit using routinely collected data.

Resource and time constraints meant that it was not practicable to include service users or all those involved in delivery in each area. The Element 2 and 3 data collection periods were summer and autumn 2007, respectively, and it is recognised that provision and practice may have changed or taken new directions since the initial contacts, although the authors have updated the findings where possible. The study adopted a cumulative approach, with each stage informing the sample, question areas and analysis of the stages that followed.

### 2.1 Element 1

**Purpose:**
to identify services, providers and documentation.

**Method:**
telephone interviews.

**Sample:**
smoking cessation coordinators (n = 16, covering all health boards).

Tobacco leads from all 14 health boards were invited to take part by letter in the first instance, and a time was arranged for interview by telephone or email. All participants were sent a written outline of the main areas of enquiry so that they could prepare in advance. As well as identifying pregnancy-related cessation activity and contact details for service leads, the interviews were also used to obtain some preliminary insights into the nature of these activities. This information was used to inform the design and content of the Element 2 self-completion questionnaires and interview schedules, and to provide contextual information to assist with the analysis of the Element 2 data.

### 2.2 Element 2

**Purpose:**
1. to gather information on each of the services identified
2. to clarify provision where established pregnancy specialist services had not been identified, including where there were developing services identified
3. to identify case studies for Element 3.

**Method:**
1. self-completion questionnaires
2. telephone interviews
3. researcher also attended Scottish Tobacco Control Alliance (STCA) Cessation in Pregnancy network meetings.

**Sample:**
1. staff involved in service delivery (n = 10)
2. senior midwifery staff or nominees in areas where no services or developing services were identified (n = 10)
3. additional follow-up telephone calls where appropriate.

The self-completion questionnaire combined both pre-coded and open-ended questions, and included self-evaluation sections which examined factors that helped and hindered service delivery and patient referral. Respondents were also encouraged to supply supplementary material, such as service protocols and publicity material. Copies were emailed to those identified from the Element 1 enquiries as providing pregnancy specialist services, including one intervention that adopted an
innovative approach. Respondent confidentiality was guaranteed as part of the consent procedure. Delayed returns were followed up by a combination of email and telephone, and all questionnaires were completed.

To ensure coverage of any other work addressing this issue, apart from established specialist services, an additional enquiry route was added to the study at the request of NHS Health Scotland. Ten telephone interviews were conducted with senior midwifery staff or their nominees in health boards where services had not been identified or where parts of the health board were not covered by the specialist service. This included intermediate services where some staff had short periods of time designated for cessation-related work, and generic cessation service provision. Interviews were supported by a topic guide, and covered provision in relation to pregnancy and additional issues such as training. Interviews were recorded on audio file with the respondent’s consent, and were transcribed for thematic analysis.

### 2.3 Element 3

**Purpose:** to identify and document examples of promising practice by using case-study approach

**Methods:** site visits, face-to-face in-depth interviews (one to one and paired), telephone interviews, examination of documentation, etc.

**Sample:** four case studies in Scotland and two case studies in England. Main service providers and those with varied perspectives (e.g. community pharmacists, managers, community midwives, obstetricians, partner agencies).

The Scottish case studies were identified using information gained from the Element 1 and Element 2 enquiries, and applied a range of criteria designed to represent varied service models and approaches, and services which served both urban and rural communities. The English case studies were selected as examples of well-developed pregnancy support services on the basis of information obtained from other researchers and practitioners working in smoking cessation in England. The interview content for each case study was tailored to reflect the emerging findings from the earlier elements. A site visit was made to each service, and interviews with key informants were arranged in advance. In some instances visits were followed up with additional telephone enquiries. A total of 28 respondents took part in this stage of the study, including the service leads, clinical leads and representatives from referral sources and agencies to whom patients were referred. As with Element 2, the researcher also used the interview as an opportunity to collect relevant support materials and documentation. All Element 3 interviews were recorded on audio file with the respondent’s consent, and the majority were transcribed prior to thematic analysis.

### 2.4 Element 4

**Purpose:** analysis of routinely collected monitoring data, in order to:

1. identify feasible audit standards for ongoing audit measures
2. examine data at five different stages in the process of identifying and treating smokers:
   - identifying the number of pregnant smokers in Scotland (Stage 1)
   - referral to specialist cessation services for pregnant smokers (Stage 2)
   - engagement of pregnant smokers with services (Stage 3)
   - pregnant smokers who set a quit date (Stage 4)
   - short-term (4-week) cessation outcomes for pregnant women (Stage 5).

**Data sources:** SMR02 records and Information Services Division (ISD) National Database, and data from questionnaires completed in this study.

This element of the study involved examination of ISD SMR02 records and the ISD National Database. At some stages, data provided on the service self-completion questionnaires were included in order to enrich the analysis.
Figure 2.1: Study elements and methods.

**ELEMENT 1**
Identification of services and activity
- Telephone interviews
- Tobacco leads ($n = 16$) in each health board

**ELEMENT 2**
Overview of provision
- Self-completion questionnaire
- Specialist services ($n = 9$)
- Innovative service ($n = 1$)
- Telephone interviews
- Senior midwifery staff or nominees ($n = 10$)

**ELEMENT 3**
Case studies
- (four Scottish and two English)
- In-depth interviews ($n = 28$)

**ELEMENT 4**
Audit using routinely collected data
Examination of:
- ISD data (SMR02 and National Database)
- Service questionnaire data
3. Overview of service support

The findings from the analysis of the Element 2 self-completion questionnaires and telephone interviews are divided into eight main areas: information sources (Section 3.1), level of provision (Section 3.2), support structures (Section 3.3), targeting, identification and referral (Section 3.4), pharmacotherapy support (Section 3.5), training and awareness raising (Section 3.6), monitoring (Section 3.7), and factors that facilitate or inhibit delivery (Section 3.8).

3.1 Information sources

Tobacco control leads in the 14 health boards were asked to identify services supporting cessation in pregnancy as part of the Element 1 enquiry (see Section 2). Specialist services were identified in five health boards and questionnaires were sent to nine contacts, to accommodate geographical distinctions across the services. An additional multi-stranded support service in a sixth health board was also identified as of special interest, and a questionnaire was sent to that service. All 10 questionnaires were returned. Four services which had completed questionnaires were identified as useful Scottish case studies (see Section 5), and information from these also contributes to this section.

To ensure coverage of any other work addressing this issue, apart from established services, an additional enquiry route was added to the study at the request of NHS Health Scotland. Ten telephone interviews were conducted with senior midwifery staff or their nominees in health boards where specialist services had not been identified or where parts of the health board were not covered by the specialist service. As outlined below, this may include intermediate services where some staff had short periods of time designated for cessation-related work, and generic cessation service provision. In addition, it is recognised that provision and practice may have changed since study contacts were made, although updates are included where such information is known.

3.2 Level of provision

The level of provision varied considerably, in terms of both service structures and other elements. Focusing here on direct cessation support, we have characterised provision into three broad ‘types’ – specialist, intermediate and generic. These types are outlined below and summarised in Table 3.1. Additional information on numbers reached and quit attempts is included in Section 4. We also recognise the contribution of other elements to supporting quitting – such as awareness raising and training with key professional groups – in addition to direct behavioural support. These are addressed in this section.

Five ‘specialist’ services were identified (see Table 3.1), characterised as being well established with trained staff for whom cessation support is their main employment (from at least 2 days up to full-time). These were located in five health board areas, either board wide or within individual Community Health Partnerships (CHPs) or hospital catchment areas, and served 10 hospitals/units.

‘Intermediate’ support services were identified in four health board areas. These are characterised by having individual staff members who may have a limited designated period allocated to smoking cessation (typically 5 to 8 hours) and undertake the work along with other roles, and support may be slightly less intensive. In this category, support is usually provided by midwives, but community pharmacists are also relevant. In some areas, although funding was allocated for sessions of this nature, it was sometimes difficult to fill the posts. We also included in this category a recently developed multi-element city-wide scheme in which behavioural support is provided by community pharmacists.

Finally, in some health board areas, direct cessation support was primarily provided through generic community-based services, with no particular pregnancy-related allocation. This includes 8 health board areas or parts of health boards. It should be noted that services were being developed in some
of these areas, including moving towards appointment of a specialist roll-out of existing services, development of approaches to improve referral and engagement with community services, and exploration of social marketing approaches. In addition, broader capacity-building approaches were being developed in some areas, with proactive training of midwives and other professionals in contact with pregnant women.

Table 3.1 summarises the distribution of cessation provision, using maternity hospitals as a convenient geographical indicator, although not all services were located in hospitals.

**Table 3.1:** Level of provision of direct cessation support

<table>
<thead>
<tr>
<th>Health board and hospital areas served*</th>
<th>Study category</th>
<th>Additional notes</th>
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<tr>
<td><strong>Ayrshire and Arran</strong></td>
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<tr>
<td>Ayrshire Central Hospital</td>
<td>Generic</td>
<td>Developing social marketing approach</td>
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<tr>
<td><strong>Borders</strong></td>
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<tr>
<td>Borders General Hospital</td>
<td>Generic</td>
<td>Pilot last year, reviewing (e.g. social marketing)</td>
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<tr>
<td><strong>Dumfries and Galloway</strong></td>
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<tr>
<td>Royal Infirmary</td>
<td>Specialist</td>
<td>Quit for Life</td>
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<td><strong>Fife</strong></td>
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<tr>
<td>Forth Park Maternity Hospital†</td>
<td>Specialist</td>
<td>Stop 4 Life</td>
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<td><strong>Forth Valley</strong></td>
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<tr>
<td>Stirling Royal Infirmary</td>
<td>Generic</td>
<td>Some support from secondary care, new specialist post since audit</td>
</tr>
<tr>
<td><strong>Dumfries and Galloway</strong></td>
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<td>Royal Infirmary</td>
<td>Specialist</td>
<td>Quit for Life</td>
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<td><strong>Forth Valley</strong></td>
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<td>Generic</td>
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<tr>
<td><strong>Grampian</strong></td>
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<tr>
<td>Aberdeen Maternity Hospital</td>
<td>Intermediate</td>
<td>Midwives allocated sessions (two in Aberdeen, one in Kincardineshire)</td>
</tr>
<tr>
<td><strong>Elgin</strong></td>
<td>Intermediate</td>
<td>No one in post</td>
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<tr>
<td>Royal Alexandra Hospital, Paisley</td>
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<td>CATCH</td>
</tr>
<tr>
<td><strong>Vale of Leven†</strong></td>
<td>Specialist</td>
<td>CATCH</td>
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<tr>
<td>Inverclyde Royal, Greenock</td>
<td>Specialist</td>
<td>CATCH</td>
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<tr>
<td><strong>Queen Mother’s Hospital†</strong></td>
<td>Specialist</td>
<td>‘breathe’</td>
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<tr>
<td><strong>Princess Royal Maternity Hospital†</strong></td>
<td>Specialist</td>
<td>‘breathe’</td>
</tr>
<tr>
<td>Southern General Hospital†</td>
<td>Specialist</td>
<td>‘breathe’</td>
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<td><strong>Highlands and Islands</strong></td>
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<tr>
<td>Raigmore</td>
<td>Intermediate</td>
<td>Capacity building and cessation support</td>
</tr>
<tr>
<td>Caithness</td>
<td>Generic</td>
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<td>Balfour Hospital, Orkney</td>
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<td></td>
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<tr>
<td>Gilbert Bain, Shetland</td>
<td>Generic</td>
<td>Additional work (e.g. cessation pack)</td>
</tr>
<tr>
<td>Western Isles</td>
<td>Generic</td>
<td></td>
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<tr>
<td><strong>Lanarkshire</strong></td>
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<tr>
<td>Wishaw General Hospital</td>
<td>Generic</td>
<td>Developing care pathways and capacity building, etc.</td>
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<tr>
<td><strong>Lothian</strong></td>
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<tr>
<td>Royal Infirmary of Edinburgh</td>
<td>Specialist</td>
<td>(Stop for Life)</td>
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<tr>
<td>St John’s Howden</td>
<td>Specialist</td>
<td>Surestop (midwives allocated sessions)</td>
</tr>
<tr>
<td><strong>Tayside</strong></td>
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<tr>
<td>Ninewells Hospital†</td>
<td>Intermediate</td>
<td>GIUFB: multi-component approach</td>
</tr>
<tr>
<td>Perth Royal Infirmary</td>
<td>Generic</td>
<td>Roll-out of GIUFB by end of 2007</td>
</tr>
<tr>
<td>Montrose Royal Infirmary</td>
<td>Generic</td>
<td>Roll-out of GIUFB by end of 2007</td>
</tr>
</tbody>
</table>

GIUFB, Give It Up For Baby.

*Hospitals indicate patient catchment areas, but service management structures varied.
†Case studies (see Section 5).

¹ NHS Greater Glasgow and Clyde services rebranded as smoke-free pregnancy services (March 2008).
3.3 Support structures and approaches

This section outlines further the range of support structures and approaches identified among designated cessation services. Virtually all cessation support for pregnant women is provided on a one-to-one basis. Some services had tried to run groups, but without success. However, the woman's partner or family and friends might join the consultation, in effect making a small group. This is actively encouraged, especially at the first contact, although partners and others may also be referred to community services for support if they themselves wish to quit. No Scottish services that we could identify routinely treated significant numbers of partners or family members alongside pregnant women. However, one of the English case studies described in Section 5 (Herefordshire) did use this approach.

Location: Contact among most services takes place in the mother’s home, supplemented to a lesser extent by telephone support, particularly for relapse prevention. Although this was seen to have considerable benefits, specialist projects working in this way also cited drawbacks, such as travel time and the ‘costs’ of wasted visits if mothers are not available. In contrast, two services that were analysed as case studies (see Sections 5.1 and 5.2) provide support away from the woman’s home. In one of these, initial face-to-face contact with the link midwife takes place at the maternity hospital by appointment, and follow-up support is provided by telephone, linked to additional contact with a local Starting Fresh community pharmacy if the woman is using NRT. In the other service, the main behavioural support is provided by community pharmacists on a drop-in basis, in conjunction with other support elements, including financial incentives.

Staffing: Four of the specialist interventions are delivered by midwives. However, in one area the adviser was a former midwife, who was no longer registered, and in another area two of the three advisers had a background in district nursing and health visiting rather than in midwifery. Management structures varied between maternity services and smoking cessation services, and some services had joint management structures. As described above, community pharmacists are integral elements of support in two services. In some areas that are described as having intermediate support, cessation support was offered through midwives who had been allocated a limited number of hours to the issue. Finally, ‘generic’ provision is offered through community-based cessation service advisers, although there was a perception of poor uptake of general services from this target group. Community pharmacists were also identified as having a valuable supportive role in more rural areas, or in areas where staffing allocations for cessation are limited. It was also recognised that all healthcare workers who are in contact with pregnant women have a role with regard to encouraging cessation. Community midwives who were interviewed for the case studies reported that they raised the issue with women at booking and subsequent contacts, and would suggest approaches to quitting or to limiting smoking-related harm. However, anecdotally many informants felt that midwives are often reluctant to raise the issue, or that interactions are very limited.

Approaches: Reported approaches to behavioural support tended to follow similar models, in the context of responding to individual client needs. In an open discussion format, often based on motivational interviewing techniques, the issues addressed commonly include the risks of continuing to smoke in pregnancy and the benefits of quitting, motivational approaches and ideas for behaviour change, coping with triggers, and withdrawal symptoms and relapse prevention. The potential use of NRT is also discussed (see below). Additional tools that are used during behavioural support sessions include the Smoking and Reproductive Life summary diagram (Jones, 2004: p. 6 and Appendix 2), smoking diaries and financial analysis. Additional
relevant handouts or leaflets are given to the woman as appropriate. These issues are revisited at subsequent contacts, exploring how the women are coping, effective strategies, and NRT use if relevant. In addition to smoking cessation, advisers tended to address issues relating to second-hand smoke and the importance of smoke-free areas, both as a fallback if the woman does not succeed in quitting, and also in relation to other smokers in the house. Additional approaches to support reported by individual informants included the use of acupuncture and relaxation therapies.

**Contact times:** Among specialist services, initial contact tended to last from 45 to 90 minutes, whether contact was at home or in a clinic. This varied according to client needs and whether others were present. Subsequent contacts were shorter, ranging from a few minutes to up to half an hour. In areas where community pharmacists deliver support, sessions are considerably shorter, with initial contact lasting around 20 minutes and subsequent visits lasting 5 to 10 minutes. Service support periods vary, and services tended to take a flexible approach depending on the woman’s needs rather than adopting a fixed cut-off point, although community pharmacy support ends with NRT supply (no more than 12 weeks). Typically, support was provided weekly for the first few weeks and then less frequently. Later on, telephone support (by either voice or text) may become more predominant. Contact can continue into the postnatal period. Clients are encouraged by specialist services to make contact if problems arise, and to re-engage at any point if they wish to do so, including during subsequent pregnancies.

### 3.4 Targeting, identification and referral

The main target group for all services consists of any pregnant woman identified as a smoker. Most services also require the woman to have expressed an interest in quitting, and to consent to follow-up.

**Additional target groups:** Advisers were also keen to make contact with partners and family members, especially at the first contact, both to advise on their own smoking behaviour and to support the woman in her attempt to quit. However, those wishing to quit may be referred to local generic services for ongoing support. Services tended not to explicitly target particular geographical areas or communities. However, some services considered themselves to be working mainly with those living in disadvantaged areas, as women in these areas are more likely to continue smoking during pregnancy. A small minority of informants in areas with intermediate and generic support reported specific attempts to reach disadvantaged groups. The Dundee service’s adoption of financial incentives for participation and social support was aimed at enhancing recruitment of low-income groups, and in one area a midwife was allocated 1 day a week to work on a project in regeneration areas (in Aberdeen). Both of these will be evaluated later. In another area, links were made with midwives working with family health projects (in Fife; see Section 5.2), and one informant commented that midwives working with a Special Needs in Pregnancy Service are likely to advise on smoking behaviours. Few informants provided data on the socio-economic characteristics of clients, apart from ‘breathe’ in Glasgow, where local monitoring data show that those in lower socio-economic groups are reached proportionately and successfully helped to quit (see Section 4.4). Support for those with substance misuse issues was also mentioned in two services. In particular, ‘breathe’ at the Princess Royal Maternity Hospital had collaborated with the Women’s Reproductive Health Service to provide intensive behavioural and NRT support for temporary abstinence during social admissions to support detox, as well as offering support with quitting if this was desired (see Section 5.1). Other approaches that were mentioned included targeting teenage mothers by attending community groups or designated antenatal sessions.
Attempts have been made to target pregnant women prior to booking, in particular by building links with GPs. In one area, this is facilitated by a community midwife’s presence in the surgery when pregnancy is confirmed and the hospital referral letter is sent. A specialist midwife in one of the English case studies (Herefordshire; see Section 5.6) runs a regular drop-in session in a family planning clinic, which provides another example of how women can be reached before the booking visit.

**Referrals:** These were usually made on single-page forms provided by the service, but there was scope for making referrals in person or by telephone, and supplementary information could also be provided in this way. The majority of cases were referred to services by midwives, predominantly community staff who are more likely to undertake booking procedures. Additional referrals came from GPs and other health professionals, and all of the services accepted self-referral. Specialist services often have referral pathways summarised on a one-page pro-forma (see, for example, Appendix 2). In one area, where to date there is no specialist pregnancy service, coordinated referral pathways that were initiated during an earlier Partnership Action on Tobacco and Health (PATH)-funded project (Dorrens, 2006) are being revised and promoted as part of a health-board-wide initiative to enhance engagement in cessation support by pregnant women, currently provided through existing cessation services. Once referred, the specialist makes contact to give further information and arrange a first meeting. This is usually by telephone, although a letter may be sent if this approach is unsuccessful. The pregnant woman may make contact with services herself, and this is the main route for the pharmacy-based element of the service in Dundee (see Section 5.2).

Identification of smokers is the first stage of referral and engagement. This is examined further in Section 4. Initial identification (often at booking) requires questions to be asked about smoking, but often relies on self-report. Glasgow’s ‘breathe’ is the first service to include routine CO monitoring in this process (see Section 5.1). The Glasgow service encourages referral of **all** smokers who are thus identified, as even those who are unwilling to consider quitting can be encouraged to try at a later date (referral of all smokers is also employed in one of the English case studies, in Bradford; see Section 5.5). Some other areas report initiating the distribution of CO monitors to midwives, but largely to aid recording and as a discussion aid and motivational tool, rather than to refer all smokers. For example, in Lanarkshire, as part of a broader initiative, it is planned that all pregnant mothers will routinely have an expired air CO reading\(^2\) (EACO) performed, which will also identify the baby’s CO reading, indicating the effects of smoking and passive smoking.

Overall, however, the extent to which the issue of smoking cessation in pregnancy and hence referral was embedded in the booking process varied somewhat. Some services had generated considerable enthusiasm among community midwives, with readiness to refer, while others commented that referral depended on individual midwives and their personal commitment to the issue. At booking, midwives are required to ask questions relating to smoking behaviour and second-hand smoke, although in the past, at least, such questions have not been asked consistently and referral opportunities have not always been taken (see Section 4). The revised Scottish Woman-Held Maternity Records (2007) were mentioned in this context by informants, as they incorporate a number of questions both at booking and postnatally, including whether a mother has been advised about services, which may enhance referrals. In one area (Lanarkshire) an additional adhesive label is added, on which the midwife and patient are required to sign a statement that there had been discussion about these questions.

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\(^2\) EACO can be used in everyday clinical practice to help smokers to quit, and is a proposed method for assessing lack of smoking in pregnant women (Hatsukami et al., 2003). Prior training emphasises the importance of the reading and ways of presenting it to the mother as a normal part of booking.
including potential harm to both mother and baby from smoking/passive smoking, and that details of smoking cessation services and the smoking in pregnancy leaflet had been issued.

