

# **Stop Smoking Services in Cornwall**

## **An Assessment of the Service**

**Alex Watt, MSc; Simon Bennett BSc; Jenny Morris PhD; John Bastin, BSc;  
Leo Salter PhD.**

**Cornwall Health Research Unit  
Penhaligon Building  
Trevenson Lane  
Pool  
Cornwall TR15 3RG  
[www.plymouth.ac.uk/chru](http://www.plymouth.ac.uk/chru)**

**October 2002**

# Contents

	Page
<b>Executive Summary</b>	3
<b>1. Introduction</b>	5
<b>2. Aims</b>	5
<b>3. Literature Review</b>	6
<b>4. Methodology</b>	12
4.1 Design	12
4.2 Operational Procedure	12
4.3 Sample	12
4.4 Data Collection	13
4.5 Questionnaire Design	14
<b>5. Results</b>	16
5.1 Intermediate Cases	16
5.2 Specialist Cases	23
<b>6. Discussion</b>	24
<b>7. Conclusions</b>	28
Appendices	

## **Executive Summary**

- The aims of the project were to monitor users of the Cornwall Stop Smoking Services (SSS) in 1999-2000 to assess firstly how successful the SSS has been and secondly the reasons why unsuccessful clients have started smoking again.
- The methods used were a longitudinal telephone survey at 52-week follow-up using questionnaires appropriate to the client's smoking status, and carbon monoxide testing for users of the specialist services.
- Of the clients who used the intermediate service 18.3% were successful in stopping smoking. For the specialist service this figure was 12.5%. The success rate for intermediate services in Cornwall was 40% better than the success rate for specialist services in all HAZ areas in 2000/01 (which was 13%), although differences in definition make comparisons difficult.
- There was no significant difference between males and females in being successful at stopping smoking.
- There was no significant difference between age groups in being successful at stopping smoking.
- Although there are more male smokers than female in the general population, there were a proportionately higher number of female smokers attempting to quit.
- Of the different strategies that were used to help with attempting to stop smoking Nicotine Replacement Therapy (NRT) was considered the most useful. The evidence suggests that those who employed more than one strategy were more successful than those who did not.

- The most frequent reasons given for having restarted to smoke after attempting to quit were stress at home, habit, lack of willpower and enjoyment. The majority of all the clients who used the SSS, whether they were successful or not, described the service as either 'helpful' or 'very helpful'.

# **Stop Smoking Services in Cornwall**

## **An Assessment of the Service**

### **1. Introduction**

Following an early study (1) which was commissioned to examine public awareness of the Cornwall Stop Smoking Services the Cornwall Health Research Unit (CHRU) was commissioned to carry out a validation exercise on the Stop Smoking Services provided in Cornwall and the Isles of Scilly. In addition to the validation exercise, further information on the reasons why people who have used the Stop Smoking Services but are still smoking, was elicited. The validation exercise is a government requirement, the additional study was undertaken to elicit relevant information on key factors that assist people in stopping smoking or act as barriers to them stopping.

This is essentially an interim report as at the time of writing the study will continue to cover clients of the Service with quit dates up to 31 March 2002. Future reports will be presented as much as possible in a similar format to enable appropriate comparisons to be made.

### **2. Aims**

The project has two aims:

1. To monitor those people in Cornwall and the Isles of Scilly who have used Stop Smoking Services in 1999-2000 and to assess how successful the services have been in helping them stop smoking.
2. To gather information on the reasons why people may have started smoking again after using the Stop Smoking Services.

### 3. Literature Review

The present Government's strategy for public health improvement is focussed on three areas – cancer, heart disease and smoking cessation (2). Specific medium- and long -term targets have been set in all three areas. The basis for the current smoking cessation strategy in the UK is the Government White Paper 'Smoking Kills' (3), which contains three specific targets:

- “To reduce smoking among children from 13% to 9% or less by the year 2010; with a fall to 11% by the year 2005.
- To reduce adult smoking in all social classes so that the overall rate falls from 28% to 24% or less by the year 2010; with a fall to 26% by the year 2005.
- To reduce the percentage of women who smoke during pregnancy from 23% to 15% by the year 2010; with a fall to 18% by the year 2005. " (3, Ch 9)

Additionally, in recognition of particularly high smoking rates amongst low-income groups, the Cancer Plan, published in September 2000 (4) announced a further target:

- “To reduce smoking rates among manual social class groups from 32% in 1998 to 26% by 2010” (4, Executive Summary)

The strategy put in place to achieve the required reductions has a number of strands that include a ban on tobacco advertising, a drive against smuggled tobacco and a review of smoking policy in the workplace. The work reported here concentrates on the smoking cessation services set up as a direct result of the White Paper (3), and includes a survey of the relevant literature that informed the guidelines issued to the newly formed Stop Smoking Services (SSS).