**Broader awareness raising:** In addition to interpersonal promotion of services by health professionals, various approaches contributed to raising awareness among pregnant women and their families, and potentially to self-referral. It was widespread practice to include published materials in the ‘pack’ given out at the time of booking, in order to highlight the issue of smoking and available cessation support. These ranged from national leaflets such as *Smoking – Giving up during pregnancy* (NHS Health Scotland, 2006) to materials developed by individual services. The extent to which such materials were included could also vary. Some packs were collated in advance, whereas others were created individually at the visit, depending on the issues that emerged during discussion. In either case midwives might ‘tailor’ the content, which sometimes resulted in smoking leaflets being omitted if the pregnant woman and those in her household were not smokers. Others might include leaflets anyway, feeling that it was still important to raise the issue. In one area, the booking pack is posted out in advance and includes a letter about the service and the identification process. In another area, the local community cessation adviser had worked collaboratively with midwives to develop a letter and pack materials that they could give to pregnant smokers, and they felt that this process had been productive both in terms of increasing recruitment and in raising awareness and understanding among midwives.

In addition to the ‘booking pack’, all informants reported displaying posters, service leaflets and business cards in public areas in maternity hospitals and outlying clinics, and in a variety of community-based settings, such as GP surgeries and health centres and community pharmacies. These mechanisms both promoted the issue and provided signposting to specialist services or generic support as appropriate. Some informants reported additional proactive promotion through features in local media and health service newsletters. The launch of a service was a useful focus for publicity. For example, the Health Minister was invited to ‘open’ one service, whereas the less conventional Dundee project generated considerable media coverage for and against it, including public endorsement by the Health Minister. In some areas, the general cessation service also had a website that provided information about appropriate and local support.

### 3.5 Pharmacotherapy support

Access to NRT was an integral element of most service provision, particularly among specialist services. The extension to the licensing of NRT to pregnant women, introduced in 2005 by the Committee on Safety of Medicines (NHS Health Scotland/ASH Scotland, 2007), was considered to have had an important role in more effective support of quitting and in developing services. However, informants reported that not all professionals were aware of these changes, including some GPs.

**NRT use:** Specialist services reported that at least 80% of clients were using NRT as part of their attempt to quit. Informants emphasised that NRT is not seen as a first-line approach, but it was felt that most mothers had made several previous attempts to quit, which made NRT more appropriate. All undertook a risk–benefit analysis, often using a written guide (e.g. Appendix 2), which is usually signed by the pregnant woman and the midwife to confirm that the process has been undertaken. The 16-hour patch was most commonly used, as well as lozenges, gum and inhalator. One project also highlighted the use of nasal spray and microtabs. Anecdotally, advisers felt that clients were deterred from using oral products due to symptoms of nausea and heartburn.
Prescribing and dispensing: Procedures for prescribing and dispensing varied. Most commonly the prescription was issued by the GP, but often following a written recommendation by the specialist, including confirmation that a risk–benefit analysis had been undertaken. In two areas the community pharmacist prescribed NRT under the relevant patient group directive (PGD), in one of these areas following a recommendation by the specialist. In only one of the specialist services was the specialist adviser the prescriber, and in each case she checked her recommendation with the individual’s GP. NRT was collected from the community pharmacy, usually on a weekly or 2-weekly basis, although prescriptions might be monthly. Post-holders rarely dispensed NRT directly, although this has been identified in an intermediate service and in some English services. Information on prescribing was only routinely obtained via the questionnaires, and different mechanisms may apply in other areas.

Prescribing and dispensing of NRT in the hospital context was unusual, perhaps reflecting the generally short inpatient experience. NRT was reported to be on the hospital formulary and in pharmacy and ward stocks in a minority of responses. However, in one area (Glasgow) work has been developed with regard to inpatients, including those admitted for Caesarean section, and social admissions for substance detox. In the latter, an innovative approach with more intensive NRT support was taken where necessary, including use of the 24-hour patch and combined therapies (see Section 5.1).

Additional approaches are being explored. For example, anecdotally low-dose NRT is being used in combination in the Isle of Man to aid reduction in smoking prior to quitting. Finally, one informant highlighted the need for further research on the safety of NRT, commenting on the inadequacy of knowledge when advising clients. She suggested that a register of NRT use in pregnancy should be compiled, for recording and reporting outcomes and any complications.

3.6 Training and awareness raising

Adviser training: All advisers in specialist support services had received cessation-related training in addition to their midwifery and nursing qualifications. This included PATH-accredited training through Glasgow Caledonian University, with some working up to Module Three, ‘Maudsley’ training, training from Pip Mason Consultancy, and cessation training provided by their own health board’s smoking cessation service for brief intervention and in-depth interviewing. The Pip Mason training includes a pregnancy-specific course. Community pharmacists did not have additional pregnancy-specific training over and above the general preparation for giving community-based cessation support.

Training of other relevant staff: Specialist services reported providing training (usually in brief intervention) to midwives and in some cases to a wider range of relevant professionals, such as obstetric clinicians and health visitors. Often this was during the service start-up period, and it was felt to be an important part of development. Longer-established services recognised a need to renew efforts to refresh awareness and update on professional developments. Several informants commented that training enhanced referrals to services. Although tending to be recorded on our questionnaires as ‘brief intervention’, more flexible training formats were identified when this was explored further in the case-study interviews. The content of such training tended to be a mix of raising awareness of the service and referral processes, promoting the issue of smoking in pregnancy and the importance and benefits of quitting, updating on NRT, and giving confidence and skills in addressing the issue. Training was usually undertaken by the specialist service staff and was held on hospital premises. Anecdotally, it was felt that midwives and other professionals tended
not to have detailed knowledge of the harmful effects of smoking, and of treatment approaches.

Training initiatives were also reported in some areas where there were intermediate or generic services rather than full specialist support services. For example, in one area (Highland), a part-time post is funded where the smoking cessation adviser for pregnancy has a capacity-building remit, training and supporting staff across the health board, with direct support with quitting forming a smaller aspect of her work. She offers training suitable for all professionals who come into contact with pregnant women, to enable them to give advice and support quitting. The 1-day training includes brief intervention elements (PATH approved) with additional pregnancy elements. The smoking cessation adviser for pregnancy spent a considerable period of time developing materials, as a suitable pack was not available. Similar capacity-building work, with concerted efforts to train all community midwives at least, if not wider professionals, was identified in several health boards (e.g. Grampian, Lanarkshire). This might be run by senior coordinators from the generic smoking cessation services, in some cases in conjunction with a pregnancy specialist, or by the secondary care cessation specialist. The broader capacity-building approach was seen to enhance the scope for supporting smoking cessation in pregnancy, which is especially important in rural areas where distances would make it particularly difficult for individual specialists to provide cover. In addition, training was seen to improve confidence in raising the issue and skills in addressing it effectively – particularly valuable for midwives in the time-pressured context of the booking visit.

However, informants suggested that opportunities to deliver training were very limited, especially with regard to training midwives, and many suggested that such training should be mandatory. Although many aspired to at least half a day of training, shorter periods were more commonly described, ranging from 30 to 90 minutes. Difficulties in facilitating release of staff from their normal work were widely reported, particularly as training in smoking issues was not categorised as mandatory, and had to ‘compete’ with other topics. Management support was recognised as crucial, and personal interest among individual midwives greatly affected attendance – for example, attending in free time. To try to increase reach, some specialists reported scheduling short sessions at lunchtime or during shift handovers, but attendances tended to remain low. Other methods of conveying key messages were attempted, such as taking advantage of opportunities to speak to small numbers informally, to ‘tag on’ to other training events, or to promote awareness of developments in care at various routine meetings.

Some informants also reported developing more generalist training approaches – for example, training in motivational techniques which could be applied to a variety of issues rather than just smoking-specific topics (e.g. Highland, Tayside). In two areas, widespread distribution of smoking cessation ‘packs’ (which included the Scottish Smoking Cessation Guidelines) to all midwives was reported (Tayside, Dumfries and Galloway).

### 3.7 Monitoring

Monitoring is clearly an important aspect of service provision, and the effectiveness of recording is discussed further in Section 4. All informants reported that pregnant women should be asked about their smoking behaviour and the results recorded in their notes. This was consistently reported as occurring at the time of the first booking contact. The questions were most likely to be asked by the booking midwife, whether community or clinic based, although the woman’s GP might also ask and record the information on the booking letter. In a minority of areas (Glasgow, and more recently Dundee), mothers’ self-report is validated by the CO breath test, and this is developing more widely (see also Section 3.4). In some areas (e.g. West Lothian,
Dumfries and Galloway), it is also expected that midwives will ask about smoking at every contact and record the result, with ongoing encouragement of continued abstinence, and a further offer of cessation support if the mother is still smoking. Apart from being triggers for referral and for discussion with the mother, respondents who were asked tended to be unaware of further action with regard to these recordings. The revised Scottish Woman-Held Maternity Records (2007) incorporate more detailed questions at booking and postnatally, which may improve recording.

Information about all those receiving cessation support is recorded on service data forms. These are largely structured in line with Minimum Data Set requirements, and the first visit involves gathering a range of information, such as personal details and a smoking history, checking the patient's CO levels and assessing their nicotine dependence and motivation to quit. In addition, if the woman is interested in using NRT, a risk–benefit analysis will be undertaken and recorded. Advisers also keep their own records of individual contacts for each patient. Information about cessation outcomes is obtained at standard stages of 4, 12 and 52 weeks after the quit date. The latter two follow-ups could be more challenging if the woman is no longer in contact, and in some areas follow-up is undertaken by someone other than the advisers (individual examples of this included a designated staff member, a commissioned research agency and the generic cessation services coordinator). Some services recorded additional information of interest in pregnancy, such as success with breastfeeding and quitting success in relation to the birth period, as well as compared with the quit date (e.g. Fife) or involvement with other support elements (Dundee). All key information is recorded locally, with most specialist services using the ISD National Smoking Cessation Database. In one case, the adviser kept her own audit forms for collation. Some services had designated administrative support to help with this process, which was seen to be very demanding and time consuming, leaving less time available for client contact.

3.8 Factors that facilitate or inhibit delivery

Findings from this stage of the study suggest that there are three key factors which facilitate or inhibit effective delivery, namely service approach, service capacity and management approach, and the quality of links with referrers and other agencies.

Service approach: The flexible approach that specialist services tended to use was seen to be of value – for example, the strong focus on individual needs, flexible periods of support, the option of home visits, and allowing engagement and re-engagement at different points. Linked with this was relatively flexible access to NRT, following risk–benefit analysis, although one informant commented on the limited knowledge of the effects of NRT in pregnancy. The extension of the licensing of NRT in 2005 was reported to greatly enhance the support that can be offered. On the other hand, the work could be demanding at times for individual service providers, who were trying to address a range of issues with increasing case loads as services developed. In addition, the work itself could be stressful, involving exposure to emotional as well as practical issues among clients, and the need to maintain motivation in the face of often entrenched behaviours with limited change, at least with regard to stringent outcome measures and targets. Home visits, although valued by those involved, also added to workload demands with added travel time, especially in rural areas, and frustration when clients were not at home. Services that were not home based did not consider that this was a drawback, especially as much of the support was relatively close to women's homes through the local community pharmacy or via telephone. One problem is that workers tend to work isolation, even if there is more than one staff member, and it was important to develop support mechanisms in this demanding work. The Scottish Tobacco Control

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3 Most services were using the National Database at the time of the study, but NHS Greater Glasgow and Clyde was using local systems (www.ashscotland.org.uk/ashv4239.html).
Alliance Cessation in Pregnancy network group was valued in this regard, as well as facilitating sharing practice. In some areas, broader capacity-building approaches are being developed to enhance interest and skills among those in contact with pregnant women, especially midwives, but also primary care staff and those working with young children and their families. This may be particularly valuable in more rural areas, and in areas where there are no specialist services, but it also reduces reliance on one or two individuals to change target group behaviour.

Capacity and management approaches:
Adequate capacity to develop and run the service is important. It was felt that services would benefit from clear ring-fenced and sustainable funding to allow planning and development, together with retention of skilled staff. There should also be adequate staffing levels, preferably with at least two advisers, to allow for cover and mutual support, and to allow enough time to address service development and work with new groups. In addition, administrative support should be built in from the start in order to free up advisers and ensure accurate record keeping and monitoring. An initial lead-in period for new services was invaluable, to allow for staff and service development and introduction to key referrers, ideally including awareness-raising sessions. Positive management approaches were valued – for example, to support service needs such as administrative workers and suitable data-entry mechanisms. In addition, it was important for management to support the attendance of midwifery staff at training sessions, which in turn increased referrals. However, release of staff was often difficult to arrange, even for very short periods, as training in this issue is not mandatory, and smoking has to ‘compete’ for time with other prioritised topics. Achieving attendance at training sessions required active management support or depended on the commitment of individual midwives.

Links with referrers and other agencies: Positive links with key referrers were particularly important. Some services felt that they had benefited from well-established cessation services already developed in the area, so they could build on existing positive relationships as well as expertise. In other areas, services developed more independently from cessation services, being more closely aligned to maternity structures. In some areas it was reported that midwives, who are often the main referrers, tended to be resistant to change and were reluctant to engage with pregnant women about smoking. This included not always asking routine questions about smoking behaviour, missing out standard CO readings where required, and not referring appropriate cases. In other areas it had been possible to develop a more positive response, with midwives becoming more willing to address the issue with women and to refer more appropriately. More positive interactions, including identification and referral of smokers, seemed to develop where effective training had been provided. Furthermore, if the specialist adviser was based in the maternity unit and had additional working relationships as a midwife, more informal two-way communication about clients and issues was facilitated, contributing to positive outcomes. Links and referrals could be enhanced through the development of clear referral pathways and structures. Finally, strategic partnerships have been developed in some areas, facilitating innovative and productive approaches to cessation in this important area of work.
4. Audit using routinely collected data

This section of the study reports findings from an audit of routine data relating to smoking in pregnancy across Scotland. This examined data at five different stages in the process of identifying and treating smokers:

- identifying the number of pregnant smokers in Scotland (Stage 1: the denominator)
- referral to specialist cessation services for pregnant smokers (Stage 2)
- engagement of pregnant smokers with services (Stage 3)
- pregnant smokers who set a quit date (Stage 4)
- short-term (4-week) cessation outcomes for pregnant women (Stage 5).

Our audit aimed to assess the extent and quality of data available at each of these stages. We also include some information on a sixth stage of potential audit, namely the number of specialist workers in the field of smoking cessation in pregnancy employed in each area or service. Audit is an iterative process whereby a small number of pieces of information are collected on a repeated basis with the aim of improving healthcare delivery. The aim is not to burden healthcare providers with data collection at the expense of providing a service to the public. Routinely collected data spare healthcare providers extra work, but it is important that the data are consistently and comprehensively recorded. We found a number of important gaps in the available data, and at the end of this section we offer some suggestions as to where improvements can be made, as well as reflecting on the implications of our findings.

4.1 Stage 1: Identifying the number of pregnant smokers in Scotland (the denominator)

The first audit stage is to identify the number of pregnant women who smoke. An effective service needs to be able to identify all pregnant smokers before they can be referred for specialist smoking cessation support. At present mothers are typically questioned about self-reported smoking at maternity booking by routine midwifery staff at between 8 and 12 weeks’ gestation. These data are ultimately recorded on SMR02 returns that are sent to the Information Services Division Scotland (ISD), and act as a denominator for pregnant smokers.

We began the audit using the SMR02 ‘flat file’ made available by ISD in order to assess the number of women who are smokers at booking. Table 4.1 shows the national SMR02 flat file figures for births in 2005. It should be noted that SMR02 flat file figures are not complete largely due to poor returns from three maternity units and can be corrected either to live births recorded on SMR02 records or to total births registered with the General Register Office for Scotland (52,721 and 53,849 respectively for year ending 31st March 2005: http://isd.scot.nhs.uk/isd/1018.html). As Table 4.1 illustrates, different approaches can be adopted when interpreting SMR02 data, which we have

| Table 4.1: Smoking statistics for women with a recorded delivery date in 2005 derived from SMR02 flat file, by method used to derive data |
|---|---|---|---|---|---|
| Smoking Status in 2005 | unknown | former | current | never | Total |
| Approach | n | % | n | % | n | % | n | % | n | % |
| Comprehensive | 2710 | 5.5 | 4369 | 8.8 | 11 317 | 22.9 | 31 112 | 62.8 | 49 508* |
| Pragmatic | 2913 | 5.9 | 4345 | 8.7 | 10 990 | 22.1 | 31 529 | 63.3 | 49 777† |

* Difference between records obtained using pragmatic and comprehensive approach accounted for by duplicate records: 94 women with duplicate records counted only once when using comprehensive approach.

† Difference between records obtained using pragmatic and comprehensive approach accounted for by missing admission year: 175 records with missing admission year were excluded when using comprehensive approach.
chosen to describe as ‘comprehensive’ and ‘pragmatic.’ A simple or ‘pragmatic’ analysis of the SMR02 flat file was conducted under the direction of ISD staff. This was compared with a more extensive (‘comprehensive’) trawling of that file, which includes multiple entries for maternal smoking on a few women admitted to maternity units for antenatal care (e.g. due to premature labour or pre-eclampsia). We concluded that the pragmatic approach provided an adequate estimate of information available, and it therefore forms the basis for our future analyses.

As Table 4.1 shows, the pragmatic analysis reveals that 22.1% of pregnant women who gave birth during 2005 were identified as current smokers, with 63.3% recorded as never having smoked, 8.7% as former smokers and 5.9% of cases with unknown smoking status.

A number of problems were noted when reviewing routine data on smoking in pregnancy and the SMR02. These include under-reporting, recording problems, and problems with data from certain hospitals.

1. Maternal under-reporting: Not all women will admit that they are smokers at maternity booking. This has been found both in the UK and internationally. In New Zealand, for example, 20% of smokers mis-reported themselves as non-smokers when asked at maternity booking by their routine midwife, as verified by serum cotinine estimation on residual routine pregnancy blood samples in 1994 (Ford et al., 1997). Even if all women were asked about smoking, as many as 20% of smokers would be missed and would not be referred for specialist smoking cessation support.

2. Recording problems: The SMR02 data show that not all women were routinely asked about their smoking status at maternity booking (based on recording of whether that question was asked). As Table 4.1 shows, the smoking status of more than 5% of women in 2005 was recorded as ‘unknown’, which means that no entry was made for smoking on their SMR02 return. This problem is distributed unevenly across the maternity units. Most units provide information for more than 97% of SMR02 returns. However, hospitals with high levels of unknown smoking at booking for births in 2005 include Perth Royal Infirmary (36% of cases), Princess Royal Maternity Hospital (32%), Ninewells Hospital (13%) and the Queen Mother’s Hospital (8.5%). We suggest that the audit standard should be less than 5% ‘unknown.’

3. Variation in levels of returns: For a few hospitals, levels of returned SMR02 data were very poor. Among Tayside hospitals, the proportion of births in Ninewells Hospital that had an SMR02 return was less than 10%. There were also less significant problems with returns from the Princess Royal Maternity Hospital in Glasgow. This makes it difficult to assess under-reporting of smoking returns on SMR02 at maternity booking. We suggest that the audit standard should be over 95% returns.