The Government's action plan (3) referred to new funding which was earmarked to support smoking cessation services. Acknowledging particular problems amongst the poorest sections of the population, funding was targeted at Health Action Zones (HAZ), already set up in England to address health inequalities in the most deprived

areas. Twenty-six HAZ areas were initiated, 11 in April 1998 and 15 one year later (5).

The principal academic paper that informed the Government White Paper was published in Journal of the British Thoracic Society, reporting research commissioned by the Health Education Authority (6). In this paper the cost effectiveness of the proposed measures in the guidelines was emphasised.

*'The cost effectiveness guidance underpins these clinical guidelines and provides the economic justification for them' (pS1).*

The paper was endorsed by 21 organisations including the Royal College of General Practitioners, the British Medical Association, the pressure group Action on Smoking and Health (ASH) and the Cancer Research Campaign (pS1). There were separate recommendations to those in primary care, all health professionals and smoking cessation specialists, and discussions of other issues such as the options for making Nicotine Replacement Therapy (NRT) available to those on low incomes (pS2).

Central to the findings of the paper is the degree of intervention that is appropriate for health professionals who meet with smokers on a daily basis. Earlier surveys had found that only 29% of smokers who had met with their GP had been given advice on smoking (7) and only 39% of pregnant smokers had received smoking advice (8). One of the intentions of the guidelines was to emphasise the high priority that smoking advice should occupy in primary care, and to demonstrate the benefits to all parties of a healthier society resulting from a fully implemented smoking strategy.

In order for smoking cessation interventions to be targeted effectively the interventions were categorised in three ways – Specialist, Intermediate and Brief. The following definitions are taken from the Department of Health guidelines issued in June 1999 (9). 'The three levels of service are as follows:

- Specialist smoking cessation clinics/services run by a smoking cessation specialist(s) who has received training for this role. The clinic/service will be

evidence based and offer intensive treatment in the form of group support over the course of 5 to 6 weeks, including the use of NRT. Clients may also receive treatment one-to-one if for any reason group sessions are judged not to meet their needs. Such a clinic/service may be situated in a major hospital, although it could be based in a community setting, have outreach clinics or operate on a peripatetic basis.

- Intermediate interventions, usually provided on a one-to-one basis by specialist practitioners who will have undertaken some form of accredited/recognised training. These practitioners are likely to be paid to provide services, ‘registered’ with the local smoking cessation coordinator, and authorised to provide clients with free NRT/NRT vouchers. Examples might include the following, although this list is not exhaustive:
  - a practice nurse trained to provide specialist smoking cessation support in a GP practice or health centre;
  - a cardiac nurse providing specialist smoking cessation advice to patients in a hospital;
  - a one-to-one service provided by a trained health professional for pregnant women;
  - a youth worker or school nurse trained to provide smoking cessation advice for young people in a youth club or educational setting;
  - a specialist smoking cessation advisor working in a community centre;
  - a pharmacist trained to provide support on the lines of that provided by other health professionals in the examples above. (The advice and support provided by a pharmacist when selling NRT in the normal course of his/her work, would not qualify as an immediate intervention.)
- Brief interventions by GPs or other health professionals. These will be provided in the normal course of the professional’s duties rather than comprising a “new” service.’ (9, pp2-3)

However, these definitions were criticised in evaluations conducted for the Department of Health (10, 11). Based on interviews with key smoking cessation staff in HAZ areas, difficulties with the definitions outlined above were encountered.

*'The perceived discrepancy between these two sets of guidelines appears to have caused considerable confusion in some HAZs. The distinction between intermediate and specialist interventions has not been fully understood.'* (10, p4)

Cornwall was no exception to the findings and the local Stop Smoking Co-ordinator decided to categorise Specialist cases by need (pregnancy and heavy addiction) rather than the particular form of intervention encountered by the smoker.

Another problem with definition related to the differences in care structures in rural and urban areas.

*'Whereas in the London HAZs a more traditional model of specialist clinic is possible, secondary care-based services are just not practical in rural Cornwall...'* (10, p4).

When examining the results published by the Department of Health, these discrepancies make comparisons across different HAZs extremely difficult. In Cornwall's case the definitions used have the consequence that the specialist cases show a lower success rate than the intermediate cases. The reasons for this are difficult to clarify because of the small sample size, but possibly relate to the particular socio-economic circumstances of those falling into the 'Specialist' group in Cornwall.

Leaving aside the problems associated with the inconsistent interpretation of the DoH definitions the fundamental issue that arises when attempting to measure the success of any smoking cessation strategy is what precisely constitutes a successful quitter. For instance, in the course of this research the following scenarios have been

encountered at the 12-month follow-up. Each raises issues in relation to the definition of a 'quitter'.

- a) Someone who claims to have successfully kicked the smoking habit, yet admits to smoking the occasional cigarette, usually in a social situation.
- b) Someone who stopped smoking for three months, smoked again for six months and then quit again for three.
- c) Someone who made repeated attempts to quit in the early stages, eventually stopping 'for good', not having smoked for nine months.

The Department of Health Guidelines offer the following categories:

*'Definition of "client quit smoking" at 52 weeks. A client should be regarded as a non-smoker at 52 weeks if they have not smoked at any time since 2 weeks after their original quit date.'* (9, p17)

If this definition is rigorously applied, none of the three scenarios described above can be included in the figures for successful quitters. Even someone who has tried a cigarette out of curiosity is excluded.

In contrast to the DoH definition the available literature offers a mix of definitions. For example, Hughes *et al.*, (12) suggest abstinence at the time of follow-up is a definition of success, whilst Gilpin *et al.*, (13) asked the question 'When did you last smoke regularly?' suggesting that a quitter could be identified by a specific period of continuous abstinence. Gilpin and Pierce (14) found evidence suggesting that recall of smoking behaviour was only reliable for quitting activity in 'the last few months before the interview' (p613).

This report attempts to adopt a common sense attitude to the issue of definition and in doing so it seeks to reflect fairly the progress that many smokers have made over the 12-month period. The following definition is therefore applied throughout:

A successful quitter is someone who is not smoking at the time of the follow-up **and** has not relapsed from the quit attempt for a period exceeding 30 days over the 12-month period.

The data reported in this work is based almost entirely on self-reported behaviour by former smokers, confirmation carbon monoxide tests only being conducted for 'Specialist' cases.

Those who were non-smokers at the time of the follow up but who failed to meet the full criterion used in this report are classified as 'partially successful'. The tabulated results reported here therefore reflect three categories of quitter – successful, partially successful and unsuccessful.

## **4. Methodology**

This paper reports on the analysis of 12 months data (from September 2000 to September 2001) that have been collected by telephone and face-to-face interviews from clients who have used the Stop Smoking Service in Cornwall.

### **4.1 Design**

A longitudinal telephone survey of 619 smokers contacted 52 weeks following registration with the SSS.

### **4.2 Operational Procedure**

Government monitoring required that clients who use the stop smoking services were followed up at a 4-week and a 52-week period to monitor their smoking status. This project is concerned with the 52-week follow up. The follow up procedure consisted of a self reported answer to a question on smoking status followed, in the case of specialist cases, by a carbon monoxide validation test for those who reported as having successfully quit smoking. This procedure is the same for the 4-week and 52-week follow up. The follow up was carried out as near to the 52-week point as possible and was always within 54 weeks of the quit date. Any client not followed up by 54 weeks was counted as lost to follow up.

### **4.3 Sample**

For the purpose of this project and in consultation with the Cornwall Stop Smoking Co-ordinator it was decided to classify clients who use the smoking cessation services into (i) specialist services & pregnancy; and (ii) intermediate. Those classified as brief interventions were omitted, as no data were available for analysis. These categories reflected the degree of intervention in each case as determined by the Stop Smoking Co-ordinator and the Department of Health guidelines (see p7-8 for definitions). All clients in the specialist and pregnancy group were followed up. For the intermediate

group a random sample of clients, stratified by age and gender, were followed up. The number of clients in each group after one year were as follows:

- Specialist services            134 (108 pregnancy and 26 other specialist)
- Intermediate                    1914

These clients first used the services between September 1999 and September 2000.

The details of each new client are recorded by the referral agent on a 'Record Card' (Appendix I). The Card records personal details, information about Nicotine Replacement Therapy (NRT) or other prescriptive drugs and an initial contact schedule. The client is required to sign the form to meet the requirements of the Data Protection Act 1998 and to consent to being contacted for the purposes of evaluation. The information was recorded by the Stop Smoking Services on a Microsoft Access database and was made available to CHRU.