There are a number of potential solutions to these problems with SMR02 data. For this audit we have made adjustments which have been agreed with ISD to resolve problems 2 and 3 listed above, and to provide an estimate of the true denominator for self-reported smoking. However, we have not been able to make any compensation for potential under-reporting by women. This means that the figures for the denominator presented in Table 4.1 and used in the tables below are undoubtedly underestimates of the number of women who smoke during pregnancy in Scotland.\(^4\)

\(^4\) An ongoing study funded by the Glasgow Centre for Population Health will help to provide an estimate of the actual magnitude of this under-reporting in Scotland at present by comparing self-reported smoking status with validated smoking rates by testing blood samples from pregnant women for cotinine, a nicotine metabolite.
Table 4.2: Self-reported smokers at maternity booking by health board and maternity unit*

<table>
<thead>
<tr>
<th>Health board and hospital</th>
<th>Self-reported current smokers (% of births) corrected for % unknown on ISD flat file and number of births†‡</th>
<th>Total booked on ISD flat file as % of total births§</th>
<th>% Unknown smoking status¶</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ayrshire and Arran</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ayrshire Central Hospital</td>
<td>1100/3590 (31%)</td>
<td>97%</td>
<td>0.3%</td>
</tr>
<tr>
<td>Borders</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Borders General Hospital</td>
<td>292/1042 (28%)</td>
<td>95%</td>
<td>3%</td>
</tr>
<tr>
<td>Dumfries and Galloway</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Royal Infirmary</td>
<td>343/1305 (26%)</td>
<td>98%</td>
<td>2%</td>
</tr>
<tr>
<td>Fife</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forth Park Maternity Hospital</td>
<td>986/3324 (30%)</td>
<td>96%</td>
<td>1%</td>
</tr>
<tr>
<td>Forth Valley</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stirling Royal Infirmary</td>
<td>789/3116 (25%)</td>
<td>99%</td>
<td>5%</td>
</tr>
<tr>
<td>Grampian</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aberdeen Maternity Hospital</td>
<td>923/4183 (22%)</td>
<td>98%</td>
<td>2%</td>
</tr>
<tr>
<td>Greater Glasgow and Clyde</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Royal Alexandra, Paisley</td>
<td>722/2710 (27%)</td>
<td>100%</td>
<td>1%</td>
</tr>
<tr>
<td>Queen Mother’s Hospital</td>
<td>1008/3426 (29%)</td>
<td>100%</td>
<td>19%</td>
</tr>
<tr>
<td>Princess Royal Maternity</td>
<td>1757/5424 (32%)</td>
<td>93%</td>
<td>32%</td>
</tr>
<tr>
<td>Southern General Hospital</td>
<td>616/2988 (21%)</td>
<td>98%</td>
<td>2%</td>
</tr>
<tr>
<td>Highlands and Islands</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raigmore</td>
<td>520/1888 (28%)</td>
<td>98%</td>
<td>4%</td>
</tr>
<tr>
<td>Caithness</td>
<td>45/205 (22%)</td>
<td>98%</td>
<td>25%</td>
</tr>
<tr>
<td>Balfour Hospital, Orkney</td>
<td>18/127 (14%)</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>Gilbert Bain, Shetland</td>
<td>28/154 (18%)</td>
<td>100%</td>
<td>8%</td>
</tr>
<tr>
<td>Western Isles</td>
<td>28/178 (16%)</td>
<td>97%</td>
<td>5%</td>
</tr>
<tr>
<td>Lanarkshire</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wishaw General Hospital</td>
<td>1338/4777 (28%)</td>
<td>99%</td>
<td>1%</td>
</tr>
<tr>
<td>Elgin</td>
<td>228/950 (24%)</td>
<td>98%</td>
<td>3%</td>
</tr>
<tr>
<td>Peterhead</td>
<td>26/110 (24%)</td>
<td>100%</td>
<td>11%</td>
</tr>
<tr>
<td>Lothian</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Royal Infirmary of Edinburgh</td>
<td>550/5792 (9%)</td>
<td>98%</td>
<td>1%</td>
</tr>
<tr>
<td>St John’s Howden</td>
<td>625/2743 (23%)</td>
<td>98%</td>
<td>2%</td>
</tr>
<tr>
<td>Tayside</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ninewells Hospital</td>
<td>1131/3535 (32%)</td>
<td>28%</td>
<td>13%</td>
</tr>
<tr>
<td>Perth Royal Infirmary</td>
<td>88/384 (23%)</td>
<td>47%</td>
<td>36%</td>
</tr>
<tr>
<td>Montrose Royal Infirmary</td>
<td>34/124 (27%)</td>
<td>96%</td>
<td>0%</td>
</tr>
</tbody>
</table>

* Self-reported smokers at maternity booking from SMR02 ISD flat file for births from 1 January to 31 December 2004, and births in each hospital from 1 April 2004 to 31 March 2005; www.isdscotland.org/isd/files/mat_bb_table5.xls
† Corrections made for difference between total births in the hospital; www.isdscotland.org/isd/information-and-statistics.jsp?pContentID=10223&p_applic=CCC&p_service=Content.show and total booked in the hospital from ISD flat file.
‡ Women with ‘Not known’ smoking status ISD flat file distributed as proportions of current/former/never smokers.
§ > 95% = good.
¶ < 5% = good.
Table 4.2 provides more detail on the number of self-reported smokers at booking in 2004 by health board and by individual maternity unit in Scotland. Likely total self-report smokers were calculated as if all had been asked, i.e. unknowns were reallocated after consultation with ISD. The table provides an estimate of 25% of women self-reporting smoking at booking in 2004, a higher figure than that cited in Table 4.1 above, but this is because of the reallocation of the unknown cases. In our view, 25% is a reliable estimate. Rates of smoking in pregnancy vary according to health board, with the highest proportion of smokers (32%) in Glasgow (Princess Royal Maternity Hospital) and Dundee (Ninewells Hospital), and the lowest (9%) in Edinburgh at the Royal Infirmary and in two of the island maternity units (14% in Orkney and 16% in the Western Isles). Table 4.2 also shows that SMR02 returns are not completed for all pregnant women. The total booking rate is 92% nationally but, as outlined above, return rates are poor in several hospitals. Finally, Table 4.2 illustrates the extent of missing data when recording smoking status at booking, either because women were not asked about their smoking status, or because the data were not entered on the SMR02. Nationally the figure is 7%, but this ranges from 30% at the Princess Royal Maternity Hospital to less than 1% in Ayrshire and Montrose.

4.2 Stage 2: Referral of identified pregnant smokers

Once a pregnant smoker has been identified, they should be offered brief advice to quit by their midwife or GP, and be referred to a smoking cessation specialist. Table 4.3 (Stage 2) summarises referrals to specialist support services as far as is known. Information on referrals was difficult to obtain, and therefore Table 4.3 uses data from a number of sources, as set out in the notes to the table. The table also outlines findings for Stages 3 to 6, and these are discussed later in this section of the report.
Table 4.3: Data relating to specialist provision in relation to numbers of smokers

<table>
<thead>
<tr>
<th>Health board and hospital</th>
<th>Stage 1</th>
<th>Stage 2</th>
<th>Stage 3</th>
<th>Stage 4</th>
<th>Stage 5</th>
<th>Stage 6</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Self-reported current smokers corrected for % unknown (% of births)</td>
<td>Referred to specialist services (% self-reported smokers)</td>
<td>Engaged in face-to-face contact (% self-reported smokers)</td>
<td>Women who set a quit date (% self-reported smokers)</td>
<td>Women self-reported quit at 4 weeks post quit date (% of self-reported smokers)</td>
<td>WTE staff providing specialist smoking cessation service*</td>
</tr>
<tr>
<td>Ayrshire and Arran</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ayrshire Central Hospital</td>
<td>1100/3590 (31%)</td>
<td>Generic services</td>
<td></td>
<td></td>
<td></td>
<td>None</td>
</tr>
<tr>
<td>Borders</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Borders General Hospital</td>
<td>292/1042 (28%)</td>
<td>Generic services</td>
<td>4 (1%)§</td>
<td>Not known</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Dumfries and Galloway</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Royal Infirmary</td>
<td>343/1305 (26%)</td>
<td>98 (29%)†</td>
<td>44 (13%)†</td>
<td>37 (11%)†</td>
<td>9 (2.6%)†§</td>
<td>0.5</td>
</tr>
<tr>
<td>Fife</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forth Park Maternity Hospital</td>
<td>986/3324 (30%)</td>
<td>396 (40%)†</td>
<td>193 (20%)†</td>
<td>102 (10%)†</td>
<td>39 (4.0%)†</td>
<td>1.2</td>
</tr>
<tr>
<td>Forth Valley</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stirling Royal Infirmary</td>
<td>789/3116 (25%)</td>
<td>New staff appointed October 2007</td>
<td>Not known</td>
<td>Not known</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Grampian</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aberdeen Maternity Hospital</td>
<td>923/4183 (22%)</td>
<td>Identified midwives work individual sessions</td>
<td>0.4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elgin</td>
<td>228/950 (24%)</td>
<td>None appointed (spring 2007)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peterhead</td>
<td>26/110 (24%)</td>
<td>None appointed (spring 2007)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Greater Glasgow and Clyde</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Southern General, ‘breathe’</td>
<td>616/2988 (21%)</td>
<td>575 (93%)§</td>
<td>106 (17%)§</td>
<td>93 (15%)§</td>
<td>33 (5.4%)§</td>
<td>0.5</td>
</tr>
<tr>
<td>Princess Royal, ‘breathe’</td>
<td>1757/5424 (32%)</td>
<td>703 (40%)§</td>
<td>146 (8%)§</td>
<td>145 (8%)§</td>
<td>50 (2.8%)§</td>
<td>0.5</td>
</tr>
<tr>
<td>Queen Mother’s, ‘breathe’</td>
<td>1008/3426 (24%)</td>
<td>660 (65%)§</td>
<td>134 (13%)§</td>
<td>132 (13%)§</td>
<td>34 (4.2%)§</td>
<td>0.5</td>
</tr>
<tr>
<td>Vale of Leven, CATCH</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Royal Alexandra, CATCH</td>
<td>722/2710 (27%)</td>
<td>182 (25%)**</td>
<td>Not known</td>
<td>45 (6%)**</td>
<td>24 (3.3%)**</td>
<td>1.2</td>
</tr>
<tr>
<td>Greenock services, CATCH</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Highlands and Islands</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raigmore</td>
<td>520/1888 (28%)</td>
<td>Service from November 2006 (training/cessation support)</td>
<td>Not known</td>
<td>Not known</td>
<td>Not known</td>
<td>0.5</td>
</tr>
<tr>
<td>Caithness</td>
<td>45/205 (22%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Balfour Hospital, Orkney</td>
<td>18/127 (14%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gilbert Bain, Shetland</td>
<td>28/154 (18%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Western Isles</td>
<td>28/178 (16%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lanarkshire</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wishaw General Hospital</td>
<td>1338/4777 (28%)</td>
<td>Generic services</td>
<td>Not known</td>
<td>Not known</td>
<td>Not known</td>
<td>0.5</td>
</tr>
<tr>
<td>Lothian</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Royal Infirmary of Edinburgh</td>
<td>550/5792 (9%)</td>
<td>Not known</td>
<td>Not known</td>
<td>57 (10%)§</td>
<td>5 (0.9%)§</td>
<td>2.3</td>
</tr>
<tr>
<td>St John’s Howden</td>
<td>625/2743 (23%)</td>
<td>247 (40%)†</td>
<td>140 (22%)†</td>
<td>105 (17%)†</td>
<td>32 (5.0%)†</td>
<td>1.0</td>
</tr>
<tr>
<td>Tayside</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ninewells Hospital</td>
<td>1131/3535 (32%)</td>
<td>Give it Up For Baby: first clients April 2007</td>
<td>Community pharmacists</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perth Royal Infirmary</td>
<td>88/384 (23%)</td>
<td>Generic services</td>
<td>Not known</td>
<td>Not known</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Montrose Royal Infirmary</td>
<td>34/124 (27%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total for Scotland</td>
<td>12996/52721 (25%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

WTE, whole-time equivalent.
* Active staffing levels may be lower at times (e.g. absence due to sick leave or difficulty in filling posts).
† From questionnaire for this audit.
‡ 3 months post quit date.
§ Taken from the National Smoking Cessation Database (West Lothian, St John’s Howden; rest of Lothian, Royal Infirmary of Edinburgh).
¶ ‘breathe’ statistics January to December 2006.
** CATCH data from June 2005 to May 2006.
As 4.3 illustrates, referral rates vary significantly between health boards and maternity units. Figures were not available for all areas, and in relation to referral rates (column 2) in particular we obtained the information in Table 4.3 directly from services themselves.

Different referral rates to some extent reflect different service models. Thus in Glasgow the ‘breathe’ service for smoking cessation in pregnancy has a policy to refer all identified pregnant smokers for specialist support (self-reported as smokers or having a positive result for a routine CO breath test). It can be seen that compared with other services, a higher proportion of the identified denominator (i.e. smokers) are referred. All the results go to the ‘link’ specialist smoking cessation midwife, who contacts the women to ask them whether they would like help with smoking cessation. Use of the CO breath test and recording results helps to overcome both the problem of midwives not having the time to ask about smoking in sufficient detail at booking, and the problem of under-reporting (see also Section 5.1). This is especially effective at the Southern General Hospital, where referral rates were 94% in 2006. At this hospital, nursing auxiliaries have been given the role of asking pregnant maternity bookers to perform the CO breath test in most clinics. High referral rates are more difficult to achieve in other Glasgow ‘breathe’ units, where many maternity bookings are provided in community clinics or at home, and where nursing auxiliaries were not always providing support.

St John’s at Howden (Stop for Life) is a well-regarded established service which can offer useful comparisons. It has double the specialist midwifery resources per identified smoker compared with the Southern General Hospital. However, only 40% of smokers are referred at St John’s, compared with 93% at the Southern General Hospital. As Table 4.3 also shows, 5.4% of all identified smokers quit at the Southern General Hospital, compared with 5.0% at St John’s. If a greater proportion of pregnant smokers were referred at St John’s, it seems likely that more would quit, perhaps around 10–12%. It appears that the more common approach of minimal intervention and selective referral (by routine midwives or other healthcare workers) of those who express an interest in quitting, followed by specialist smoking cessation support, could be improved in order to help pregnant smokers in general. If all pregnant smokers are identified and referred, and then all of them receive telephone contact from a specialist smoking cessation practitioner to ask whether they would like help to stop, there may be an increase in the ‘reach’ and effectiveness of smoking cessation services for pregnant women.

### 4.3 Stage 3: Engagement of referred pregnant smokers

The Stage 3 column in Table 4.3 shows those who engage with the service. Engagement is the number and proportion of referred pregnant smokers who have at least one face-to-face contact with a specialist smoking cessation practitioner. These data were collected as part of this study, but were only available for some services.

All services incorporate telephone contacts initially, followed by face-to-face consultations for those women who would like help with stopping smoking, or who wish to discuss smoking further. For CATCH in Lothian, Fife and Dumfries and Galloway, this face-to-face contact is predominantly home based. However, for ‘breathe’ in Glasgow, clinic-based contact was chosen after the experience gained in the SmokeChange study (Tappin et al., 2005). This highlighted the difficulty of providing home-based support in Glasgow, in particular the many wasted visits and occasional safety issues of the home environment. It can be seen that for those home-based services for which data on engagement were available, about 50% of those referred were engaged when home-based support was provided (Dumfries and Galloway, Vale of Leven CATCH, Fife...
and St John’s Howden; see Table 4.3), compared with 20% for ‘breathe’ in Glasgow (see Table 4.4 below). However, it must also be noted that for Dumfries and Galloway, Fife and St John’s Howden there were 741 referrals from about 1954 identified pregnant smokers to be contacted by 2.7 whole-time equivalent (WTE) specialist smoking cessation midwives who provided 377 smokers with face-to-face support. For ‘breathe’ there were 1938 referrals from about 3000 identified pregnant smokers, and only 1.5 WTE specialist smoking cessation midwives to contact these referrals, and they provided 400 smokers with face-to-face support. It seems that although home-based support engages a greater proportion of referred pregnant smokers in at least one face-to-face contact, it is time-consuming and expensive, as it requires more specialist smoking cessation midwives per smoker referred and ultimately engaged. We recommend that both referral and engagement data should be collected with every audit cycle, although this is currently not recorded by all services.

4.4 Stage 4: Pregnant smokers who set a quit date

Once women have engaged with services, an important objective is to encourage them to set a quit date. These data should be recorded for all smokers who come into contact with smoking cessation services in Scotland (including pregnant smokers) as part of the National Minimum Data Set (MDS) for cessation services. Colleagues at ISD provided us with some data from the National Smoking Cessation Database (used by services to record the minimum data set information and additional local data items). However, at the time of the audit enquiry, these data were not comprehensively entered across health boards. In the future the National Smoking Cessation Database is expected to provide a robust tool for identifying the number of pregnant women who set a quit date in every health board.

Data on quit date were therefore obtained from a combination of the National Smoking Cessation Database and figures obtained directly from services themselves, and for some areas no data were available. Findings are shown in the fourth column (Stage 4) of Table 4.3. Of the 14 maternity units for whom we have data, the highest proportion of women setting a quit date (as a percentage of self-reported smokers) was at St John’s in Livingston (17%) and the Southern General Hospital in Glasgow (15%). This reflects the relatively well-developed nature of referral pathways and services in these hospitals. Comparisons can also be made for quit dates set between services that operate on the basis of home visits or those that are clinic based. The number of pregnant smokers who set a quit date as a proportion of those engaged with services in 2005–2006, i.e. those who have at least one face-to-face contact, was 373/389 (96%) for ‘breathe’ clinic-based support (as shown in more detail in Table 4.4 over) and 294/455 (65%) for those services offering home-based support for which we have relevant data (see Table 4.3). Overall, the number of pregnant smokers who set a quit date was 409 for home-based support services in Dumfries and Galloway, CATCH, St John’s Howden and Fife, with 5.3 WTE specialist smoking cessation midwives, and 370 for ‘breathe’ clinic-based support in Glasgow, with 1.5 WTE specialist smoking cessation midwives.
Table 4.4: Smokers referred to ‘breathe’ Glasgow during the 12-month period from May 2005 to April 2006

<table>
<thead>
<tr>
<th></th>
<th>Queen Mother’s Hospital (% referred)</th>
<th>Southern General Hospital (% referred)</th>
<th>Princess Royal Maternity Hospital (% referred)</th>
<th>Total (% referred)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unable to contact</td>
<td>239</td>
<td>219</td>
<td>275</td>
<td>733</td>
</tr>
<tr>
<td>Declined help</td>
<td>222</td>
<td>200</td>
<td>127</td>
<td>549</td>
</tr>
<tr>
<td>Did not attend*</td>
<td>80</td>
<td>64</td>
<td>129</td>
<td>273</td>
</tr>
<tr>
<td>First clinic visit (%)</td>
<td>134 (20)</td>
<td>106 (18)</td>
<td>146 (21)</td>
<td>386 (20)</td>
</tr>
<tr>
<td>Smokers referred</td>
<td>660 (100)</td>
<td>575 (100)</td>
<td>703 (100)</td>
<td>1938 (100)</td>
</tr>
<tr>
<td>Set quit date (%)</td>
<td>132 (20)</td>
<td>93 (16)</td>
<td>145 (21)</td>
<td>370 (19)</td>
</tr>
<tr>
<td>Cessation at week 4 (CO validation)</td>
<td>24</td>
<td>21</td>
<td>20</td>
<td>65</td>
</tr>
<tr>
<td>Cessation at week 4 (no CO validation)</td>
<td>10</td>
<td>12</td>
<td>30</td>
<td>52</td>
</tr>
<tr>
<td>Green</td>
<td>34 (5)</td>
<td>33 (6)</td>
<td>50 (7)</td>
<td>117 (6)</td>
</tr>
</tbody>
</table>

* Contact was made with smoker, but they did not attend scheduled visit.

4.5 Stage 5: Short-term (4-week) quit rates

The fifth column (Stage 5) of Table 4.3 shows the information obtained on the number of pregnant women who successfully quit smoking during the period 2005–2006 in the short term, at 4 weeks. Again some data were obtained from the National Smoking Cessation Database and some were obtained directly from services, and absence of data for some areas means that national figures are not given. The proportion of identified smokers who quit 4 weeks after their set quit date obviously depends on the proportion referred and engaged. Relating to the denominator of self-reported smokers, we see the highest quit rates (5.4% of all self-reported smokers) from the ‘breathe’ service at the Southern General Hospital, with 5% of all self-reported smokers quitting through the service at St John’s in Livingston. When a comparison is made between the clinic-based ‘breathe’ services across the three Glasgow hospitals, the total is 117/3381 (3.4%), compared with 119/2926 (4.1% of identified smokers) for the home-based services operating in Dumfries and Galloway, CATCH, St John’s and Fife. When the extra cost is calculated purely on WTE specialist smoking cessation nurses, 119 quitters receiving home-based support were supported by 5.3 WTE specialist smoking cessation midwives, compared with 117 quitters with clinic-based support provided by 1.5 WTE specialist smoking cessation midwives.

An important element of audit is the examination of service receipt and outcomes for different groups of patients, and in particular for those from more deprived areas. We were able to examine this issue in a limited way using data provided by the ‘breathe’ service in Glasgow. The results are illustrated in Table 4.5.
Table 4.5 shows that the Glasgow service enabled current smokers to quit irrespective of their level of deprivation. The proportion of successful quitters is the same for those from the most deprived areas (Carstairs categories 6 and 7) as for those from more affluent communities. Therefore as most smokers are from more deprived areas, providing smoking cessation intervention during pregnancy is an important way to reduce the health inequality gap between deprived and affluent populations. This finding is supported by other research in England which demonstrates that NHS smoking cessation services are making a contribution to reducing inequalities in health (Bauld et al., 2007b).

4.6 Stage 6: Total WTE specialist smoking cessation workers in each area/service

A final stage of audit examines staffing arrangements for the services. This is important because in order to explore the cost per quitter or other costs of any particular smoking in pregnancy service, it is important to identify what staffing levels are allocated. Data on staffing could also allow comparisons to be made between areas with regard to the number of identified pregnant smokers and the number of available specialist staff to help them to stop smoking. Our information on staffing was drawn entirely from the audit questionnaire and telephone interviews with services. It should be noted that this does not account for absences such as sick leave, and active staffing levels may be lower in some areas – an ongoing difficulty for interventions with low staff numbers.

Staffing figures are shown in the final column of Table 4.3. Some areas have no specialist staff currently in post, whereas others have more than one, although often part-time. Some comparisons of numbers setting quit dates and quit outcomes in relation to staffing have been made above (see Sections 4.4 and 4.5). It is of interest that areas with smaller numbers of identified smokers have more specialist smoking cessation staff. As Table 4.3 shows, Greater Glasgow and Clyde has 4100 identified pregnant smokers and 4.1 WTE specialist smoking cessation midwives. Lothian has 1175 identified pregnant smokers and 3.3\(^6\) WTE specialist smoking cessation midwives. Thus pregnant smokers in Lothian have 2.8 times as many specialist smoking cessation midwives to provide support than do pregnant smokers in Greater Glasgow and Clyde. This is perhaps an example of the ‘inverse care law’ in operation.

\(^6\) Active staffing levels may sometimes be lower – for example, absence due to sick leave or difficulty in filling posts.

<table>
<thead>
<tr>
<th>Carstairs category</th>
<th>Current smokers* (n) (row%)</th>
<th>Attended first visit (n) (row%)</th>
<th>Set quit date (n) (row%)</th>
<th>Successfully quit (n) (row%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 and 2</td>
<td>164 (100)</td>
<td>23 (14)</td>
<td>22 (13)</td>
<td>8 (5)</td>
</tr>
<tr>
<td>3 to 5</td>
<td>773 (100)</td>
<td>99 (13)</td>
<td>91 (12)</td>
<td>35 (5)</td>
</tr>
<tr>
<td>6 and 7</td>
<td>1545 (100)</td>
<td>248 (16)</td>
<td>228 (15)</td>
<td>70 (5)</td>
</tr>
<tr>
<td>Total</td>
<td>2842</td>
<td>370</td>
<td>341</td>
<td>113</td>
</tr>
</tbody>
</table>

* From ISD flat file.
4.7 Conclusions: routine data

To conclude this review of routine data it is worth making a number of observations, both about the nature of the information obtained and about the future potential for auditing arrangements of smoking cessation in pregnancy to be established.

First, it is clear that there are ongoing and significant problems with the quality of all routine data on smoking in pregnancy in Scotland. Many of these problems are now widely accepted, in particular the limitations of SMR02 data. Even after accepting that SMR02 figures are probably too low because of under-reporting by women, the data still suffer from a significant proportion of cases (around 7% in 2004) where a woman’s smoking status is unknown, either because the question has not been asked by the midwife or because the data have not been transferred to the SMR02. These problems are exacerbated by the fact that several hospitals, in particular Ninewells Hospital in Dundee, had very poor return rates for SMR02 data overall. A current study, commissioned by NHS Health Scotland, will provide further insights into this process.