#### **4.4 Data Collection**

##### **(i) Specialist Services and Pregnancy Group**

- Using the Access database clients' quit dates were identified and a programme was set up to contact them by telephone in the two weeks following the 52-week point. If telephone contact was not feasible for any reason a letter was sent. Any client not replying to the letter was counted as lost to follow up.
- During the telephone interview the client was asked whether they had still stopped smoking. If they reported yes, a date was arranged to undertake a carbon monoxide validation test. After appropriate training, the validation test was carried out by the researcher using a Micro 3 Smokelyzer machine. During this visit to the client's home, Questionnaire B (Appendix II) was completed. This took place within two weeks of the telephone interview. If the client reported that they had not stopped smoking a few questions were asked, concerning the reasons for starting smoking again, using Questionnaire A (Appendix III).

## (ii) Intermediate Group

A stratified, random sample was obtained from the list of clients using the intermediate services. Given the time available to conduct the evaluation and anticipated difficulties in contacting all the clients it was felt that it would be realistic to attempt to complete 600 Questionnaires (31.3% of the database). This was also a large enough sample to allow any statistical analysis to be valid. The sample was stratified by age and sex to ensure complete sampling.

At 12 months 563 clients had been contacted and interviewed over the telephone, using Questionnaire C (Appendix IV). Three attempts were made at different times to contact the client by telephone and if no contact was made they were defined as lost to follow-up. The same classification was given to telephone numbers that were unobtainable/unavailable or if the client had moved away.

### **4.5 Questionnaire Design**

Three questionnaires (A and B for Specialist Cases and C for Intermediate Cases) were designed. The questions were intended not only to elicit factual answers but also to encourage respondents to describe in their own words their personal experiences when attempting to give up smoking. This gave the researcher increased scope to explore particular subject areas in greater depth as appropriate opportunities arose. The content of the questions reflected the aims of the study, namely the degree of success achieved by the SSS and the reasons for both successful and unsuccessful attempts to give up smoking.

Questionnaire C was piloted with 20 telephone interviews being carried out and questionnaires completed. From the results of the pilot the questionnaires were revised. The revisions were as follows:

1. An additional question (Question **7** for people who had not managed to stop smoking and Question **13** for people who were successful in stopping smoking)

was added to establish who the principal contacts were when the attempt to stop smoking was made.

2. The question 'Are you aware of the help and support available from Stop Smoking Services?' was duplicated to cover both successful non-smokers and smokers.

As the revisions were minor, the 20 pilot questionnaires were incorporated into the main study. As the questionnaires were duplicates in many ways any relevant changes made to Questionnaire C were incorporated into Questionnaires A and B.

As the interviews proceeded it was clear that clients were repeatedly giving answers that were not specifically covered by the questionnaire options. These included (the question numbers relate to Questionnaire C):

Question 4 – What helped you most to stop smoking initially?

Additional answer – Finance.

Question 5 – What were the main reasons why you started smoking again?

Additional answer – Habit/Craving/Withdrawal Symptoms.

Question 6 – Did you try using any products or services to help you stop smoking?

Additional answer – Zyban (a nicotine-free smoking cessation medication designed to reduce smoker related cravings).

These new categories are included in the analysis of the results.

## 5. Results

### 5.1 Intermediate Cases

The response rate to the survey is shown in Table 1a. Table 1b shows the success rate of the SSS programme.

*Table 1a: Responses*

	<b>n</b>	<b>%</b>
<b>Completed Questionnaires</b>	563	29.4
<b>Lost to follow up*</b>	1351	70.6
<b>Total no. of clients</b>	1914	100

\* Three attempts made, telephone number unobtainable or moved away

*Table 1b: Success of the programme (n=563)*

	<b>no.</b>	<b>%</b>
<b>Successful</b>	103	18.3
<b>Partially successful</b>	53	9.4
<b>Unsuccessful</b>	407	72.3

Of concern was the large number of wrong or unidentified phone numbers in the dataset. Of the 1351 lost to follow up 426 (32 %) were due to either the telephone number being unobtainable, no number being available at all, or a wrong number. This raises two issues. First, the reliability of the database used to record clients using SSS and second, the impact that mobile phones have on telephone follow up surveys. A potential reason for the large number of unobtainable numbers could be that these are mobile numbers that have been changed. This is particularly true for young people who tend to change their mobile phones regularly.

Of the 563 people surveyed, 330 (59%) were female and 233 (41%) male. Table 2 shows the analysis by gender and age.