However, that said, the SMR02 still remains the only source of nationally available data we have on smoking in pregnancy, and it is important that efforts are made to continue to maintain and develop it. We note that national targets for the proportion of pregnant women who smoke are based on SMR02 data. In addition, we feel that it is valuable to relate service achievements to the denominator of the number of pregnant women who smoke, in addition to the numbers setting a quit date. Finally, we suggest that additional approaches could be used to support identification of pregnant smokers, such as routine CO breath tests, as in Glasgow, and potentially testing all routine pregnancy blood samples from maternity booking for cotinine (a nicotine metabolite), a possibility which is currently being explored.

Secondly, as Table 4.3 in particular shows, we have no available, reliable data from large parts of Scotland on the number of women referred to smoking in pregnancy services, the number who engage with services, the number who set a quit date and the number who quit. At least two of these gaps (the number who set a quit date and the number who quit) are likely to be filled by comprehensive completion of the National Minimum Data Set across all cessation services, as this includes a code for pregnancy. It is important that comprehensive completion is encouraged and supported, and that findings are fed back to services and made available, when appropriate, to research teams for studies such as this one. In addition, services can access local statistics themselves from the National Database, such as quit dates and outcomes and client profiles, which is a valuable facility. There is also scope for the National Database to incorporate additional pregnancy-specific questions, such as outcomes for the baby and follow-up in relation to weeks post-birth, which should be explored further, as well as considering recording data on referrals and engagement.

Thirdly, these gaps in data on referral, treatment and outcomes also illustrate how much more work needs to be done by health boards across Scotland to further develop their smoking in pregnancy services and to reliably record what they achieve. The data that we present here on staffing levels further reinforce this very variable picture. Support from trained staff with stopping smoking should be available to all pregnant women in Scotland, but our analysis suggests that it is not. We return to this point in the overall conclusion to this report.

Finally, we have suggested here what the basic elements of an audit process for smoking cessation in pregnancy could be, and some minimum standards. For some areas, for example Glasgow and West Lothian, data to inform this type of audit are already available, and a local audit could be conducted on an annual basis. Considerably more work will be required if it is to be conducted nationally.
5. Descriptive case studies

This section describes the findings from an analysis of services supporting smoking cessation in pregnancy in six areas – four in Scotland and two in England. Key lessons are summarised in learning points in the Conclusions section of this report.

The services were identified as incorporating elements of promising practice. They are briefly summarised below.

**Case 1: Glasgow – ‘breathe’**

The ‘breathe’ service is the first service in the UK to incorporate CO monitoring of all pregnant women to aid identification and referral. Support is provided by Link Midwives at hospital clinics initially, with subsequent telephone follow-up rather than home visiting, a response to earlier home-based provision in the city. Pharmacotherapy and additional advice are provided via the city-wide Starting Fresh community pharmacist scheme.

**Case 2: Dundee – Give It Up For Baby (GIUFB).**

This service has adopted an innovative approach, combining several support elements, including cessation advice and NRT provided via community pharmacists, financial incentives via an ASDA Gift Card, and social support through the Dundee Healthy Living Initiative. Development and ongoing management provide an example of active partnership working.

**Case 3: Fife – Quit 4 Life (Q4L).**

This service covers a geographically diverse area, with pockets of urban deprivation and a widespread rural hinterland. Two part-time smoking cessation midwives offer support largely through home visits, and project development built on the West Lothian Stop for Life experience.

**Case 4: Vale of Leven – Community Action on Tobacco for Children’s Health (CATCH).**

This service gives insight into an intervention based on a pre-existing home-based cessation support model. It provides an example of good integration in midwifery services, but with isolation from general community services. Lone working in cessation support is also an issue.

**Case 5: Bradford – Stop Smoking Service.**

This service has a full-time smoking in pregnancy specialist who delivers a service that involves routine referral of all identified pregnant smokers. This well-established referral system results in a large number of pregnant women being treated every year in a clinic setting and at home. The service is underpinned by a region-wide strategy to reduce smoking in pregnancy in Yorkshire and Humberside.

**Case 6: Herefordshire – Stop Smoking Service.**

This service also has a full-time specialist, in this case a midwife, who supports pregnant women and a significant number of their partners and families who want to stop smoking. The service is based on home visits, and provides a good example of a highly flexible service that is well supported and has robust referral and monitoring mechanisms.

The characteristics of each case are examined using seven service themes, namely service development and structure, staffing and management, targeting, identification and referral, pharmacotherapy provision, training and awareness raising, monitoring, and future developments.

### 5.1 Case 1: Glasgow – ‘breathe’

The ‘breathe’ service is located in the three Glasgow maternity hospitals under the direction of Smoking Concerns, the NHS Greater Glasgow and Clyde specialist tobacco project. The service was established in 2004 and operates with half-time link midwife (LM) posts created for each of the hospitals (1.5 WTE overall). The service includes routine CO monitoring of all pregnant women as part of antenatal care, and is the first service in the UK to introduce this screening tool to aid identification and referral of pregnant smokers. The LMs support the women through the quitting process with pharmacotherapy prescribed and dispensed by the
city-wide Starting Fresh community pharmacist scheme. Partners, family and friends can access behavioural support and NRT through Smoking Concerns specialist community cessation services and Starting Fresh pharmacies.

5.1.1 Service development and structure
A needs assessment was conducted in 2003 with wide consultation across health and lay contributors confirming a service demand and leading to the decision to employ midwives as advisers. A steering group was established to oversee and direct the development of the service, with representation from clinical, midwifery and pharmacy services and Smoking Concerns. The decision was made to establish a hospital-based service with ongoing telephone support following research evidence, especially a study conducted in Glasgow (Tappin 2000, 2005), which suggested that home visits were not an efficient use of resources. A patient group directive (PGD) was developed to provide NRT as well as service protocols and resources. The LMs have shared office space in each of the three maternity hospitals, but are required to identify alternative rooms for client consultation, usually in the antenatal clinics.

Information on CO results for all mothers, including all smokers, should be forwarded to the LMs at booking (see below). The LM contacts those who are identified as smokers, raising the issue of smoking and inviting them to attend for consultation. Initial contact is by telephone, although letters may be sent if this approach is unsuccessful. It is only at this point that the women can opt out. Those who choose not to engage are given advice about available services and encouraged to make contact at any point in their pregnancy, and are also advised about passive smoking issues.

Clients are seen by the LM in the hospital in the first instance, and the session lasts between 30 and 60 minutes. Partners or other family members are also invited and will be advised appropriately – for example, about supporting the mother or a personal cessation attempt. The LMs assess the patient, provide information about pharmacotherapy and conduct a risk–benefit analysis to determine an appropriate product if the woman chooses to use NRT. A product recommendation is written out, to be taken to the woman’s local Starting Fresh community pharmacist. Subsequent support from the LM is largely by weekly telephone calls, usually lasting between 10 and 20 minutes. In addition, text messages are sent providing motivational support. NRT is dispensed by the community pharmacist for up to 12 weeks using service protocols. Mothers are actively encouraged to come to the hospital at 4 weeks after the quit date for a CO check and further advice to ensure that this standard monitoring measure is obtained, although this can also be done at the pharmacy. An LM may see two to eight pregnant women in a part-time week, with a high proportion of DNAs. Phone calls may take around 3 hours a day, in addition to completion of paperwork.

The support is based on a Maudsley-type model, but there is some flexibility – for example, if the mother wishes for an earlier quit date rather than waiting until week 3. Non-smokers will also be advised about passive smoking issues, especially if they show a high CO reading. Additional links are made with local services, such as the Smokefree Homes initiative in East Glasgow, and befriending and stress relief sessions provided in North Glasgow.

The introduction of the NHS smoke-free policy in Glasgow hospitals required protocols to be developed to provide NRT for acute nicotine withdrawal symptoms for pregnant women admitted to hospital but not ready to quit or unable to go outside to smoke. Importantly, work has been undertaken with the Women’s Reproductive Health Service (WRHS) in one of the maternity hospitals, where social admissions are made for several days to facilitate drug stabilisation, and the women have
to agree not to leave the unit. Smokers who use this service are therefore unable to go outside to smoke, and are required to agree to use NRT. A separate service protocol was developed to support admission to hospital for this group of women, and includes combination therapy to alleviate nicotine withdrawal symptoms. The LM gives advice, and there is no pressure to quit long term, although that is also an option. The protocol allows for further development to support other pre-planned admissions – for example, for Caesarean section.

5.1.2 Staffing and management
The service incorporates half-time posts (18.75 hours) based in each of the three maternity hospitals, although one person covers two of these posts. One post has been extended to 30 hours for 2 years, to March 2008, to address inequality issues in the hospital with the most deprived catchment area. Both LMs were experienced midwives who undertook further training and have been in post since the service’s inception. Although they tend to work in isolation, LMs maintain frequent contact with each other and with Smoking Concerns by telephone for advice on cases and mutual support. The limited number of hours means that there is no scope for cover of each other’s work. However, in two hospitals some midwifery staff have had Maudsley cessation training, and one of these is funded to make the follow-up calls for her hospital when the LM is on leave. Smoking Concerns on occasion provides telephone support and advice to midwives and pregnant women until the LM returns.

The service operates using a matrix management style. Line management is from maternity services, with different managers in each hospital. These managers address issues such as annual leave and midwifery development and supervision requirements, including ensuring sufficient experience for maintaining their ‘intention to practise’ as midwives. Professional responsibility for tobacco and service management is through Smoking Concerns, specifically the Senior Health Promotion Officer (Acute Care and Maternity). This is the main route for ensuring that updates on tobacco awareness and cessation practice and equity of service provision across all sites are maintained.

The service has been funded with 0.8 WTE administrative support. Duties include photocopying, local data entry and simple administrative duties, such as ‘relapse’ letters to GPs and obstetricians, and compiling ‘first visit’ packs. The entering of details into the main database is routinely undertaken by clerical staff located at Smoking Concerns, based on summaries prepared by LMs.

5.1.3 Targeting, identification and referral
As already mentioned, the aim is for all mothers to be CO tested and referral forms sent to the LMs. Women with CO readings over 5 ppm and self-reported smokers are followed up by the LM. Thus the service has an ‘opt-out’ perspective. As mentioned above, partners, family and friends may also be supported by community and pharmacy services, and inpatients can now be treated to cope with acute withdrawal. The additional hours for the LM covering North-East Glasgow have provided more time for making links with disadvantaged groups such as teenage pregnant mothers and substance misusers, and to raise the LM’s profile among midwives, which in turn encourages referrals. The service has been shown to support successful quitting across all social groups, with two-thirds of mothers coming from Carstairs deprivation categories 6 and 7.

An introductory letter is included in the booking pack that is sent to all mothers before they attend, including information about smoking and passive smoking, the breath CO monitoring process and the service itself (see Appendix 3). At booking, all mothers should be asked about smoking behaviour and have a breath CO reading taken, which reduces reliance on self-report (Bauld et al., 2007b). Smokers should also be given brief advice and permission requested to refer them to the service, with a paper referral form then sent to the relevant
LM. The extent to which this happens is variable (94%, 65% and 39% of smokers attending the three respective hospitals were referred over the period from May 2005 to April 2006). Informants attributed this to a number of factors, such as the competing issues to be covered in a booking session, perceived reluctance on the part of some midwives to prioritise or address the issue, and practical issues such as the availability of CO monitors, and time and access for data entry. It is felt that using auxiliaries and healthcare workers to perform the CO test and give brief advice in conjunction with other measures has enhanced completion and referral in two of the hospitals, although midwives continue to undertake this role in some booking clinics.

The booking visit is the main source of referrals, but LMs may respond to telephone referrals, or requests for specific advice from midwives. Self-referrals and GP referrals are also received, and efforts are being made via community services to encourage early referral prior to booking. Additional referral sources include health visitors, practice nurses, community cessation services and pharmacists.

5.1.4 Pharmacotherapy provision
As part of the initial consultation, if the mother wishes to use NRT, the LM will undertake a risk–benefit analysis using the service flowchart (around 85% use NRT). The resulting recommendation is recorded and the form is signed by the mother and the LM. The mother takes a record of the recommendation to a Starting Fresh pharmacy of her choice, where the NRT is prescribed using the appropriate PGD. NRT is dispensed weekly for up to 12 weeks from the pharmacy, giving opportunities for further support. The most common delivery routes are 16-hour patches, lozenges and gum. For inpatients, NRT is a stock item on the wards, and is prescribed by medical staff. Those admitted to WRHS for detox require more intensive support, often with a 24-hour patch and inhalator in combination.

5.1.5 Training and awareness raising
Both LMs were trained in withdrawal-oriented therapy and telephone counselling. One had had training and mentoring in motivational interviewing, having worked on an earlier project on cessation in pregnancy. Informants felt that training or awareness raising with midwives tended to increase referrals at booking and later stages, as well as having other benefits, such as overcoming perceptions believed to be held by some midwives that this is a difficult area to address. One-day events had been offered when the service started, but uptake had tailed off. More recently, LMs have made various attempts to deliver training sessions, but have found it hard to achieve staff attendance. For example, in one hospital, three half-hour sessions were run at the start of shifts, but only one was attended (by six midwives). Pressures due to midwives’ workload and other competing training sessions influence attendance for smoking cessation training. It is felt that unless this training is made mandatory like other training for midwives, low attendance is likely to continue except among the self-motivated. LMs also try to take advantage of opportunities for brief training when one or more midwives are available, as well as sharing information in response to specific queries from midwives.

5.1.6 Monitoring
The service data are entered by staff trained in data entry on the Smoking Concerns database, which follows National Minimum Data Set requirements, using information collected by the LMs via a questionnaire and standard paperwork for data collection. LMs also keep their own records and record engagement on the patient’s notes. In the year January to December 2006, a total of 1982 cases were referred to ‘breathe’ across the three hospitals, with 314 individuals making a first clinic visit and 306 setting a quit date. Of these, 113 were still not smoking at 4 weeks (37% of those setting a quit date, including 63 cases that were CO validated). As discussed in Section 4, the high referral rate allows larger numbers to be seen, while still achieving satisfactory quit rates compared with
other approaches. Informants commented that feeding back good results individually and collectively appears to enhance interest and referral among midwives.

5.1.7 Future developments
The service aims to maximise the use of CO monitoring to continue to identify, refer and offer support to all pregnant smokers who want to stop smoking. In addition, there will be further development of training and support for midwives to raise the issue with smokers and refer them to the service. As part of this, the contribution of auxiliary and support workers is being further developed. Development of new resources will help to raise the profile of the service and referral process, and the service aims to bring all those in contact with pregnant women on board to encourage referral at any stage. Work with inpatients and other groups such as teenagers will continue. Integration of the service with the former Clyde area is in progress, with development of a service project plan to ensure equity and access of service offered for pregnant women across Greater Glasgow and Clyde who wish to stop smoking.

5.2 Case 2: Dundee – Give It Up For Baby
Give It Up For Baby (GIUFB) is an innovative approach to cessation for pregnant women. It combines several support elements, including cessation advice and NRT provided by community pharmacists, financial incentives via an ASDA gift card, and social support through the Dundee Healthy Living Initiative. Successful quitters receive incentives (£12.50 per week) for up to 3 months post delivery. Development and ongoing management involve active partnership across health service and local authority agencies and partnerships. The first client was registered in April 2007.

5.2.1 Service development and structure
A stakeholder partnership working group was formed, known as the Smoking in Pregnancy Service Development Group. Earlier local interventions had achieved poor quit numbers (PATH project; Muir and Craven, 2006), and a Cochrane review of interventions (Lumley et al., 2004) suggested that provision of rewards combined with social or peer support among strategies merited further investigation. Learning was also derived from a successful incentive scheme (Best Fed Babies) designed to reduce the incidence of low birth weight in Lanarkshire. The group invested in a considerable period of development of the service and relevant protocols, building on existing support mechanisms. It continues to ‘fine-tune’ the process as new issues emerge.

One-to-one cessation support is provided through community pharmacies that are already delivering cessation support for the general public (nearly all pharmacies in Dundee). Mothers are given initial information and advice, usually by the pharmacist. Appropriate NRT will be chosen and prescribed by the pharmacist using a PGD, and is then dispensed weekly for up to 12 weeks. CO readings are taken initially to confirm smoking status, then weekly for the duration of NRT use, and 4-weekly thereafter for monitoring purposes and to qualify for incentives. Initial sessions last 15 to 20 minutes and subsequent sessions last around 5 to 10 minutes, involving advising the mother and giving NRT. The behavioural support provided is therefore fairly limited in scope compared with some of the more intensive interventions described elsewhere in this report.

Consultations take place in a small side room if available, or else in a quiet area of the shop. No appointment is necessary, although clients may have to wait until the pharmacist is free, and there may be interruptions from staff enquiries about other matters, such as dispensing checks. The pharmacy is the ‘gateway’ to the incentive scheme, and can also provide encouragement to use the local Healthy Living Initiative. Low or zero CO readings
are the basis for receiving incentives, and are faxed weekly to the organiser. From the pharmacy’s perspective the process is seen to be similar to cessation work with the general public, apart from the requirement for weekly CO returns. However, anecdotal reports suggest that, initially at least, not all pharmacies were adequately prepared to start delivery, with some young mothers being turned away inappropriately, and records not being completed or returned adequately. It is felt that weekly contact with the community pharmacy generates greater confidence in accessing other services, such as the minor ailment clinic.

The incentive scheme provides weekly payments of £12.50 via an ASDA gift card until 3 months post delivery, provided that clear or low CO readings are recorded. This can be used for any purchases in Dundee ASDA stores, with the exception of tobacco and alcohol. The approach provides clear and auditable incentives. The scheme is based on the existing National Entitlement Card (NEC, formerly the Dundee Discovery Card). This is an electronic smart card which gives access to a range of services and is managed by Dundee City Council. Once they are registered with the pharmacist, mothers are advised to contact the Card Manager for an application form. The Card Manager often gives active help with completion – for example, completing some of the sections prior to sending out a form. It was found that this approach is more successful than just giving out blank forms, as some mothers may have literacy difficulties or be wary about filling in such applications. Proof of identity and age is required, together with a standard photograph.

Once mothers are registered with the NEC, an ASDA gift card is provided, clearly relating to individual participants by number. ASDA stores were chosen because it was felt that they are used by the target client group (although there may be problems with regard to transport costs, etc.), and the card technology enables purchase limitations and an audit trail. Negotiations with this commercial partner were felt to be straightforward. Once the mother’s CO readings indicate abstinence, the £12.50 incentive is charged on to the gift card on a weekly basis. The Card Manager receives weekly faxed CO reports from pharmacists which enable her to forward funds accordingly, although in some cases she has to ‘chase up’ to ensure initial registration and ongoing feedback. Being registered on the NEC provides additional social benefits by facilitating access to other services – for example, it acts as a library card. It should be noted that at least one participant did not claim the financial incentives, and anecdotally many have responded as positively to the cessation support aspects as to the money.

The Dundee Healthy Living Initiative (HLI) is the third main element of the support approach, intended to provide social support with quitting and to offer mothers alternative (non-smoking) activities and options for developing a healthier lifestyle. This is a pre-existing partnership organisation working in disadvantaged communities across the city. A variety of services are offered – for example, stress and relaxation sessions, healthy eating and walking groups – in addition to offering cessation support outwith GIUBF. Pharmacists are given information about local HLIs, and are expected to encourage mothers to attend. One HLI worker also reported helping mothers to access the pharmacy cessation service. Overall uptake of HLI support through GIUBF has been relatively low, and this finding is being explored further.

5.2.2 Staffing and management

The initiative was developed through active partnership across agencies, and as such does not have a management structure, apart from existing structures within each organisation. However, the original impetus came from a public health consultant (pharmacy) within NHS Tayside, and this and public health are the drivers behind the project.
Stakeholders continue to be involved in the project through meetings, support and ‘trouble shooting’ related to their part of the initiative.

Community pharmacies were already delivering smoking cessation support to the general public, although anecdotally commitment may be variable. Around 40 pharmacists are involved, and this work is in line with a general move towards a bigger public health role. Much of the ongoing advisory work and NRT provision could also be undertaken by dispensing technicians and counter staff under the pharmacist’s supervision, although the pharmacist is required to prescribe the NRT under the PGD. As mentioned below, no extra training was given for this intervention.

The Card Manager is based in Dundee City Council, and in effect acts as the administrative centre, keeping track of those registered to the scheme, supporting application to the NEC, and registering and then topping up the ASDA gift cards. She reports personal dealings with at least 75% of the mothers via telephone or personally visiting the offices, especially by helping them to fill in forms. She is also the mothers’ main contact if there have been any difficulties in receiving the incentives. This role has been enthusiastically carried out, but is probably more demanding in terms of time and resources than was originally anticipated.

5.2.3 Targeting, identification and referral
The main target population is pregnant women who smoke and live in Dundee. Initial planning was for a focus on disadvantaged areas through postcode allocation, but the project was finally developed Dundee-wide. However, the majority of pregnant smokers are likely to be recruited from disadvantaged areas. Some aspects of eligibility have to be taken on trust at the point of registration with the pharmacist. For example, if there is not a midwifery or medical referral, it is has to be assumed that the woman is pregnant. Similarly, reported smoking status relies on breath CO readings for confirmation, although potentially readings could be simulated by short-term smoking. The project has had to refine eligibility criteria as it develops. For example, it was decided that those who had already stopped smoking could not be enrolled in the service even if the quit attempt was occurring within the current pregnancy. However, women who lose their babies can continue to their original endpoint. Partners and their family and friends can also access support through the community pharmacy scheme or other support routes, but there is no special provision for them.

Pregnant smokers reach the service following a range of potential triggers, and formal referral is not required. Midwives ask all mothers about their smoking behaviour at booking, and give a clear message that it is preferable to stop rather than to cut down. The question is repeated and the response documented at subsequent contacts. CO monitors have recently been made available to midwives so that they can offer mothers the opportunity to have a reading taken, although this is not formally part of the identification process. The midwife will tell smokers about the service and the nearest pharmacy, and encourage them to register. Anecdotally it was felt that, initially at least, there may have been some resistance to referral among midwives. Women can also self-refer, responding to local publicity or word of mouth, or may be made aware of the service through a range of other mechanisms. Informants felt that the word-of-mouth route was proving to be an important element, but this will need to be evaluated.

5.2.4 Pharmacotherapy provision
As mentioned above, NRT is prescribed and dispensed weekly for up to 12 weeks through community pharmacists using a PGD. Most participants chose NRT patches, but lozenges and gum were also used.
5.2.5 Training and awareness raising

Community pharmacists were not given additional training for GIUFB, although all of them had written information about the project and the PGD. Training packs for smoking cessation were available to support the work, such as one provided by NHS Education for Scotland (Pharmacy). The Community Health Partnership (CHP) pharmacist had held an awareness-raising session for dispensing and counter staff employed by the largest group of pharmacies in Dundee, and considered that this was useful in that it allowed them to discuss any concerns as well as their experiences with regard to the scheme.

Awareness raising among midwives in relation to smoking issues is being addressed across Tayside as well as Dundee. A cascading approach has been taken to raise awareness of local services to enable more effective signposting, together with publication of a directory of services designed to be given to mothers. In 2005, every midwife was given a copy of a resource pack, including the Scottish Guidelines. Midwives can also access training sessions for other health professionals, such as motivational interviewing, although these are not compulsory. One informant felt that developing motivational skills which could be applied to different issues might be productive.

5.2.6 Monitoring

The pharmacist completes a Client Profile Form which records data to meet the Minimum Data Set requirements, including CO monitoring records. This is forwarded for entry in the Dundee database, and cessation outcomes will be collated. Participants’ progress is also recorded in detail by the Card Manager, and the ASDA gift card allows an audit trail of finances. Use of the HLI will also be collated. The project is planning a broader questionnaire-based evaluation that will explore with participants such issues as perceived registration triggers and service experience and relative benefits of the main elements of support.

The project is still in its early stages, but at the time of the site visit 33 women had been registered in the 6 months since April 2007, with numbers as yet less than those required for the trajectory to reach the 2010 target. It is perhaps too early to comment on referral, registration and retention levels and to identify quit outcomes, although these will be closely examined. The project also claims a high level of involvement of mothers who would not otherwise have engaged with a cessation service, and highlights additional benefits from generating enhanced contact with services in general.

5.2.7 Future developments

GIUFB generated considerable controversy as an innovative approach both in the press and among some local professionals, with particular concerns voiced about ‘paying’ people to make a health change that others make without such an incentive. Indeed, initial experiences highlight the importance of getting all involved effectively on board and supporting the project, not just strategic partners – especially community pharmacists as the main providers of support and the ‘gateway’ to financial rewards, and midwives as key referrers. However, the evidence base with regard to the benefits of incentives for recruitment reinforced conviction, and positive anecdotal experiences have been encouraging. The project was also initiated in Perth and Angus CHPs at the end of 2007, with some modifications reflecting local conditions and services.

It was felt that the strategic partnership working approach had been very successful in this initiative, as well as the incentives element. Informants suggested that there was scope for adopting this approach for other cessation work and for other health topics.

5.3 Case 3: Fife – Quit 4 Life

The Fife-based smoking cessation service, Quit 4 Life (Q4L), is based in Forth Park Maternity Hospital, Kirkcaldy. The hospital incorporates a midwife-led
The service is provided by experienced midwives who have had additional training in smoking cessation, known as smoking cessation midwives (SCMs), and contacts predominantly take place in the client’s home. Following referral an appointment is made, usually by telephone. The initial home visit tends to last about 90 minutes, with subsequent visits lasting around 30 to 45 minutes. Initial paperwork includes the Smoking Cessation Questionnaire (incorporating MDS information) and NRT documentation where relevant. CO monitoring is undertaken at least at first contact and 4 weeks after the quit date, and is viewed both as a motivational tool and as a monitoring exercise.

The service adopts a flexible approach, and timing of contacts reflects the needs of the mother and whether she is using NRT. Typically clients are seen weekly for at least 4 weeks, followed by fortnightly or monthly contacts. Support can continue to the end of pregnancy and beyond, although the average duration of support is around 3 months. Clients are encouraged to make contact for additional support or to notify appointment problems, and staff may also telephone to find out how they are progressing. Clients can re-engage if they wish to make another attempt to quit. Limited staff time means that waiting lists can develop, although the average wait is 1 to 2 weeks after referral (often 1 week).

Home visits mean that a considerable area is covered and there is a ‘cost’ in time and travel if mothers are not there at the appointed time (in effect, DNAs). This is addressed first by geographical division between the two SCMs, which is reviewed regularly to ensure that they have similar caseloads. Secondly, mothers are encouraged to text or telephone to let staff know if they will not be available, even at short notice. Thirdly, after three failed contacts a letter is sent to the mother inviting her to make contact when she wishes to do so.

The service is actively promoted through leaflets, business cards and poster displays in a variety of settings, and has been featured in local media, especially at the start of the project, signalled by a visit from the Health Minister.

The service is staffed by two experienced midwives. Their office is located in the same corridor as the antenatal clinic. Both SCMs work a 22.5-hour (3-day) week, and having two members of staff facilitates cover for annual leave and sickness. In addition, one SCM continues to work for a further 2 days as part of the midwifery team. These earlier and current links with midwifery staff facilitate informal interaction about smoking issues, especially
with community midwives as the main referrers and contacts with mothers. Although they carry identification, SCMs do not wear uniform.

The service is line managed within the midwifery service in conjunction with community midwifery services and outpatients. The manager was also on the steering group. As required for midwifery practice, professional supervision is also provided and the manager encourages the midwife employed as an SCM to maintain sufficient professional practice experience, which is facilitated by her work as a bank midwife.

The project also has funding for administrative support for half a week to support data entry and follow-up communications. This proved a difficult post to fill, taking a few months longer than the SCMs’ appointment, and English is not the post-holder’s first language. Therefore, to facilitate follow-up telephone calls at key monitoring stages currently carried out by SCMs, an additional one day’s funding was recently obtained. This allowed employment of a nursery nurse who was felt to have sufficient professional insight to deal with any queries.

5.3.3 Targeting, identification and referral

Pregnant women are the main focus of the project, specifically those who express an interest in stopping smoking. Many clients come from more deprived areas where it is felt that smoking is more entrenched and the service can link with area family health projects, and attempts were made to set up drop-in groups in one of these areas (so far with a poor response). A small number of substance-misusing mothers have been advised in conjunction with support from the drugs liaison midwife. The service is willing to address cessation needs of other household or family members, most commonly partners. Direct advice is given if they are present at the home visit, otherwise information and referral to local community services will be offered.

Clients are largely identified through initial booking contacts, during which it is required that mothers are asked about smoking experience and passive smoking issues. Midwives are encouraged to follow up questioning with brief advice. Thus referrals are largely made through community midwives who typically undertake the initial booking contact, but identification could also take place during contacts in the GP clinics or through hospital antenatal clinics. In addition to midwife referrals, referrals also come through GPs, health visitors and other cessation specialists, and mothers can self-refer. Although booking is the most common time for referrals, they can be made at any stage in the pregnancy, and midwives are encouraged to revisit the issue at each contact. Informants felt that this was being done with increasing appropriateness, confidence and sensitivity.

The subsequent referral process was seen as straightforward, and brief referral forms are widely available. The forms are forwarded to the SCMs or left in their office, and the central location facilitates this process. Onward referral to community services will be offered for those linked to the pregnant mother who cannot attend SCM contact. At delivery the health visitor will be notified if someone has participated in the service, in order to encourage ongoing support at ‘high-risk’ times.

Earlier referral is being explored in particular in one CHP – for example, when pregnancy is first confirmed by the GP. Concern was expressed that referral at the time of booking will not address the challenge of reducing smoking levels among pregnant women at booking. Discussions are being held with GPs and the community service, aiming for any earlier referrals to come to the specialist pregnancy service, rather than fragmenting support in pregnancy through referrals to community services.

Informants felt that in some cases mothers might feel obliged to agree to be referred even though they did not have any real desire to stop smoking.
This had knock-on effects – for example, avoiding being at home for a first visit. It was felt that this situation was improving as midwives became more adept at raising the issue appropriately. It was also felt that a quick response can maximise the period when the mother feels motivated.

5.3.4 Pharmacotherapy provision
Around 80% of patients choose to use NRT to support quitting. In most cases they opt for the 16-hour patch, with pregnant women tending to avoid oral methods because they may feel nauseous. However, lozenges are also used, as well as inhalators and gum. Occasionally more than one product may be used. The SCM ensures that the benefits and risks of NRT have been fully discussed, and completes a prescription request to the patient’s GP. The patient can access a 4-week prescription that is dispensed weekly either from the surgery or directly from the pharmacy. To facilitate this, GPs had been sent information at the start of the project and more recently to highlight current guidelines. GPs were felt to be supportive, although on occasion erroneous advice had been given. NRT was not available on the hospital formulary, although this possibility had been discussed and consultants agreed to this in principle. Inpatients are encouraged to bring in their own NRT, otherwise they have to sign out of the ward in order to smoke away from the hospital building, although they are allowed to remain within the hospital grounds.

5.3.5 Training and awareness raising
The SCMs were trained through PATH-accredited programmes at Glasgow Caledonian University, and have continued up to Level Three. Additional observation of local services and Stop for Life enhanced their skills. In turn, SCMs have been active in raising awareness of the issues among colleagues and smoking cessation services. This has been through informal opportunities to discuss the issues in general as well as specific cases, and through feedback via existing routes such as monthly sisters’ meetings. More recently they have held monthly half-day awareness-raising sessions, initially for community midwives. It has proved difficult for staff to attend these sessions, but it is felt that they have been successful overall.

5.3.6 Monitoring
The main service-monitoring procedures utilise the Smoking Cessation Clinic Questionnaire, which is largely based on MDS requirements and Fife Cessation Services documentation. This is completed at the first contact and at 4 weeks, 3 months and 12 months, with CO monitoring usually at the first visit and at 4 weeks. These data has been collated for the first year, although initially input irregularities emerged. Additional questions tailored to the service include whether clients had made any previous attempts to quit in pregnancy, and any positive changes that were made even if clients continued to smoke. The service also strives to record smoking status at birth and 6 weeks and 12 months postnatally for their own records, as well as other factors which may be affected by smoking, such as birth weight and whether mothers are breastfeeding. These additional data have not yet been collated.

The service sees around 48 clients in a week. Between the start of client contact in May 2006 and April 2007, a total of 396 pregnant women were referred to the service, of whom 193 women engaged with staff and 102 set a quit date. Of these, 39 women had stopped smoking at 4 weeks (38% of those who set a quit date). A small number of partners and family members were also supported.

5.3.7 Future developments
The service would like to expand support round about the current period, with referrals in early pregnancy, including women with miscarriages, preconception care, and more follow-up postnatally. Small group support may be explored further, although so far this has had a poor response. The service will be changing to an NRT voucher scheme
in the near future, which will enable clients to obtain their prescription more quickly. The project funding ends in March 2008, and at the time of the site visit its future status had not been decided.

5.4 Case 4: Vale of Leven – Community Action on Tobacco for Children’s Health (CATCH)

The Vale of Leven CATCH cessation support service follows the model developed at the Royal Alexandra Hospital, Paisley, incorporating home visits and a holistic approach (Bryce et al., 2008). It is based in the Community Maternity Unit at Vale of Leven, which provides community midwifery care for mothers in the area with outreach consultant clinics for those delivering elsewhere, as well as supporting midwife-led low-risk deliveries. A smoking cessation midwife (SCM) is employed for 2 days a week to deliver the service. It should be noted that Vale of Leven and Paisley are within the Clyde Division of NHS Greater Glasgow and Clyde, since the dismantling of the former NHS Argyll and Clyde in April 2006. The future of the Vale of Leven Maternity Unit and also restructuring of the Clyde-based smoking cessation services are still under discussion.

5.4.1 Service development and structure

The current post-holder, who is already an experienced community midwife, was seconded for nearly a year to the CATCH initiative in Paisley when the lead was on long-term sick leave. When finances were made available through Scottish Executive funding, she was asked to develop a similar programme at the Community Maternity Unit, Vale of Leven Hospital. Both hospitals were part of NHS Argyll and Clyde, although reorganisation means that they are now part of the Clyde Division of NHS Greater Glasgow and Clyde. The SCM took up post in June 2005, and a period of 3 to 4 months was allocated to develop the project in this location. Considerable efforts were made with regard to communication with key personnel. For example, the SCM and her manager visited the 16 GP practices in the area to gain their co-operation, introducing the service and providing up-to-date information on NRT prescribing. In addition, the SCM held awareness-raising sessions for all Unit and community staff. Finally, this preparation time was also used to develop the necessary documentation – for example, referral forms, client records and an NRT pro forma, as well as publicity materials.

The service is based upon the CATCH model. CATCH was initiated as a service for mothers under 25 years old, but had been made open to all age groups at the end of pilot funding. Support is predominantly face to face and is provided in the mother’s home on a one-to-one basis, although the SCM also works with any partners and family members present. A concerted attempt to develop a drop-in group approach had been unsuccessful, as with other projects. Once referred, the mother is contacted by telephone by the SCM to make an appointment to visit. The first visit usually lasts about an hour, and subsequent visits may last around 15 to 30 minutes. The initial contact includes completion of the First Visit Form, which also acts as a trigger for discussion, together with a review of NRT options where relevant (see below). The Vale of Leven did not follow all elements of the initial format of CATCH Paisley. For example, the SCM did not offer out-of-hours visits. In addition, a slightly less holistic approach was adopted. Although she often addressed issues related to pregnancy in general, the SCM felt that she did not have sufficient time and confidence to advise on wider social issues, and was likely to recommend other sources of help.

Ongoing contact times are variable and reflect the individual mother’s needs and progress. Typically, clients will be seen weekly for around 4 weeks, especially if they are using NRT, and then with reduced frequency. The need for flexibility is recognised, and the period during which support is
given may range from a few weeks to a few months. A small number of mothers are seen postnatally, and interestingly this may include new referrals. For example, one mother was given extra support on her return to work, where colleagues smoked. Support can be supplemented by telephone contacts, especially for relapse prevention. The first visit may take place up to 3 weeks after referral, reflecting the mother’s commitments and the SCM’s limited contact time.

Home visits are considered to convey considerable benefits. However, they also carry a ‘cost’ in terms of the possibility of mothers not being available at the appointed time, especially at the first visit, when it might be that the mother had not really wanted to engage with the service. One missed visit has a knock-on effect, as it is difficult to bring forward the following visit, and it is not worth returning to base. During the first telephone contact the SCM tries to ascertain the mother’s willingness to see her, but this approach is not always successful.

### 5.4.2 Staffing and management

The SCM is a midwife with 20 years’ experience, who had worked in the community for the Maternity Unit at Vale of Leven for 9 years. Her SCM work is allocated to 2 set days in the week (9 a.m. to 5 p.m.), and she works as a midwife for the equivalent of 2 further days. The work is physically based in the Unit. She is therefore well integrated in the maternity service, facilitating inward referrals as well as ongoing sharing of information about participants and smoking issues in general. She was also known to most of the GP practices in the area at service start-up, through her work as a community midwife. Although she presents herself as a midwife, she does not wear uniform during her SCM work, as it was felt that this would be a barrier to clients. Although she had gained experience at CATCH Paisley on secondment, it should be noted that she did not work with the CATCH lead, who was on long-term sick leave.

The SCM is line managed within midwifery services, and she works as a midwife in the same team. Professional supervision support is given, and as a practising midwife she achieves sufficient professional practice experience for ongoing registration. In effect, however, the SCM works in isolation in her cessation work, although she receives positive support from colleagues. Another midwife has received training with the intention of allocating 1 day a week, but as yet this has not been released. Thus there is no cover for leave or sickness, nor are there any opportunities for informal support in sharing concerns and solutions in this challenging and occasionally demoralising work. There are no formal contacts with local cessation services, although the SCM had initially attended monthly meetings for all cessation staff across the former NHS Argyll and Clyde. She has therefore found attending the STCA Cessation in Pregnancy meetings very useful for sharing experiences and for updating practice. No administrative support has been allocated, and this aspect of the work takes a considerable proportion of the SCM’s 2-day allocation. In practice, she may also update records or make telephone calls during occasional ‘quiet times’ in her midwifery work, or utilise gaps due to wasted visits. This would appear to indicate that in practice the post is more than 2 days’ equivalent.

### 5.4.3 Targeting, identification and referral

The SCM will support any pregnant women with no specific recruitment criteria apart from expressing a wish for support, although she considers that many of them come from disadvantaged areas where smoking is an entrenched part of general lifestyle. She is also happy to discuss the issue and to encourage quitting with partners or family members who are present at the home visit. She feels that this has additional benefits, and even if the partner or relatives are non-smokers, listening to the discussion helps them to understand the difficulties faced by the pregnant smoker. As mentioned

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8 Another CATCH-based service at Inverclyde Royal Hospital, Greenock is half funded by the general smoking cessation service, giving access to further professional support and resources.
above, some clients will be seen postnatally, including new referrals.

Most referrals are made by midwives and triggered by the initial booking visit, mainly in the home or a GP practice, although GPs may also refer, and there is scope for self-referral. The SCM has developed posters and leaflets with the CATCH branding and circulated them to health centres, as well as utilising displays at the Unit. Leaflets are included in the ‘booking pack.’ Importantly, earlier pre-booking referrals are sometimes made, as midwives are present when women first attend their GP for confirmation of pregnancy and allocation to the appropriate hospital. As mentioned above, some postnatal referrals are also received. Referrals use a simple pro forma with space for comments, such as perceived urgency of need for support, and there are ample opportunities for further verbal communication facilitated by shared office space.

The SCM feels that midwives are very positive about raising the issue of smoking and quitting with service support, and this view was confirmed by other informants. The initial awareness-raising work was considered to contribute to this (see below). Although there might be little time at booking, and smoking competes with other priorities, midwives were happy to refer women, and also addressed the issue in ongoing contacts, further encouraging quitting. Midwives and the SCM consider that some mothers may under-report smoking levels but not whether they smoke. However, CO monitoring is not part of the booking process. It was recognised that some mothers who are not fully motivated may feel that they should agree to participate, and for this reason the midwives try to ascertain commitment before making referrals. Earlier, less discriminate referrals were considered to have resulted in high levels of wasted visits.

5.4.4 Pharmacotherapy provision

The majority of attempts to stop smoking are supported by NRT – usually the 16-hour patch or an inhalator. Mothers were encouraged to try oral methods first, but tended to be deterred by nausea and heartburn as well as the taste of these products. However, many decided to start with patches. The SCM discusses the advantages and drawbacks of NRT, aided by an assessment pro forma. She then completes a prescription referral form which the patient (or occasionally the SCM) delivers to the practice. One practice requires an additional form which the mother also signs to confirm that she has had the risks and benefits of NRT explained to her and undertakes to use it appropriately. Written communication is viewed as more efficient than the initial CATCH approach of telephoning individual prescription requests to GPs. The GP prescribes the NRT and the mother collects prescriptions from the surgery for dispensing by the local pharmacist. Informants felt that the initial personal introduction of the service to all the practices had greatly facilitated this process, especially because changes to prescribing guidance with regard to pregnancy were relatively recent. NRT is not available on the Unit formulary, but inpatient stays are short.

5.4.5 Training and awareness raising

The SCM had participated in training in ‘Smoking and Pregnancy’ and ‘Motivational Interviewing’ through the Pip Mason Consultancy, and also benefited from her considerable experience with CATCH in Paisley. As mentioned above, she initiated a training programme in autumn 2005, when the project started. This reached all staff across the Unit, including community and hospital-based midwives, auxiliaries and night staff. Sessions lasted between 90 minutes and 2 hours, and several inputs were needed to ensure that all staff were covered within the demands of their work, although the process was well supported by management. Training included smoking-related harm, drawbacks and benefits of quitting, NRT prescribing developments, and details of the service itself. Ongoing effectiveness was enhanced by low staff turnover and opportunities for informal updates on project
and individual patient progress with midwifery colleagues. In addition, the SCM has fed back project information through existing staff meetings.

5.4.6 Monitoring
The SCM records details in the First Visit Form and her ongoing notes. Participation is also noted in the patient’s notes. At the end of care, the SCM completes an audit form of her own devising. However, there are difficulties in establishing wider monitoring of this work. Much of the data recorded fits with the National Minimum Data Set requirements, but no links have been made to enter it nationally. The SCM has sought internal help to audit her work using her own forms, but this has not been resourced. In addition, there is little time available for follow-up of clients who are no longer being seen – for example, at 3 and 12 months – although CATCH information had been collected and collated by a research agency commissioned by the former NHS Argyll and Clyde.

Over the first year (October 2005 to September 2006), 159 referrals were received. Among these, 78 mothers were seen at least once, with 41 not responding to contact, and 19 declining to use the service. A total of 13 mothers did not attend at first visit. Of those who were seen, 64% set a quit date, and 24% of these (12 mothers) were still not smoking at 4 weeks.

5.4.7 Future developments
Future developments are currently on hold, as the Clyde Division cessation service structures are still being discussed following incorporation into NHS Greater Glasgow and Clyde. As outlined in Section 5.1, the Glasgow service takes a different approach – for example, there is no home visiting and less face-to-face contact – although the Vale of Leven SCM felt that home-based contact was valuable and clinic attendance would be limited. In addition, the role of the Community Maternity Unit is under review. There is scope to address limitations with regard to monitoring and collating data, especially client follow-up, although again this may depend on reorganisation. The benefits of initial promotion of the issue and the service and the development and maintenance of positive links with midwives and GPs are encouraging.