*Table 2: Analysis by Gender & Age*

	<b>Successful</b>			<b>Partially Successful</b>			<b>Unsuccessful</b>			<b>Grand Total</b>
	<b>Male No (%)</b>	<b>Female No (%)</b>	<b>Total</b>	<b>Male No (%)</b>	<b>Female No (%)</b>	<b>Total</b>	<b>Male No (%)</b>	<b>Female No (%)</b>	<b>Total</b>	
<b>16-29</b>	5 (41)	7 (59)	12	2 (67)	1 (33)	3	14 (31)	31 (69)	45	60
<b>30-39</b>	7 (32)	15 (68)	22	5 (55)	4 (45)	9	31 (32)	65 (68)	96	127
<b>40-49</b>	8 (36)	14 (64)	22	4 (36)	7 (64)	11	29 (35)	52 (65)	81	114
<b>50-59</b>	10 (52)	9 (48)	19	9 (64)	5 (36)	14	38 (45)	45 (55)	83	116
<b>60+</b>	13 (46)	15 (54)	28	8 (50)	8 (50)	16	50 (49)	52 (51)	102	146
<b>Total</b>	43 (41)	60 (59)	103	28 (52)	25 (48)	53	162(39)	245(61)	407	563

Although more females (59%) made use of the SSS, the success rates were similar at 18% for both males and females. The greater proportion of women wishing to give up smoking is of interest in light of figures from the 2000 General Household Survey indicating that 29% of men but only 25% of women are current cigarette smokers (15).

Using chi-square tests, it was found that there was no significant difference (at the 5% level of significance) between males and females in terms of being successful in stopping smoking.

Using chi-square tests, once again there appears to be no significant differences between quitters and non-quitters within the age groups but it is worth noting that the number of successful quitters does not reduce in the older age bands. The over 60s are as successful as the 16-29 age band.

Table 3 focuses on geographical analysis within the area covered by the SSS to identify variations (if any) in success by location. This was in order to investigate links between smoking cessation behaviour and socio-economic deprivation.

**Table 3: Analysis by Location (n =561, 2 addresses unknown)**

Area*	Successful		Partially Successful		Unsuccessful		Total
	n	%	n	%	n	%	
<b>Carrick</b>	20	19	8	7	80	74	108
<b>East Cornwall</b>	7	13	7	13	42	75	56
<b>North Cornwall</b>	17	18	11	12	65	70	93
<b>Restormel</b>	12	15	8	10	59	75	79
<b>West Cornwall</b>	45	20	18	8	162	72	225
<b>Total</b>	<b>101</b>	<b>18</b>	<b>52</b>	<b>9</b>	<b>408</b>	<b>73</b>	<b>561</b>

*\*The areas chosen equate to the Primary Care Trusts within the Cornwall and Isles of Scilly Area Health Authority prior to reorganization on 1 April 2002.*

Although there is much literature (4, 17, 18) exploring general smoking behaviour in lower income social groups, further research needs to be undertaken to establish whether such groups find it easier to give up smoking. It is interesting to note that West Cornwall, recently identified as having the greatest concentration of deprivation within the county (16, p16) shows both the highest number of cases and the best

success rate. This may however be due to the fact that the SSS are located in West Cornwall and as such have a higher profile in that area.

During the telephone interview it was noticeable that those who considered themselves as light smokers reported that the cost of NRT after the initial free period was greater than the cost of cigarettes, and this produced a negative incentive to quit. This anomaly was addressed in April 2001 when the Government announced that all NRT would be available on prescription, however, the announcement came after the dates of quit attempts examined in this report.

Analysis between type of NRT and success rates is summarised in Table 4.

**Table 4: Type of NRT used (n=510\*)**

NRT	Successful		Partially Successful		Unsuccessful		Total
	n	%	n	%	n	%	
<b>16 Hour Patch</b>	18	17	5	5	83	78	106
<b>24 Hour Patch</b>	43	18	32	13	168	69	243
<b>Gum</b>	6	18	1	3	26	79	33
<b>Inhalator Pack</b>	11	14	10	12	59	74	80
<b>Microtab</b>	3	19	0	0	13	81	16
<b>Nasal</b>	1	25	0	0	3	75	4
<b>Other</b>	7	25	2	7	19	68	28
<b>Total</b>	<b>89</b>	<b>17</b>	<b>50</b>	<b>10</b>	<b>371</b>	<b>73</b>	<b>510</b>

\* Excludes NRT not issued or recorded (53)

In terms of NRT it is worth noting that the nicotine replacement aids have a success rate of around 17% (19). After the conclusion of the period covered by this study, the drug Bupropion, or Zyban, became available on the NHS. The drug Zyban was originally trialled as an anti-depressant in the USA but was seen to have a positive effect on the prevention of nicotine craving (20). Those clients identified as users of Zyban in this report would have purchased the drug privately. Future studies should consider the impact that Zyban and other new products such as the CQ Lozenge<sup>1</sup> have had on smoking cessation strategy.