5.5 Case 5: Bradford – Stop Smoking Service
A specialist smoking cessation service for pregnant women in Bradford is provided by Bradford District Stop Smoking Service. The service has existed for almost 5 years, and supports pregnant women across the city of Bradford and the surrounding area. Bradford has significant areas of deprivation and an ethnically diverse population. The service receives a large number of referrals (in excess of 500) each year, and is underpinned by a region-wide strategy to reduce smoking in pregnancy across Yorkshire and Humber.

5.5.1 Service development and structure
The Bradford Stop Smoking Service was initially established in 1999 through the Health Action Zone and subsequently through the four area primary care trusts (PCTs), which merged to form Bradford and Airedale Teaching PCT in 2006. From 2003, funds were made available to employ a specialist smoking cessation midwife on a 1-year contract to develop plans for a smoking in pregnancy service. This specialist midwife then took over the management of the whole community Stop Smoking Service, and the pregnancy remit was devolved to a job-share post that also covered secondary care. At the end of 2006 the decision was taken to allocate one full-time post to secondary care and one to pregnancy in order to respond to increasing demand and the need for specialisation.

The service is based in the PCT offices at Leeds Road Hospital, but provides smoking cessation support to women using two maternity units – at the Bradford Royal Infirmary (BRI) and Airedale General Hospital (AGH). For women in Bradford city,
almost all assessment and treatment is provided through home visits. For women in Airedale (around 15 miles from the Stop Smoking Service base), a clinic is run every second Wednesday at AGH and many women are seen there, although home visits are also offered. One of the prerequisites that the specialist has instigated for home visits is that the home must be smoke-free for the visit. If this cannot be arranged, she is happy to meet clients in other locations, and has seen women in their GP practice, community centres and other settings.

All treatment is provided on a one-to-one basis, although in a small number of cases family and friends are also treated, and in one recent case in particular the specialist reported treating three or four women friends as a regular group.

The initial assessment takes between 30 and 45 minutes, after which the specialist will negotiate with the woman about how often she wishes to be seen. A typical pattern is a weekly visit for the first couple of weeks, followed by a visit every 2 weeks. Contact is specifically sought at week 4 to assess outcomes at that point. CO monitoring is performed routinely at every visit, for all women. Most women are seen for up to 12 weeks, although the specialist explains during the assessment visit that support is available for up to 1 year, and in a small number of cases she has seen clients in person for that long. Some women are more comfortable with telephone-based support after the initial assessment, in which case this is arranged. Text messaging is increasingly being used to support the women’s motivation to remain abstinent.

5.5.2 Staffing and management

The pregnancy service is staffed by one full-time stop smoking specialist (pregnancy). This adviser also has some additional responsibilities within the PCT team, specifically a training remit and a clinical support lead role. She has spent the past 7 years working in smoking cessation, and is Maudsley trained. Prior to that she was a practice nurse for more than 10 years.

Management is provided by the PCT tobacco control lead. Additional support is available from a range of colleagues, and strong links have been developed with midwifery management in both hospitals. The specialist has access to some administrative support through the PCT Stop Smoking Service.

5.5.3 Targeting, identification and referral

The vast majority of clients (around 95%) are identified and referred during the booking visit. Most booking visits take place in the BRI or the AGH, with a small number taking place in the community. As part of the process there is a separate carbon-copy ‘smoking in pregnancy form’, and one (yellow) part of this is automatically returned to the specialist adviser when the client is identified as a smoker. The forms are sent by post, so in some cases midwives will telephone or email the adviser directly in order to speed up the referral. All names are cross-referenced with an ‘early end of pregnancy’ list provided by the acute trust before contacting women. The important element of this process is that the adviser should receive a yellow form for every single pregnant woman who is identified (through self-report) as a smoker during the booking visit. This ensures that local prevalence data are as accurate as possible. It also means that the adviser will follow up almost all pregnant smokers, rather than just those who specifically request support with stopping. In a minority of cases a note is attached which states that the woman does not wish for further follow-up, and in these cases either the adviser sends a standard contact letter (for smokers whom midwives have reported are concerned about their smoking), or no further contact is made at that point if the smoker is identified as ‘contented’ and has specifically refused follow-up. All those referrals marked ‘planning to stop’ are followed up by the adviser within 2 weeks of receipt.

A small number of additional referrals are received from GPs (particularly early in pregnancy) or other health professionals.
The key element of the referral process in Bradford and Airedale is its routine nature and the requirement for all midwives to complete the smoking in pregnancy form and return the yellow part to the adviser. The adviser was confident that these forms were returned in almost all cases when the woman was identified as a smoker, although no formal audit had been undertaken. In order to maintain this situation, the adviser regularly meets with midwifery leads, attends midwifery team meetings three or four times a year, visits the booking clinics and also sends a 6-monthly newsletter to all midwives in the Bradford and Airedale area, reminding them about the service and alerting them to any relevant developments, protocol updates or events. The newsletter includes competitions with a small prize (at the time of the study there was a competition asking midwives when the age of sale of tobacco was to be raised).

Bradford has a number of deprived areas, including Ravenscliff, one of the largest social housing estates in Yorkshire. This estate has a ‘health on the street’ project which has obtained funding from Pfizer for a part-time smoking in pregnancy support worker who is based with the project. She identifies pregnant smokers, provides them with information and then refers them on to the specialist service if appropriate. At the time of the study she was referring around two women per week. Plans are also under way (see below) for her to run a relapse prevention group for pregnant women on the estate.

5.5.4 Pharmacotherapy provision
At the time of the study, the vast majority of service clients (over 90%) were using NRT. The specialist is a trained nurse prescriber who follows a detailed protocol with regard to the prescribing of NRT in pregnancy. The protocol follows NICE guidance in England which recommends that attempts to quit should initially be made without NRT, but in practice the specialist finds that almost all women have made previous attempts to quit and therefore prefer to use it.

NRT gum is the most commonly used product, followed by the inhalator. A number of women also use the 16-hour patch. Very few women use the lozenge, and the 24-hour patch is not prescribed because it is not recommended for use during pregnancy. The client receives her prescription directly from the specialist adviser, and must then take it to her local pharmacy to obtain the product.

5.5.5 Training and awareness raising
The pregnancy stop smoking specialist also has a training remit. She is responsible not only for delivering training to other health professionals with regard to smoking in pregnancy, but also for providing more generic smoking cessation training to a wide range of groups.

However, smoking cessation training for midwives is not part of her remit unless they attend the generic training that is open to all health professionals. Tailored training on smoking for midwives is instead provided on a district basis, by a trainer based in Kirklees. She provides a regular module on smoking cessation, but at the time of the study there was some concern that this module was not mandatory and so uptake could be poor, particularly among community midwives.

As outlined above, the specialist adviser engages in a number of awareness-raising activities. At the core of this are regular briefing meetings with community and hospital-based midwives.

5.5.6 Monitoring
Routine monitoring is undertaken according to the Department of Health guidelines. The specialist adviser completes assessment forms that include the quit date, and also records CO-validated 4-week outcomes and then submits this material to the PCT administrator, who includes it in their monitoring returns. Until 2006, the specialist did endeavour to conduct some longer-term monitoring, but this is no longer attempted, as it was regarded as too time consuming and not a requirement of national monitoring standards in England.
Between 2005 and 2006 the service treated 550 women. At the time of the study, the specialist was seeing around 15 women face to face per week. Short-term (4-week) cessation outcomes between 2005 and 2006 were 36%, although the adviser reported that she was anticipating a slightly lower figure for 2006 to 2007.

5.5.7 Future developments
The service has achieved a high level of client throughput, based on its system of automatic referral for all identified pregnant smokers. As outlined above, 4-week outcomes are positive and broadly comparable with national figures for England. The service is continuing to develop, and a number of changes were being considered at the time of the study, in line with a recent ‘high-impact changes’ report for Stop Smoking Services issued by the Department of Health in England.

The first of these was to try to set up a regular clinic at Bradford Royal Infirmary in line with the fortnightly clinic offered at Airedale General Hospital. Although a home-visit-based service is working well, a clinic base would allow more women to be seen with less travelling involved for the adviser. The intention is to combine this clinic slot with the continuation of home visits, particularly given that parking charges at both hospitals are high and the adviser reported that this may deter some women from attending.

At the time of the study, discussions were also under way to develop a rolling/drop-in relapse prevention group in Ravenscliff in partnership with the ‘health on the street’ project. This would target women who had stopped smoking during pregnancy. The service was also hoping to do more work in Children’s Centres in other deprived parts of Bradford and Airedale.

The adviser described the main focus of her future work as ensuring that smoking was kept ‘high on the agenda’ of all midwifery staff as well as other health professionals. She intended to continue with her awareness-raising activities, with the objective of continuing to maximise client numbers through the service.

5.6 Case 6: Herefordshire – Stop Smoking Service
A specialist smoking in pregnancy service is provided as part of Herefordshire Stop Smoking Service. The service covers the rural county of Herefordshire, the town of Hereford and the surrounding area. Herefordshire borders Wales and is part of the West Midlands region. A particular feature of the Herefordshire service is that it targets the pregnant woman’s household rather than just the woman herself – treating the partner and other family members at the same time as the pregnant client.

5.6.1 Service development and structure
The service developed from January 2001, when the current post-holder was appointed. Prior to that there was no specialist smoking cessation service for pregnant women in Herefordshire. Pregnant women either received support with stopping smoking from GPs or midwives, or in a very small number of cases were referred to the general Stop Smoking Service. The post started as a secondment for a year, and then the PCT mainstreamed it during the second year. From the outset the post has involved 1-day-a-week working for Sure Start on smoking cessation. Once the post-holder was appointed, she wrote to all GPs, midwives and health visitors to alert them to the new service, and engaged in a large amount of awareness-raising work and local publicity. She also developed referral pathways and procedures. To inform this, the smoking cessation midwife went to visit two more established services (in Staffordshire and Dudley) to learn about their work and procedures, and also made contact with a range of other services via email.

The service is delivered through home visits. In a small number of cases, clients are seen in other
community settings or at the PCT office. Once a referral has been received, the smoking cessation midwife telephones the client to arrange an initial appointment. She will make multiple attempts to contact the client by phone before writing to invite them to contact her. She specifically asks during the first telephone call whether anyone else in the household wants to see her, as treating partners or other family members and close friends is part of the service. The service is extremely flexible in that evening (and occasionally weekend) visits can be made, and this, combined with the midwife’s personal commitment to the importance of achieving smoke-free households, has resulted in a relatively high number of other adults being treated alongside the pregnant woman. Further details of monitoring figures are provided below.

Treatment includes an initial assessment visit that takes up to an hour and includes discussion of NRT. During this visit the specialist also writes in the woman’s hand-held antenatal notes (on the ‘risk factor’ page) so that other midwifery staff can see that she has visited, and in addition she leaves her mobile and landline telephone numbers on the notes. The quit date is usually between the first and second visit, and women are visited weekly for 6 weeks, with telephone support being provided in between if desired. After the 6-week point, the level of support varies but usually involves a visit every 2 weeks up to week 12. If the woman has still quit by week 12, contact is maintained up to 1 year. In some cases women may be visited throughout the pregnancy, while in others the contact is largely maintained by telephone after the first few months.

When a pregnant woman and her partner or another family member are treated together, in most instances either both are successful in quitting or both relapse. However, in some cases only one of them manages to quit. In these instances the specialist midwife will continue to treat the quitter at home, even if it is the partner rather than the pregnant woman. This also applies to a small number of women who miscarry but continue to be treated and achieve longer-term abstinence.

5.6.2 Staffing and management
The specialist service is staffed by one full-time smoking cessation midwife. She was appointed to develop the service when it was first established. Prior to that she worked as a midwife in Hereford for 9 years, and during that period she decided to take up specialist training (a 5-day course run by Hilary Wareing) in smoking cessation for pregnant women along with a range of other relevant training, such as motivational interviewing. After taking the course on smoking cessation for pregnant women, the midwife began training her midwifery and health-visiting colleagues in giving brief advice. When the specialist post was advertised, she applied and was appointed. The post is line managed by the PCT Stop Smoking Coordinator. The smoking cessation midwife also has access to support from a Supervisor of Midwives, and has an annual Supervisor of Midwives review. When she is on holiday her caseload is covered by one of the other PCT advisers, one of whom was previously a midwife. There is one full-time administrator for the Stop Smoking Service as a whole (which consists of six staff).

5.6.3 Targeting, identification and referral
The service is available to all pregnant women in Herefordshire. Particular efforts have been made to reach women who live in areas of deprivation through partnerships with Sure Start (now a local Children’s Centre), GPs in those areas and community groups, and also building strong links with midwives operating in those areas. The smoking cessation midwife reported that the vast majority of her clients come from these areas, as smoking rates are highest there. A significant proportion of her clients are single mothers. There is also a growing Polish and Russian community, and some clients come from this group, although the numbers are small. In addition, the midwife has had
clients who were problematic drug users in treatment. She cited one specific example of a client who was successful in quitting smoking (along with her husband) while on methadone.

Pregnant smokers are identified and referred in a number of ways. The specialist midwife hosts a drop-in clinic at the main family planning clinic in Hereford one evening a week. This began as an attempt to get young people to think about quitting smoking, and to alert them to the existence of a smoking cessation midwife if they did become pregnant. In time it has become more of a drop-in session for smokers in general. However, these sessions do ensure that family planning staff have good links with the specialist midwife, and if pregnant smokers access family planning, they are referred to the smoking cessation midwife. This could result in some referrals very early on in pregnancy, which is relatively unusual for smoking in pregnancy services.

Pregnant smokers can also be identified by their GP and referred, and the specialist midwife has written regularly to GPs to make sure that they are still aware of the service and have all the necessary service details. Pregnant women can also be referred by a range of other health professionals, such as pharmacists. Health professionals’ awareness of the service is facilitated by twice-yearly training sessions in smoking cessation, run by the smoking cessation midwife and other members of the community stop smoking team.

The main source of referral is from midwives at the booking visit. All pregnant women, whether assessed in the booking clinic at Hereford County Hospital (which has around 1700 deliveries a year) or in the community, should be asked whether they smoke. The specialist midwife and a community midwife who was interviewed emphasised that smoking status was determined in all cases, although the specialist midwife did acknowledge that she received fewer referrals from midwives who are smokers themselves. If women report that they smoke, they are informed about the service and asked whether they would like to be referred. Those who are reluctant are given the smoking cessation midwife’s number and encouraged to contact her themselves, but in most cases a direct referral is made by paper transfer and/or by telephone.

Some pregnant women also self-refer. This usually occurs following media coverage of the service in the local paper or radio, or because the number has been given by a midwife. Another useful source of self-referral is word of mouth from family and friends, or the woman may have accessed the service during a previous pregnancy. Of those referrals that are received by the specialist midwife, around 70% go on to set a quit date. This proportion has remained fairly constant in recent years. The remainder can either not be contacted by telephone or letter, or refuse further contact after the midwife has spoken to them.

5.6.4 Pharmacotherapy provision
The service operates a Patient Group Direction for Nicotine Replacement Therapy for all clients, including pregnant smokers. The Patient Group Direction was developed in 2005, and it means that the specialist midwife is able to provide the product directly to her clients when she visits them.

At the initial assessment she will allow the client to try the product (i.e. lozenge or gum) if they have not done so before. A choice of product is offered and the advantages and drawbacks are outlined. The full range of products, including the 24-hour patch, is available. The 24-hour Nicotinelle patch can be a popular choice because some women find it less irritant to the skin, but the midwife is careful to give them clear instructions that it should not be worn overnight (so it is used as a 16-hour patch). Patches are used more often than other products, and the midwife has found that the patch seems to work best for many women. Some clients opt to use combination therapy (patch and inhalator).
A weekly supply of products is provided at every visit for the first 6 weeks. After that, if visits are less frequent and if the woman is still not smoking, a 2-week supply can be provided. In very rare cases (if, for example, the woman is going away and continues to be abstinent) a longer-term supply can be provided.

5.6.5 Training and awareness raising
Until recently the specialist midwife had an established slot in the mandatory training days that all local midwives attend. She provides information about the risks of smoking, basic training in brief advice and referral to her service, as well as information on NRT. Two or three times a year the smoking cessation midwife also provides a half-day training session for local student midwives. This is undertaken jointly with the Worcester Stop Smoking Service, as Herefordshire and Worcestershire midwives are trained together. Student midwives have also had 1-day placements with the smoking cessation midwife to learn more about her work. As noted above, she also delivers (with her community stop smoking colleagues) twice-yearly training sessions on smoking cessation advice to any local health professionals who are interested in attending.

5.6.6 Monitoring
The pregnancy service contributes to the Department of Health monitoring requirements for Stop Smoking Services in England. The number of clients who set a quit date and the number who have quit at 4 weeks (confirmed by CO validation for almost all pregnant women) are recorded and submitted to the Department of Health. In addition, the specialist midwife keeps her own records and follows up women (and their partners and/or family members) at 1 year. Until recently she was also required to submit monitoring figures to the local teenage pregnancy worker and to Sure Start. Although the service has administrative support, the specialist does most of her own paperwork and finds that there is often limited time in which to do this.

Table 5.1: Client numbers and outcomes at 4 weeks and 1 year (April 2002 to March 2007)

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<tr>
<td>Pregnant</td>
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<tr>
<td>Others*</td>
<td></td>
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<tr>
<td>Pregnant</td>
<td>91</td>
<td>100</td>
<td>110</td>
<td>155</td>
<td>121</td>
</tr>
<tr>
<td>Others</td>
<td>53</td>
<td>66</td>
<td>85</td>
<td>77</td>
<td>119</td>
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<tr>
<td>Number setting a quit date</td>
<td>29</td>
<td>26</td>
<td>41</td>
<td>35</td>
<td>34</td>
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<tr>
<td>(32%)</td>
<td>(49%)</td>
<td>(57%)</td>
<td>(37%)</td>
<td>(35%)</td>
<td>(34%)</td>
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<tr>
<td>Number who had still quit at 4 weeks</td>
<td>13</td>
<td>14</td>
<td>13</td>
<td>10</td>
<td>7</td>
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<td>(14%)</td>
<td>(11%)</td>
<td>(14%)</td>
<td>(19%)</td>
<td>(12%)</td>
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<tr>
<td>Number who had still quit at 52 weeks</td>
<td>13</td>
<td>14</td>
<td>13</td>
<td>10</td>
<td>7</td>
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<td>(14%)</td>
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<td>(14%)</td>
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* ‘Other’ cases also include adults treated at the weekly drop-in session run by the specialist at the local family planning clinic.
Table 5.1 shows the number of pregnant women who set a quit date with the service each year for the past 5 years, along with the number who had still quit at 4 weeks and the number who had still quit at 1 year. The same information is shown for the partner or other family members treated by the specialist midwife at the same time as the pregnant woman (‘others’). These cases also include some adults treated by the specialist at the family planning clinic who are not related to the pregnant woman. The number of clients who were successful quitters at 4 weeks and 1 year is shown in parentheses as a percentage of those who set a quit date. Although almost all 4-week cessation outcomes were CO validated, the data in the table should be regarded as self-reported, as 1-year outcomes in particular were not always CO validated. On average, the service has achieved 4-week quit rates among pregnant women of around 30–35%, which is in line with national figures for England. One-year outcomes were also in line with results from the national evaluation of services in England up until 2005–2006 and, interestingly, were slightly better in Herefordshire for pregnant women themselves than for their partners.

5.6.7 Future developments
The main priority for the specialist midwife in the future is to maintain client numbers and success rates. This means maintaining the profile of the service with a range of local organisations, health professionals and the public, and sustaining the intensity and flexibility of the intervention. The service is also planning to introduce routine CO monitoring for all clients later in 2008. The specialist midwife reported that this proposed development was intended to address possible under-reporting and also to maximise the opportunity provided by CO monitoring as a motivational tool. At the time of the study, agreement had been received from public health colleagues to fund hand-held CO monitors for all midwives. The specialist midwife was due to meet soon with the head of midwifery to discuss the details of developing protocols and processes. A number of other services in England (Birmingham in particular) have recently introduced routine CO monitoring. Herefordshire plans to look at their procedures and adapt them for local use.
6. Discussion and conclusion

This study has examined the provision of smoking cessation support for pregnant women in Scotland. It has identified a variable picture across the country in terms of the treatment models and extent of support available. This final section of our report begins by reflecting on the findings in the context of the Scottish Smoking Cessation Guidelines and the most recent guidelines update. It then moves on to highlight key conclusions and implications for policy and practice.

6.1 Discussion

This section discusses the study findings in the context of adherence to the 2004 Scottish Guidelines and the 2007 Update (NHS Health Scotland/ASH Scotland, 2004, 2007) under the headings of behavioural support approaches, service structure and staffing, identification and referral, and pharmacotherapy support.

6.1.1 Behavioural support approaches

The Scottish Guidelines state that pregnant smokers should, as far as possible, be offered structured, face-to-face, one-to-one behavioural support at locations and schedules to suit them. All support for pregnant women was described as one-to-one, apart from when the woman’s partner, family or friends joined the consultation. In the majority of services, support was provided face-to-face. However, telephone contact (either verbal or via text message) was often used to supplement support, especially relapse prevention, and women were encouraged to telephone advisers if they had any worries. In one service, only the first meeting was face to face, and subsequent intensive support contacts were by telephone. Schedules aimed to be responsive to individual support needs and other life situations, in terms of how often and for how long support was offered. Support may also continue postnatally, although community pharmacy support ends with NRT supply.

The most common location for behavioural support was in the woman’s home, although a choice could be offered. However, in one large city support was mainly by telephone after an initial clinic-based consultation, and in another city behavioural support was provided in the community pharmacy. Analysis of 4-week quit rates indicates that services which offer clinic and telephone support can achieve comparable rates to services that provide support primarily through home visits. In one English case study, a combination of clinic and home visits seems to work well.