<sup>1</sup> The CQ Lozenge is a stop smoking aid that contains a nicotine resin which, when sucked, releases nicotine slowly from the resin to be absorbed through the lining of the mouth.

As well as focusing on those who have been completely successful in giving up smoking, it is worth examining in more detail those who were unsuccessful.

Of those smokers classified as unsuccessful, 61% managed to stop for one month or less, 24% for two to three months, 10% for four to six months and 6% for more than six months (but less than twelve). This is consistent with a previously observed pattern (21) and supports the notion that levels of habit and craving reduce in proportion to the length of time without cigarettes (21).

Around 56% of respondents classified as unsuccessful reported that they had cut down their smoking since their quit attempt although they had been unsuccessful in giving up totally. Although there may be an element of unreliability in these self-reported results (see literature review p10) this is still a strong indication that the involvement of the SSS has been successful in changing smoking behaviour by reducing the numbers of cigarettes smoked over and above the resulting number of 'completely' successful quitters.

In some instances the smoker was also asked about the number of cigarettes they were smoking prior to the quit attempt and the numbers smoked at the time of the follow-up. However, as many smokers use roll-up cigarettes, where the quantities of tobacco can vary, it was not possible from the data of numbers of cigarettes to produce comparative figures on the degree to which smokers have cut back on their tobacco use.

Next the various factors identified as being helpful were analysed. The results are outlined in Table 5.

**Table 5: Factors identified as most helpful in stopping smoking\***

Factor	Successful (n=103)		Partially Successful (n=53)		Unsuccessful (n=407)		Total (n=563)	
	n	%	n	%	n	%	n	%
<b>Intervention:</b>								
<b>NRT</b>	54	52	19	36	172	42	245	44
<b>SSS</b>	15	15	0		29	7	44	8
<b>Chewing Gum</b>	3	3	1	2	21	5	25	4
<b>Sweets</b>	4	4	0		1		5	1
<b>Acupuncture</b>	0		0		1		1	
<b>Hypnosis</b>	0		1	2	2		3	
<b>Personal motivation:</b>								
<b>Willpower</b>	42	41	10	19	108	27	160	28
<b>Health concerns</b>	31	30	13	25	96	24	140	25
<b>Support (family/friends)</b>	19	18	8	15	62	15	89	16
<b>Other</b>	3	3	19	36	32	8	54	10

\* For the data reported in Table 5 more than one answer to the relevant question was permitted, hence the percentages do not add up to 100. The percentages relate to the value of n at the head of each column. For example, 52% of successful quitters (54/103) identified NRT as a helpful factor.

Initial analysis suggests that successful quitters attributed a number of factors, both personal and interventional, to their success, whereas those who were unsuccessful tended to attribute a single factor. For example, of the 172 unsuccessful quitters who identified NRT as being a helpful factor, only 12% of these also identified willpower. In contrast, of the 54 successful quitters who identified NRT as a useful factor, as many as 33% also identified willpower. A chi-squared test showed this to be significant at the 5% level of significance (p=0.00113).

An analysis of the reasons given for unsuccessful attempts was conducted.

The most frequent reasons given for unsuccessful quitting were stress at home (48% of unsuccessful cases), habit/craving/lack of willpower (32%) and enjoyment (11%). Eighty-nine per cent (361/407) of unsuccessful cases had tried using products or services to help them stop smoking. The most popular were Nicotine Replacement

Therapy (92%), chewing gum (19%) and Zyban (11%), similar to the results for successful cases.

Table 6 examines relationships between the client and their main contact for professional advice about stopping smoking.

**Table 6: Key contacts with regard to quit attempt**

Key contact	Successful (n=103)		Partially Successful (n=53)		Unsuccessful (n=407)		Total (n=563)	
	n	%	n	%	n	%	n	%
Pharmacist	55	53	24	45	209	51	288	51
Specialist Nurse	46	45	15	28	162	40	223	40
GP	16	16	28	53	115	28	159	28
Stop Smoking Services (telephone helpline)	12	12	2	4	38	9	52	9

Table 6 shows that almost 80% of all clients described their key contact as either pharmacist or GP. Overall, 9% used one of the advertised helplines provided by the SSS.