Informants had varied views on the optimal location for treatment, taking into account what best suited the woman and what was the most effective use of resources, as well as staff safety. The home setting was seen to provide a more relaxed atmosphere, giving the mother a greater sense of control, and also allowed greater insights into home circumstances and support needs. In addition, it facilitated the addressing of smoke-free issues and interaction with household members. It also overcame the perceived barriers to mothers attending clinics, such as travel or parking costs and coping with other young children. However, home visits had a cost in terms of travel time for staff and the likelihood of failed visits, despite considerable efforts to confirm the appointments beforehand. Those services that primarily provided telephone support did not consider that the lack of face-to-face contact was a major disadvantage, especially after having met the client personally at the first visit. Telephone support was felt to be attractive to young people who might lead less structured lives, and a failed phone call has less impact on workload than a failed visit. Support in the community pharmacy was regarded as local, and also offered flexibility as it was provided on a drop-in basis rather than requiring an appointment.
A more general point in the Scottish Guidelines is that brief advice from GPs, nurses and other health professionals, and community workers should contribute to referral and cessation support. The main opportunities for brief advice were through midwives’ contact with pregnant women, especially at booking, although this was recognised as an extremely demanding consultation, with many competing issues to be addressed. In this situation delegation of the brief advice role to nursing auxiliaries and administering a CO breath test had worked particularly well in one hospital in Glasgow. GPs, obstetricians and community pharmacy staff also had opportunities to give brief advice. Some services had identified the potential role for a wider range of professionals and agencies who came into contact with pregnant women and young families, and were working to develop this area. Awareness raising and brief advice training are needed to enhance this process.

6.1.2 Service structure and staffing
The Scottish Guidelines suggest that strategies should be organised locally, ideally with one or more designated posts and that, in general, post-holders should be midwives. The majority of specialist service post-holders were midwives, although not all of them were currently registered. In one area, two post-holders had health visiting and district nursing backgrounds without midwifery. In the English case studies, one service was provided by a midwife and the other by a smoking cessation specialist with a nursing background. In another area in Scotland, behavioural support was provided through community pharmacists already participating in a cessation scheme for the general public. This suggests that existing services are not necessarily adhering to the recommendation that interventions should be delivered by midwives.

Management structures varied, with some services managed within maternity services and some within smoking cessation services, and some having joint management structures. The service that provided cessation support through pharmacy advisers in combination with other support strands was a multi-agency partnership led by public health.

Informants identified many benefits of having midwives as post-holders. Any perceived drawbacks tended to focus on resources rather than quality of support, i.e. the cost of the midwife (less important if there was separate funding) and issues around overall shortages of midwifery staff. Delivery through midwives was seen to generate a quicker connection and openness with mothers and greater trust, especially in the context of advising about NRT and raising awareness of harm caused to the baby. It was also felt that midwives were better able to respond to a woman’s pregnancy-related concerns, if necessary examining and reassuring her, or referring her as appropriate. In addition, it was felt that a midwife might have greater credibility with professional colleagues, such as other midwives, obstetricians and GPs. This was seen as especially important in initial service development.

On the other hand, some respondents recognised that other professionals, in particular those with a nursing background, could undertake this work provided that reference was made to the woman’s own midwife about any obstetric or pharmacotherapy concerns. Further research is needed on this aspect, but an important element is likely to be the qualities of the individual post-holder as much as their qualifications.

6.1.3 Identification and referral
The Scottish Guidelines suggest there should be timely referral to intensive support. The booking visit was the main time for referral. However, many services also tried to develop earlier contact routes – for example, pregnancy confirmation by the GP,
sending out information and an invitation prior to the booking visit or, in the case of one English case study, providing a drop-in session at a family planning clinic. At the booking visit, information about local pregnancy or generic services is generally given out, at least in printed format, although some booking midwives would only give this information to smokers or those living with smokers, rather than to all women. However, the extent to which smoking and quitting were explored and the use of services was actively promoted varied, reflecting the midwife’s perception of priorities for the woman in a crowded agenda, as well as her confidence in raising the issue of smoking productively. Again, awareness raising was felt to have an important impact on referrals. Importantly, referral is dependent on identification of smoking, and tools such as routine CO breath screening reduce reliance on self-report, with routine referral of all those with CO readings over 5 ppm in addition to those who self-report as smokers. This also has implications for recording and monitoring smoking behaviour and referral rates.

6.1.4 Pharmacotherapy support
The Smoking Cessation Update published in 2007 includes information on the extension of licensing of NRT to pregnant women. It highlights the fact that a risk-benefit assessment should be conducted as early in pregnancy as possible, the 24-hour patch should not normally be used and NRT use should ideally be discontinued after 2 – 3 months. Other smoking cessation medications are not recommended. Specialist services had clear protocols with regard to NRT, which reflected these aspects, including risk assessment forms which guided their advice to women, and in some cases both adviser and client signed to confirm that the process had been undertaken. Around 80% of clients used NRT support, but informants emphasised that NRT was not automatically seen as a first-line approach. The 16-hour patch was most commonly used. In one area, a separate protocol was developed for intensive NRT support for inpatients who were experiencing acute withdrawal symptoms, especially those admitted in order to facilitate drug stabilisation. There were no reports of continuing NRT beyond 12 weeks, with anecdotal reports of much shorter courses being more common. There were also no reports of use of other smoking cessation medications. One respondent commented on the need for further research on the safety of use of NRT in pregnancy, and the Smoking, Nicotine and Pregnancy (SNAP) trial at the University of Nottingham will provide important insights into this (see Appendix 2).

A variety of prescribing procedures were identified. Specialist service providers rarely prescribed, but would undertake the risk assessment and make recommendations, either to the GP or to the community pharmacist. In one intermediate service the community pharmacist made the assessment and prescribed under a local PGD, and in another the midwife prescribed and could dispense NRT. Irrespective of the prescribing route, pregnant women generally collect NRT from the local pharmacy, rather than NRT being given to them directly by the service provider, although this does occur in one intermediate service with midwife delivery and in another case in England.

6.2 Conclusion
This final section addresses current provision of smoking cessation support for pregnant smokers, elements of support models that show promise, and factors that are important to service delivery.

6.2.1 Current provision of smoking cessation support for pregnant smokers
Services and support should be available to all pregnant smokers, but the study indicates that this is not currently the case. The research identified considerable variability through both primary data and the audit of routinely collected data. The study identified five ‘specialist’ services in Scotland, characterised as being well established and with
trained staff for whom delivering cessation support is their main job. These served 10 hospitals/units in five health board areas. Staff numbers in individual services tended to be low, with between one and three individuals usually working part-time. Staff numbers did not necessarily reflect smoking prevalence. For example, the service with the highest number of pregnant smokers in their area did not have the highest staffing levels. This suggests that there is an element of ‘postcode lottery’ with regard to access to specialist smoking cessation support for pregnant women in Scotland.

‘Intermediate’ support services were identified in four health board areas or parts of health boards. These services were characterised by staff members with a limited designated period allocated to smoking cessation (usually up to 1 day), and this category includes the recently developed multi-element support service that is delivering smoking cessation support primarily in pharmacies. In the remaining areas, direct cessation support was mainly provided through generic community-based services, although recognition of low uptake of generic services had been a trigger for the development of specialist services in the past. In addition, new services were being developed in some areas. In particular, broader capacity-building approaches were identified instead of (or in addition to) specialist services. Finally, the study revealed ongoing and significant problems with the quality of all routine data on smoking in pregnancy in Scotland.

6.2.2 Elements of support models that show promise

This study suggests that several broad areas need to be considered when determining ‘what works’ in developing services to help pregnant women to stop smoking, and more broadly in reducing smoking levels in this group. Key factors are outlined in more detail below (see Section 6.2.3). First, it is important to facilitate engagement with the service before support can be given – getting people ‘through the door.’ Effective identification of smokers is largely achieved through booking visits, where tools such as the CO test can overcome under-reporting problems. Universal referral of all smokers is also considered helpful, with clients being offered the chance to opt out if they wish to do so once telephone contact has been made by specialist services. Referral and self-referral prior to booking should be actively encouraged, and more innovative approaches such as financial incentives may also enhance engagement. It is important that brief advice is offered to encourage women to consider smoking issues and to engage with services through midwives and all those in contact with pregnant smokers.

Secondly, once a pregnant woman has engaged with a service, a number of key elements of service provision seem to work well in practice. This includes one-to-one intensive support that is responsive to women’s needs, but also addresses key issues such as the risks of smoking, the benefits of quitting, and potential cessation approaches. In addition, flexibility around core contact schedules was seen to be beneficial. Differences focused mainly on where support was offered, with both home-based and clinic/telephone support showing 4-week quit rates that were comparable with routine data from English services. An innovative service in Dundee will, in time, provide insights into new approaches, with provision of less intensive behavioural support in combination with additional support elements such as financial incentives and social support. Post-holders in most specialist services are midwives. This is seen to have many benefits, but needs to be considered in terms of resources and midwifery staffing generally. Post-holders with nursing backgrounds can also fulfil this role. NRT is widely adopted as an integral part of support, but dispensing routes vary, and further work could be done in some areas to facilitate access to NRT. Whatever approach is adopted, at all stages it is important to maintain recording, data entry and monitoring procedures.
Finally, smoking issues and quitting should be addressed by all professionals who come into contact with pregnant smokers, whether or not the woman engages with specialist support. Providing midwives and others with training in brief advice and support in addressing smoking is likely to contribute to a broader shift in attitudes and approach with regard to cessation, rather than reliance on one or two specialists to change such an entrenched behaviour. This has considerable resource implications, but such training could, for instance, be made mandatory for all midwives.

6.2.3 Factors that are important to service delivery
The findings of this study reveal a number of key learning points for the development and delivery of smoking cessation support in pregnancy. Many of the learning points relate to provision through specialist services, but also take into account broader approaches that are likely to support smoking cessation in pregnancy and related data collection and monitoring issues. They are outlined in summary form under the following study themes: behavioural support approaches; staffing and service structures; targeting, identification and referral; pharmacotherapy support; training and awareness raising; and recording, monitoring and national data.

Behavioural support approaches
1. Brief advice on the dangers of smoking and advice to stop smoking (as defined in the Scottish Guidelines NHS Health Scotland/ASH Scotland 2004) should be offered to all pregnant women together with information about, or direct referral to, specialist services. This can be provided not only through midwives undertaking booking, but also through all those in contact with pregnant smokers. This support should continue at all stages of contact, whether or not the smoker engages with specialist support.

2. Behavioural support should be one-to-one (face-to-face and/or by telephone), with the possibility of also including the woman’s partner, family and friends in consultations. Service providers who had tried group support reported that it had not been successful.

3. Within the context of individual women’s needs and concerns, approaches should address the risks of smoking, the benefits of quitting, and support to quit. It should not be assumed that women have a detailed understanding of the range of risks. Various tools can aid discussion of these sensitive issues. Sufficient time should be allowed for full discussion. Initial contacts should last relatively longer, with tailored follow-ups.

4. Core contact times should be scheduled, in particular around setting a quit date, more frequent contact in the early stages, and key monitoring points at 4 weeks, 3 months and 12 months.

5. There should be flexibility with regard to frequency of contact and how long support extends, to reflect individual support needs. The perinatal and postnatal period should also be addressed as a period of potential relapse.

6. The location and routes for support currently vary. Among specialist services, two main approaches were identified with similar 4-week quit outcomes in comparison with numbers setting a quit date. Clinic and telephone support allows engagement with higher numbers in relation to adviser time. Home visits have many benefits, but have significant resource implications in terms of travel time and the costs of wasted visits. If home visits are chosen, the issue of lone worker safety should be considered, and also whether homes should be smoke-free for a period before the worker visits.
Staffing and service structures

7. There are considerable benefits to giving a service a specified set-up time (3 to 4 months) to enable post-holder training and development of protocols and materials. Proactive introduction of the service and the establishment of links with potential referrers are crucial and take time. Personal contacts and awareness-raising sessions are helpful.

8. A multi-disciplinary steering group can help development and generate a broad body of support for the service. More active multi-agency partnership working has contributed to the implementation of a broader support approach in one service. Commitment to the service should be generated at delivery level as well as at strategic levels.

9. Specialist service delivery by midwives was seen to have many benefits – for example, establishing a relationship more easily, greater trust in their recommendations, supporting the woman in other aspects of her pregnancy, and also generating more positive interactions with other professionals. However, a small number of specialist service post-holders worked effectively without midwifery qualifications, albeit with community nursing backgrounds. The role of the Maternity Care Assistant (MCA) should be considered when enhancing the skills mix – for example, in supporting the identification of smokers.

10. Where smoking cessation is a midwife’s sole role, it is important to address issues of professional supervision and development and maintaining their ‘notification of intention to practise.’

11. It is important that there are strong links between cessation and maternity services in order to avoid isolation in terms of service delivery, monitoring and sharing of expertise and experiences, and referral to and from generic services. Currently specialist services may be managed by midwifery or smoking cessation services, or a matrix management style across both.

12. Having office space in the maternity unit is important for facilitating interaction with midwives and obstetricians, giving opportunities for informal as well as formal communication, and enhancing the sharing of information on individual women and on smoking issues in general.

13. Where service staff are based in locations other than the maternity unit, it is especially important to make continued efforts to maintain the profile of the service and the need to refer.

14. It is important to have sufficient staff to cope with demand and develop services, including administrative support in aspects of service delivery and data input. Our data analysis shows considerable variability in staffing levels across services, which should be explored again in the future.

15. Dependence on one or two members of staff, who are often part-time, can lead to difficulty in providing cover for absence due to sickness or annual leave. There are also difficulties in working in isolation. There should be planned periods of overlap with fellow post-holders, as well as allocation of management time and support.

16. Some posts that have been allocated funding have been difficult to fill or replace if people move on, especially single sessions in intermediate services. Long-term ring-fenced funding is essential both for planning and to address staff employment uncertainty and retention.
17. Overall, a range of awareness-raising activities such as briefing meetings, attendance at midwifery team meetings and regular newsletters, conducted on a sustained and regular basis, are important to building and maintaining referral rates.

18. The Scottish Tobacco Control Alliance Cessation in Pregnancy Group has a valuable role as a source of mutual support as well as sharing approaches and practice.

**Targeting, identification and referral**

19. It is important to target women as early in the pregnancy as possible. Although booking is the main point of identification, there is scope for earlier recruitment – for example, via GPs and through links with other services, such as family planning and fertility clinics. Earlier self-referral can be encouraged – for example, by sending information and an invitation prior to the booking appointment, and by building supportive relationships during previous pregnancies.

20. More intensive, tailored support and outreach work are needed when targeting groups such as problem drug users and those in particularly disadvantaged communities.

21. Engaging and working with a pregnant woman’s partner, family and friends in quitting themselves or supporting her can contribute to successful quitting and enhance smoke-free homes. This can be facilitated by proactive invitation and flexible contact times and locations, including out of hours.

22. Accurate identification of all smokers is important as a first stage in referral. Rather than relying on self-report, the routine administration of a CO breath test to augment self-report at booking provides a useful tool to aid identification. Another area for future exploration and research is the feasibility and acceptability of blood cotinine measures, which could also maximise accurate identification (and therefore potential referral) of pregnant smokers.

23. Routine referral of all identified pregnant smokers is preferable to referring only those who express an interest in support. It results in higher client numbers and reduces dependence on individual midwives’ perceptions and commitment to the issue. Women who may indicate at the booking visit that they are not keen on quitting can be followed up by a specialist, as some of these individuals may decide to accept support at a later stage.

24. Initial feedback suggests that new approaches, such as financial incentives, may encourage engagement.

25. Booking is the main point of referral. It is important that midwives and MCAs are skilled and confident in raising the issue and giving brief advice, and that they give positive encouragement to engage with services. Training will enhance this process. However, informants recognised that the booking visit is very demanding, with many areas to be addressed within a limited time.

26. Clear referral pathways and knowledge of services can increase confidence among potential referrers. Brief referral forms should be widely available, but personal or telephone contact by the referrer can complement these details.

27. Printed materials can encourage midwives and pregnant women to raise the issue of smoking, and provide a useful channel for disseminating information about available services.

**Pharmacotherapy support**

28. NRT is widely regarded by informants as an important element in any structured attempt to quit. The development of and adherence to
clear protocols is important, including an individual assessment of the risks and benefits and available options, ideally signed by both the woman and the adviser to confirm that the discussion has taken place.

29. NRT is prescribed under a range of routes reflecting local developments. Scottish specialist service post-holders assess and make recommendations, but it was rare for them to prescribe or dispense NRT, although this was not reported as having caused problems. More direct prescribing and sometimes dispensing was identified in some intermediate and generic services, and in some services in England.

30. More varied NRT options can be successfully incorporated with due consideration, including combined therapies and the 24-hour patch and harm reduction approaches. Work in Scotland includes protocols for more intensive support in coping with acute nicotine withdrawal symptoms relating to hospital admission.

31. There is a need for further research on the safety of NRT. It will be important for findings from research currently under way on this issue to be disseminated quickly to smoking cessation and maternity services. A register of NRT use in pregnancy, that recorded and reported outcomes and any complications, could contribute to this, perhaps linked with the National Database.

Training and awareness raising

32. Awareness raising and brief advice training are essential for all professionals and agencies that come into contact with pregnant smokers. It should not be assumed that professionals have detailed knowledge of the harmful effects of smoking and of treatment approaches. However, opportunities to deliver training were very limited, especially with regard to training midwives. Release to attend training was difficult to negotiate, reflecting the pressure of workloads and other competing mandatory training sessions. Some services had successfully held training sessions during the launch period, but had difficulty in renewing awareness.

33. There is a need to make this kind of post-registration training mandatory in recognition of these issues. An established slot in mandatory training days could be an interim solution. Management support is vital.

34. Training for midwives who undertake the booking process is an important priority. In addition to raising the profile of smoking in pregnancy and support services, training enhances skills and confidence in raising the issue and improves referrals. Through continued contact with women, midwives can reinforce messages and provide ongoing encouragement, which is particularly important for smokers who have chosen not to engage with cessation services.

35. Awareness raising and training with a broader range of health professionals and service personnel who come into contact with pregnant women and young families are also valuable. This includes, for example, health visitors (or their equivalent) and those working in Family Centres. As in point 34 above, this increases overall capacity to reduce smoking among pregnant women.

36. Training content should cover a range of topics. Drawing on informants’ experiences, this could include raising awareness of the service and referral processes, promoting the issue of smoking in pregnancy and the importance and benefits of quitting, updating on NRT, and giving confidence and skills in addressing the issue through brief advice and motivational approaches.
37. Where there are specialist services, post-holders provide awareness-raising sessions to midwives, often opportunistically. Holding sessions on hospital premises and at suitable times that recognise staff workloads and routines enhances uptake. Specialist staff can also maximise opportunistic approaches for awareness raising – for example, lunch breaks, ad-hoc face-to-face encounters, and giving feedback at routine meetings and to individual referrers.

38. Provision of awareness-raising activities can be of value where there are no specialist services, and may be provided by generic smoking cessation advisers.

39. Specialist staff themselves needed initial training when they came into post, and short training programmes were often accessed. Current national (PATH) programmes are seen as longer term and require considerable input.

40. There is a need for a national programme on smoking cessation in pregnancy which can be used to deliver a mix of awareness raising and training to a wider audience. These should align with national training standards.

**Recording, monitoring and national data**

41. Recording smoking behaviour provides information for the SMR02, giving important prevalence measurements and assessment of national targets in pregnancy. Figures can also be used as a denominator to assess service reach. There are considerable gaps in reporting, and this study suggests that the aim should be for an absolute maximum of 5% recorded as ‘smoking status unknown.’ Gaps are only in part attributable to women under-reporting, but routine use of identification tools such as CO breath tests can enhance the identification process. We suggest relating quit achievements to the denominator of overall number of pregnant smokers, as well as the more usual comparison with the number who set a quit date.

42. Services should also continue to improve record keeping with regard to the number of pregnant women who are referred to services, the number who engage with services, the number who set a quit date and the number who quit. Comprehensive input to the National Smoking Cessation Database is essential for improving understanding at a national level and contributing to considerations of effectiveness, in addition to guiding local services.

43. The findings suggest that it is possible to move towards an annual national audit across these key measures, but considerably more work is needed to make this possible. For SMR02 figures, bi-annual audit may be sufficient.

44. National implementation of the recently introduced Scottish Woman-Held Maternity Records will improve recording of smoking status at booking and postnatally.

45. Participation in cessation support services, progress in the quit attempt and cessation outcomes should be recorded in the woman’s notes, so that other staff are aware of this information and can add encouragement.

46. Support staff who are trained in data entry can facilitate comprehensive and accurate submissions to national databases as well as local monitoring mechanisms, either as part of the specialist service or in conjunction with general area cessation services.

47. Monitoring of longer-term outcomes for at least 3 months and ideally 12 months should be maintained. Use of additional support staff can facilitate this, especially when clients have left the service, but training would be needed to respond appropriately to issues that may arise.
7. References


Appendices
Appendix 1: Commentary on NICE guidance

Relevance for smoking cessation in pregnancy in Scotland
On 27 February 2008, the National Institute for Health and Clinical Excellence (NICE) in England published its public health programme guidance on ‘smoking cessation services in primary care, pharmacies, local authorities and workplaces, particularly for manual working groups, pregnant women and hard to reach communities.’ One of the recommendations in this guidance relates directly to reducing smoking in pregnancy. Other elements of the guidance also have implications for wider activities around smoking cessation in pregnancy. This short note describes the relevant parts of the guidance and assesses the extent to which current services in Scotland, as described in this mapping report, conform to the recommendations. The guidance does not apply to Scotland, but is likely to inform future developments in Scotland. (Discussion in relation to the existing Scottish Guidelines is provided in Section 6.1.)

Recommendation 8 of the NICE guidance: Pregnancy
Recommendation 8 in the NICE guidance relates to smoking cessation in pregnancy. It is included in Box 1.

Box 1: Recommendation 8

Who is the target population?
Women who smoke and who are either pregnant or are planning a pregnancy, and their partners and family members who smoke.