**Table 7: Perception of SSS – awareness of help and support available**

	Successful		Partially Successful		Unsuccessful		Total
	n	%	n	%	n	%	
Yes	69	22	27	8	224	70	320
No	34	14	26	11	183	75	243
<b>Total</b>	<b>103</b>	<b>18</b>	<b>53</b>	<b>9</b>	<b>407</b>	<b>72</b>	<b>563</b>

The data in Tables 6 and 7 suggest that a number of clients may have used the SSS without realising it, e.g. pharmacists who form part of the SSS. This may reflect a lack of awareness that has been addressed in an earlier study on the most effective methods of promoting the SSS (1).

Tables 8 and 9 examine the perceived helpfulness of the SSS by clients who used one of the services.

**Table 8: Perceived helpfulness of the SSS (n=563)**

	Successful		Partially Successful		Unsuccessful		Total	
	n	%	n	%	n	%	n	%
<b>Very helpful</b>	44	67	12	43	86	41	142	47
<b>Quite helpful</b>	16	24	10	36	50	24	76	25
<b>Neither helpful nor unhelpful</b>	5	8	4	14	40	19	49	16
<b>Quite unhelpful</b>	0	0	1	4	25	12	26	9
<b>Very unhelpful</b>	1	2	1	4	10	5	12	4
<b>Total*</b>	<b>66</b>		<b>28</b>		<b>211</b>		<b>305</b>	

*\*The totals do not correspond exactly as a number of respondents stated that they were aware of the SSS but chose not to use them.*

Of the clients who used the service, over 70% found it helpful, and 13% found it unhelpful.

**Table 9: Aspects of the SSS perceived to be helpful (n=563)**

Service	Successful		Partially Successful		Unsuccessful		Total	
	n	%	n	%	n	%	n	%
<b>Free NRT</b>	26	90	6	67	72	82	104	83
<b>Counselling</b>	31	100	13	100	88	80	132	86
<b>Group therapy</b>	9	90	0	0	28	76	37	77
<b>Advice</b>	64	97	26	100	171	83	261	88
<b>Support</b>	53	98	17	94	147	79	217	84

*(Percentages describe the proportion of the group who answered 'helpful', excluding those who replied 'not applicable', e.g. 90% of successful clients found free nicotine therapy to be helpful)*

When asked about specific aspects of the SSS, clients reported levels of satisfaction consistent with the results shown in Table 8.

Of the 103 successful quitters, 29 (28%) reported relapses (of less than one month) in the 12 months prior to the evaluation. In the partially successful category, 7 (13%) had relapses between 31 and 90 days, 5 (10%) between 91 and 180 days and 40 (77%)

greater than 180 days. (One partially successful respondent was an occasional pipe smoker so is not included.)

## **5.2 Specialist Cases**

This section relates only to those clients who used the specialist service. The definition of specialist services is:

*Specialist smoking cessation clinics or services run by a smoking cessation specialist(s) who has received training for this role.*

In total 134 clients used the service and a total 56 were interviewed. The remaining 78 were lost to follow up. Of those interviewed 7 (13%) were successful as confirmed with a carbon monoxide monitor test, 49 (87%) were unsuccessful (self reported and not tested with carbon monoxide test).

Because of the small numbers involved in those who were successful in stopping smoking (7) it is inappropriate to undertake significant testing of the data. From the results of this work it can be seen that, for the specialist cases, the success rate of 13% is somewhat lower than the figure of 18% for intermediate cases.

At this point it is appropriate to mention that the Department of Health have released figures by HAZ area of success rates of those using the specialist services between April 1999 and March 2000. Of those setting a quit date (n=5817) 13% were successful at 52 week follow-up (22, p45). However, comparisons between the national results and the results in this report are not appropriate because the definition of specialist services varies in each HAZ and also definitions of a successful quit attempt can differ (see pp9-10).

## 6. Discussion

One of the key questions to be answered when evaluating the success of the SSS in Cornwall is how the results compare to those reported by the other HAZ areas in England and published by the Department of Health. However, the nationally reported results for the year 2000/01 (22) only apply to the specialist services, where, as has been shown, definitions can vary greatly from one HAZ area to another. What can be seen from this study, however, is that of the clients who used the intermediate service in Cornwall, 18.3% were substantially successful in stopping smoking at the 12 month follow-up. For the specialist service this figure was 12.5%. For all HAZ areas the success rate for specialist services in 2000/01 was 13%.