Who should take action?
All those responsible for providing health and support services for pregnant women, for those wishing to become pregnant, and for their partners. This includes those working in fertility clinics, midwives, GPs, dentists, hospital and community pharmacists, and those working in children’s centres, voluntary organisations and occupational health services.

What action should they take?
• At the first contact with the woman, discuss her smoking status, and provide information about the risks of smoking to the unborn child and the hazards of exposure to secondhand smoke. Address any concerns she and her partner or family may have about stopping smoking.
• Offer personalised information, advice and support on how to stop smoking. Encourage pregnant women to use local NHS Stop Smoking Services and the NHS Pregnancy Smoking Helpline by providing details on when, where and how to access them. Consider visiting pregnant women at home if it is difficult for them to attend specialist services.
• Monitor smoking status and offer smoking cessation advice, encouragement and support throughout the pregnancy and beyond.
• Discuss the risks and benefits of NRT with pregnant women who smoke, particularly those who do not wish to accept the offer of help from the NHS Stop Smoking Service. If a woman expresses a clear wish to receive NRT, use professional judgement when deciding whether to offer a prescription.
• Advise pregnant women who are using nicotine patches to remove them before going to bed.

The key observations arising from this mapping report in relation to this guidance concern the action points set out in Box 1. These relate to:

- the content of first contact with the pregnant woman
- the provision of personalised advice
- referral to, and information about, NHS Stop Smoking Services
- provision of home visits
- monitoring of smoking status and provision of cessation support throughout pregnancy and beyond
- advice about, prescribing of, and use of NRT.

### Content of first contact with the pregnant woman

Smoking status should be ascertained and cessation discussed with all pregnant women during the booking visit, typically at the end of the first trimester of pregnancy. However, the section of the report that examines routinely collected data (Section 4) suggests that gaps still remain in the extent to which this occurs in Scotland. Some of these gaps are the result of data entry and recording problems, but others may occur because the issue is not being raised, or at least not discussed in any detail. However, the findings suggested that a number of health board areas were addressing this issue by undertaking wider awareness-raising activities among staff (see below). Questions in the revised Scottish Woman-Held Maternity Records should also encourage this process. The NICE guidance does not mention use of tools such as CO breath tests to augment self-report and encourage discussion. This approach is established in some areas in Scotland and is being developed in others.

However, where specialist services are available, once women have accessed these services, they do have a detailed first meeting with a trained adviser, and a number of issues relating to smoking and cessation are covered, as the NICE guidance suggests. In some cases these appointments also include the woman’s partner or other family members if they are interested, although there is not specific provision for this target group.

### Provision of personalised advice

This mapping study did not collect detailed information on the precise content of the advice given to pregnant women in all health board areas. However, this type of information was obtained from the specialist services. In all of these services, considerable efforts were made by trained staff to offer personalised information and advice about cessation to suit the woman’s circumstances. Professionals aimed to be flexible, including varying the frequency and duration of contact, providing additional support by telephone and/or text, and a range of other modifications to accommodate the preferences of the client.

### Referral to, and information about, NHS Stop Smoking Services

The NICE guidelines do not specify that all pregnant smokers should be referred to NHS Stop Smoking Services. This study did identify services where this occurred, going beyond what the guidance recommends. Such services included ‘breathe’ (Glasgow), where automatic referral was in place, achieving referral of nearly all cases in one of the three hospitals, and one English case study (Bradford). The NICE guidelines instead indicate that professionals should encourage pregnant women to use specialist services (and the NHS Pregnancy Smoking Helpline, which was not examined in the study) by providing details on when, where and how to access them.
This mapping study found that at the booking visit, information about local specialist or generic smoking cessation services was generally given out, at least in printed format. This information was sometimes given just to smokers or women with smokers in the household, rather than all women. The study found that, even in areas where a specialist service existed, the extent to which this service was actively promoted varied. Effective referral pathways to specialist services do exist in many areas, and the case study reports describe in more detail how these operated. However, the fact remains that in seven health board areas in Scotland there were no specialist smoking cessation services for pregnant women at the time of the study, with gaps in parts of other areas although there were plans for further development. Use of generic services is likely to be low, although in some areas with generic services, steps to encourage more active referral were being taken.

**Provision of home visits**
The NICE guidance suggests that professionals trained in smoking cessation should ‘consider visiting pregnant women at home if it is difficult for them to attend specialist services.’ The guidance also points out, later in the NICE report, that it was not possible to compare the cost-effectiveness of home visits with other forms of intervention, which in part explains why the guidance stops short of recommending home visits for all smoking cessation services for pregnant women in England.

The majority of specialist services for smoking in pregnancy in Scotland do offer home visits, and some operate solely on the basis of home visits. However, two other models – clinic-based support followed by telephone support and ongoing contact with community pharmacists for NRT (‘breathe’ in Glasgow), and pharmacy-based support (‘Give it up for Baby’ in Dundee) – were also identified. The ‘breathe’ service in particular shows short-term quit rates comparable with routine data from services in England, which suggests that home visits are not necessarily a prerequisite for success.

**Monitoring of smoking status and provision of cessation support throughout pregnancy and beyond**
Although the mapping study did not specifically set out to determine how often smoking status is monitored throughout a woman’s pregnancy, the evidence suggests that both intermediate and specialist services in Scotland aim to maintain contact with clients from the booking visit through delivery and beyond. In contrast to the situation in England, the National Smoking Cessation Database in Scotland requires follow-up at 4 weeks, 3 months and 12 months, and all services aim to comply with this.

Monitoring of smoking status of those not attending specialist services is less clear. Some health boards reported actively encouraging midwives to address the issue at each contact, and the Scottish Woman-Held Maternity Records include smoking-related questions postnatally. Similarly, provision of cessation support apart from those attending specialist services is unclear.

**Advice about, prescribing of and use of NRT**
This study found that discussion of the risks and benefits of NRT was a key element of all specialist smoking in pregnancy services in Scotland. The extent to which NRT is discussed by midwives in routine antenatal care, by intermediate services and by other health professionals is unclear. However, for specialist services, all trained staff were well aware of the need to deliver appropriate advice with regard to NRT, and a number
of good examples of risk assessment and NRT-prescribing protocols were identified in the research. NRT was widely regarded by informants in the study as an important element of any quit attempt. Although prescribing routes varied, a range of NRT products was offered, including the 16-hour patch. In a few services, 24-hour patches and combined therapies were used for a small number of clients who were described as ‘heavily addicted’, following thorough risk–benefit assessments. In one service (‘breathe’, Glasgow), 24-hour patches and combined therapies were used to support acute withdrawal on admission – for example, among substance misusers. In one of our English case studies, combined therapies and harm reduction approaches were also employed.

**Recommendation 1 of the NICE guidance**

A small number of other elements of the February 2008 NICE guidance on smoking cessation are relevant to smoking in pregnancy. The first of these is Recommendation 1 in the guidance, which relates to the general need to identify smokers and refer them to appropriate support to stop. In relation to pregnant women in particular, this states:

**Who should take action?**
- Primary care trusts (PCTs), strategic health authorities (SHAs).
- Commissioners of publicly funded smoking cessation services.

**What action should they take?**

Establish links between contraceptive services, fertility clinics and ante- and postnatal services. These links should ensure health professionals use the many opportunities available to them (at various stages of the woman’s life) to offer smoking advice or referral to a specialist service, where appropriate.

In a Scottish context, this recommendation relates to health board and CHPs’ responsibility to ensure that advice on smoking cessation is integrated into the wider services that women may encounter at a time when they may become or be about to become pregnant, or at a time when they may already be a parent but may have subsequent pregnancies.

The mapping study in Scotland did not set out to specifically examine the links between services accessed by women pre-conception (such as family planning clinics) or postnatally (such as health visitors) and the provision of support to stop smoking. However, the study did identify some links that enabled more joined up working – for example, working with Family Health Projects and teenage pregnancy and substance misuse support programmes. Some specialist smoking in pregnancy services described in the case study research had links with health-visiting services, alerting them to imminent births and the potential for greater support needs postnatally. One of the English case studies in the research delivered a weekly smoking cessation clinic in the local family planning clinic. Many generic smoking cessation services in Scotland are involved in supporting smoke-free homes initiatives which target families with children and provide access to support to stop smoking. However, the reality is that most pregnant women in Scotland first encounter a question about their smoking status, and an offer of support to quit, at the booking visit and not before. Clearly more could be done to integrate smoking cessation into women’s wider experience of health services. This, along with some of the other issues raised by the NICE guidance, should be a priority for future research and development.
Recommendation 12 of the NICE guidance: Training

Recommendation 12 of the NICE guidance addresses training, which has relevance to smoking cessation in pregnancy. It is included in Box 2.

Box 2: Recommendation 12

Who is the target population?
Doctors, nurses, midwives, pharmacists, dentists, telephone quitline counsellors and others who advise people on how to quit smoking.

Who should take action?
Those responsible for the education and training of healthcare workers and others who advise people how to quit smoking.

What action should they take?

- Train all front-line healthcare staff to offer brief advice on smoking cessation in accordance with NICE guidance (‘Brief interventions and referral for smoking cessation in primary care and other settings’ www.nice.org.uk/PHI001). Also train them to make referrals, where necessary and possible, to NHS Stop Smoking Services and other publicly funded smoking cessation services.
- Ensure training on how to support people to quit smoking is part of the core curriculum for healthcare undergraduates and postgraduates.
- Train all NHS Stop Smoking Services practitioners using a programme that complies with the ‘Standard for training in smoking cessation treatments’ or its updates (www.nice.org.uk/page.aspx?o=502591).
- Provide additional, specialised training for those working with specific groups – for example, people with mental health problems, those who are hospitalised and pregnant women who smoke.
- Encourage and train healthcare professionals to ask patients or clients about all forms of tobacco use and to advise them of the dangers of exposure to secondhand smoke.

The key observations arising from this mapping report in relation to this guidance concern the action points set out in Box 2, with the exception of undergraduate and postgraduate curricula. These include the following:

- Train all front-line healthcare staff to offer brief advice and also train them to make referrals.
- Train all NHS Stop Smoking Services practitioners and provide additional, specialised training for those working with pregnant women who smoke.
- Encourage and train healthcare professionals to ask patients or clients about all forms of tobacco use and to advise them of the dangers of exposure to secondhand smoke.
Train all front-line healthcare staff to offer brief advice and also train them to make referrals
In many areas brief advice training was available, either through specialist services or through generic services. However, the extent to which places were taken up varied considerably. In some areas, more proactive attempts were being made to ensure that at least all midwives who undertake the booking process received some training. In one area, a wider capacity-building initiative was undertaken to reach a wider range of professionals and workers in contact with pregnant mothers. Key barriers that were identified included difficulty in facilitating staff release and ‘competing’ with other mandatory areas of training. In effect, most ‘training’ provided tended not to be within current guidelines for ‘brief advice’, and could be better described as ‘awareness raising’ with more flexible delivery approaches of limited duration. Nevertheless, it was felt that such approaches increased confidence in addressing the issue and improved referrals.

Train all NHS Stop Smoking Services practitioners and provide additional, specialised training for those working with pregnant women who smoke
All those working in specialist cessation services for pregnant women had received initial training when coming into post. This was from a range of sources, including ‘Maudsley’-type training, PATH-accredited training through Glasgow Caledonian University and from their local health board. In one area, staff received training from the Pip Mason Consultancy which included a pregnancy-specific element. Training to a higher level – for example, to Module Three in the PATH training – was seen as longer term, rather than as fulfilling initial training needs. For most, this training was in addition to qualifications and experience as midwives, and the remainder had community nursing backgrounds.

Encourage and train healthcare professionals to ask patients or clients about all forms of tobacco use and to advise them of the dangers of exposure to secondhand smoke
As mentioned above, it was hoped to encourage a wide range of professionals to address this issue, although the extent to which this could be put into practice is limited without further resources and support.
### Appendix 2: Case study contacts

| Case 1: Glasgow – ‘breathe’ | Shirley Hamilton  
SHPO Tobacco Acute and Maternity Services  
Smoking Concerns  
Health Improvement Acute Planning  
Dalian House  
350 St Vincent Street  
Glasgow G3 8YZ | Tel: 0141 201 4992  
Email: shirley.hamilton@ggc.scot.nhs.uk |
|---|---|
| Case 2: Dundee – Give It Up For Baby | Andrew Radley  
Consultant in Public Health (Pharmacy)  
Directorate of Public Health  
Kings Cross Hospital  
Clepington Road  
Dundee DD3 8EA | Tel: 01382 425685  
Email: Andrew.Radley@nhs.net |
| Case 3: Fife – Quit 4 Life | Pamela Galloway and Helen Lowrie  
Smoking Cessation Midwives  
Forth Park Hospital  
Bennochy Road,  
Kirkcaldy KY2 5RA | Tel: 07765 897165/07766 028893  
Email: Pamela.galloway@faht.scot.nhs.uk |
| Case 4: Vale of Leven – Community Action on Tobacco for Children’s Health (CATCH) | Karen McGilvray  
Smoking Cessation Midwife  
Community Maternity Unit  
Vale of Leven Hospital  
Main Street  
Alexandria G83 0VA | Tel: 01389 754121  
Email: karen.mcgilvray@nhs.net |
| Case 5: Bradford – Stop Smoking Service | Marcia McGrail  
Stop Smoking Nurse Specialist (Pregnancy)  
Stop Smoking Service, Public Health Directorate Bradford and Airedale Teaching Primary Care Trust  
Leeds Road Hospital  
Maudsley Street  
Bradford BD3 9LH | Tel: 01274 363559  
Email: marcia.mcgrail@bradford.nhs.uk |
| Case 6: Herefordshire – Stop Smoking Service | Michelle Pugh  
Stop Smoking Midwife  
Herefordshire Stop Smoking Service  
Victoria House  
Eign Street  
Hereford HR4 0AN | Tel: 01432 262019  
Email: michelle.pugh@herefordpct.nhs.uk |
Appendix 3: Additional materials and links relating to smoking cessation in pregnancy

Examples of protocols and patient materials
Materials attached to this document:
• Booking Information Letter (posted out in pack prior to booking: ‘breathe’
• Referral Pathway: Stop for Life
• Aide-Mémoire for NRT Risk–Benefit Assessment NHS Lanarkshire

Stop for Life materials; www.ashscotland.org.uk/ash/4393.html
(service leaflet, client referral form, referral pathway, NRT in pregnancy protocol)
‘breathe’, Glasgow: PGDs for patches and microtab;
www.smokingconcerns.com/professional/default.asp?p=84&l2=56

PATH-funded projects: Reports and executive summaries for projects relating to smoking cessation in pregnancy
www.ashscotland.org.uk/ash/files/Stop%20for%20Life%20Project%2008080507.pdf

National monitoring and records
National Database and Minimum Dataset: information and links on:
www.ashscotland.org.uk/ash/4239.html
Scottish Woman-Held Maternity Records;
www.nhshealthquality.org/nhsqis/3476.html

Training and development
PATH Training Information; www.ashscotland.org.uk/ash/3963.html

Smoking, nicotine and pregnancy
The SNAP trial (6 years in duration, starting in 2006) is investigating whether NRT helps pregnant women to quit, whether it is cost-effective and whether it has effects on their children over the next 2 years;
http://nottingham.ac.uk/chs/research/project_SNAP.php

10 ‘breathe’ is rebranded as Smokefree Pregnancy Services (March 2008).
If you smoke in pregnancy, so does your baby

Pregnancy – there is no better time to stop

As part of your routine care, when you attend the antenatal clinic for your first visit the midwife will ask you to blow into a machine to test the level of carbon monoxide (CO): Carbon monoxide is a poisonous gas which is breathed in through tobacco smoke, passes through your lungs and reduces the oxygen in your lungs.

Women who do not smoke are still at risk from environmental tobacco smoke (ETS); This is second hand or passive smoking which is still harmful to you and your baby.

The ‘breathe’ midwife will contact you to discuss the health benefits of stopping smoking. If you do not wish to wait then you can contact her directly on the numbers below.

For those of you who are non smokers but have higher than expected levels of CO, the ‘breathe’ midwife will contact you to discuss these.

About a third of female smokers do give up while they are pregnant but we realise it may be difficult for you to do so.

‘breathe’ is about helping women to give up smoking while they are pregnant. A midwife specially trained to help you stop smoking, can give you the support you may need.

The ‘breathe’ midwife can also discuss the use of nicotine replacement therapy (NRT) in pregnancy.

The ‘breathe’ midwife can also offer partners and other household members information on how and where they can get help to quit smoking.

Your ‘breathe’ midwife is:

<table>
<thead>
<tr>
<th>Name</th>
<th>Location</th>
<th>PRM</th>
<th>Mob Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Debbie Barnett</td>
<td>PRM</td>
<td>0141 211 5344</td>
<td>07990804743</td>
</tr>
<tr>
<td>Margaret Nsofor</td>
<td>Queen Mothers Hospital</td>
<td>0141 201 0548</td>
<td>07990804732</td>
</tr>
<tr>
<td>Margaret Nsofor</td>
<td>Southern General Hospital</td>
<td>0141 201 2335</td>
<td>07990804732</td>
</tr>
</tbody>
</table>
**Referral Pathway**

**Smoker**
- Inform of referral to Stop for Life

**Ex-smoker**
- If recently stopped
  - Congratulate
  - Reinforce benefits of cessation
  - Assess if referral is appropriate

**Never smoked**
- Record in notes

**Patient willing to be referred?**
- No
  - Give clear strong and personalised advice to stop, informing benefits of cessation and risks of continued smoking.
  - Patient now willing to be referred?
    - Yes
      - Complete referral form
      - Record in notes
      - Give leaflet
    - No
      - Give leaflet
      - Record in notes
      - Reassess at next visit
      - Inform self referral is possible

Stop for Life to promote a smoke free environment for the pregnant woman and her unborn baby
Please feel free to refer other family members who are smokers
Aide-Mémoire for NRT risk/benefit Assessment:
NHS Lanarkshire

This must be completed before NRT can be supplied to pregnant women

<table>
<thead>
<tr>
<th>Discussion with Client</th>
<th>Mother</th>
<th>Foetus</th>
<th>Discussed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dangers of continued smoking</td>
<td>Over 4000 chemicals Vasoconstruction Carbon monoxide (CO) high Reduced oxygen levels Nicotine Smoking related diseases</td>
<td>Over 4000 chemicals Vasoconstruction Carbon monoxide (CO) high Reduced oxygen Nicotine Developmental problems</td>
<td></td>
</tr>
<tr>
<td>Risk of nicotine through smoking</td>
<td>High risk Vasoconstruction Pre-eclampsia Miscarraige</td>
<td>High risk Vasoconstruction Premature birth Underweight Miscarraige</td>
<td></td>
</tr>
<tr>
<td>Risk of cleaner nicotine in replacement therapy</td>
<td>Lower risk Vasoconstruction Pre-eclampsia Miscarraige</td>
<td>Lower risk Vasoconstruction Premature Underweight Miscarraige</td>
<td></td>
</tr>
<tr>
<td>Benefits of using NRT</td>
<td>Normal CO levels Increased oxygen Clean nicotine Reduce withdrawal symptoms Stops smoking Healthier outcome</td>
<td>Normal CO levels Increased oxygen Clean nicotine Healthier outcome</td>
<td></td>
</tr>
</tbody>
</table>

Please sign below to confirm that:
1. The Smoking Cessation Adviser has explained to me the use of nicotine replacement therapy (NRT) in Pregnancy
2. I have understood the information that has been given to me
3. I have tried but am unable to stop smoking without the help of NRT
4. I have been advised how to use NRT
5. I have been advised not to exceed the recommendation dose
6. I understand I must refrain from smoking while using NRT

Client’s Signature ___________________________ Date ________________

Smoking Cessation Adviser ___________________________ Date ________________

Smoking and Reproductive Life (Jones 2004)

**SMOKING AND REPRODUCTIVE LIFE**
The impact of smoking on sexual, reproductive and child health

**MALE SEXUAL HEALTH**
- Male sexual impotence
  - Fatigue deposits (atherosclerosis) and constriction (vasospasm) → Reduced blood flow
  - Damage to valves (venous dilatation) → Blood escapes too quickly

**FEMALE SEXUAL HEALTH**
- Increased risk of heart disease and stroke with the combined contraceptive pill
- Increased failure of the combined contraceptive pill
- Alterations in sex hormone metabolism
  - Painful, irregular or missed periods

**OTHER REPRODUCTIVE HEALTH EFFECTS**
- Early menopause
- More severe menopausal symptoms
- Malignant cancer of the cervix
- Abnormal cervical smears
- ‘Male’ body shape

**PREGNANCY**
- Increased risk of foetal malformation
- Slower foetal growth
- Miscarriage
- Premature birth
- Placental complications
  - Placental separation (placenta abruptio)
  - Placental obstruction (placenta praevia)

**CONCEPTION**
- Reduced fertility in men and women
- Delayed conception
- Infertility
- Reduced success of fertility treatment
- Ectopic pregnancy

**NEWBORN**
- Stillbirth
- Low birth weight baby
- Death of the newborn
- Impaired lung function
- Respiratory illnesses
- Cut death (first year of life)

**SMOKING AND REPRODUCTIVE LIFE**
- Development of asthma
- Exacerbation of asthma
- Middle ear disease
- Respiratory illnesses
- Impaired growth and development
- Behavioural problems

**PASSIVE SMOKING**
- Reduced milk supply
- Reduced milk quality
- Less likely to breastfeeding
- Breastfeeds for a shorter time

**NURSING MOTHER**
- Reduced milk supply
- Reduced milk quality
- Less likely to breastfeeding
- Breastfeeds for a shorter time

**CARBON MONOXIDE IN BLOOD**
- Reduced oxygen supply

**ILLUSTRATED BY ROBERT BRITTON**

Poster: http://www.doctorsandtobacco.org/files58.pdf
Report available: http://www.doctorsandtobacco.org/tcrc/WebSite/Pages/tcrc/resources/tcrc/Pages/Pages/tcrc/Publications/Smoking&ReproductiveLife.pdf