The difficulties of definition also make comparisons with other studies difficult. For example, a recent study in America (23) on the effectiveness of telephone helpline counselling reported that 23.3% of the treatment group (1973 individual callers to a helpline offered follow-up counselling sessions) was abstinent at 12 months, compared to 18.4% of the control group (1309 individual callers not offered follow-up) ( $P < 0.001$ ). A further study in Canada examining a community-based intervention of 971 respondents (21) reported 26.0% of participants not smoking at 12-month follow-up. However, the definition of success in both of these studies is based purely on abstinence at the time of follow-up, disregarding any smoking activity in the meantime. If that definition is applied to this study, the abstention rate for users of the SSS in Cornwall rises to 27.7%, consistent with these reported results. A study in Catalonia, Spain (24) using similar methods and definitions to our own (sustained abstinence, carbon monoxide testing) reported a success rate of 13.3% ( $n=3575$ ) at 12 month follow-up.

Based on these results there are no significant differences between the success rates of males and females. However, what is of interest is that a greater proportion of women expressed an interest in giving up by signing up to the Cornwall SSS, despite there being a greater number of male smokers in the general population. This would appear to be an area worthy of further study, as surprisingly it is not covered in any great degree by the literature:

*'The failure of most outcome studies to report results by gender ... do not allow for many firm conclusions to be drawn about smoking cessation rates in women.... Greater attention to gender differences in clinical trial outcomes and to addressing concerns of women smokers may aid in the development of substantially improved smoking cessation interventions for women'. (25, Abstract)*

Areas that might be worthy of further research around the factors influencing women smokers include the relative effectiveness of NRT and other therapies (remembering that NRT is not usually prescribed to pregnant women), the role of counselling, concern over weight gain, pre-menstrual tension and social circumstances.

Although this report showed no significant differences in success rates between the various age groups, there is evidence in the literature that shows that younger smokers are more successful once a decision to quit is made. Gilpin and Pierce (26), in a longitudinal study of 140,199 smokers in the US, showed that, over a 40-year period, significantly ( $p < 0.05$ ) more smokers in the 35-50 age group successfully gave up smoking than those in the 20-34 age group. That study included all smokers, whereas this paper only looks at users of the SSS, who by signing up to the Service have expressed a desire to quit. Further research might consider the incidence of young smokers using the SSS when compared to the smoking population as a whole, as well as the reasons why young people decide to take up smoking in the first place, an issue outside the scope of this research. A paper based on the 1996 California Tobacco Survey (27) reported that only 19.9% ( $n=4480$ ) of those smokers who tried to quit chose to use one or more forms of assistance: self-help, counselling and/or NRT. Usage of these forms of assistance increased with age. It would be interesting to know what proportion of smokers in Cornwall making an attempt to give up over the period of this study chose to use the SSS.

This report details those aspects of the SSS that users found most helpful, indicating that those who combined two or more forms of intervention were more successful than those who did not. It is clear both from this study and the available literature that the availability of trained counsellors have a particularly positive effect on those with

a genuine desire to quit, usually coupled with NRT and support from within the family. Historically, group interventions have shown success rates ranging from 20-40% (21, p726), although there is also evidence that there is a significant relapse rate once the group ceases to meet. In Cornwall, group therapy was found to be useful by some, although in the period covered by this report not enough such groups had been set up for any concrete conclusions to be drawn.

The value of the Stop Smoking Service in Cornwall cannot be measured purely in terms of the percentages of those who have ended their smoking habit at the time of the follow up. There are others who have significantly cut back on their habit or have been galvanised to make a further attempt to give up as a direct result of the intervention. The specific details have been discussed in the results section, but the following general comments are made to sum up the feedback given by clients.

Clearly it is important for the SSS to recognize the whole spectrum of emotions experienced by those deciding to quit and we conclude from analysis of questions 9, 10, 15 and 16 of questionnaire C (Appendix IV) that the SSS has been broadly successful in meeting these needs. For instance it is appropriate to note how often clients expressed gratitude for the work of the Specialist Stop Smoking Nurses, now located at every GP surgery and health centre. In many cases the encouragement of these nurses was cited as the principal reason for a successful quit attempt.

Anecdotal evidence suggested that follow-up telephone contact may have been patchy on occasions, but this may often be due as much to the unavailability of the client as inaction on the part of the nurse. Occasionally a client felt that the advice offered was more useful when the nurse in question was an ex-smoker.

It is apparent from the many interviews conducted that every smoker has a unique story to tell regarding their attempt to quit. As well as the usual motivators of health, finance and family, clients reported a wide variety of different aids, including books, internet chatrooms, hypnotism, acupuncture and religious beliefs. It should also be emphasised that this study is restricted to users of the Cornwall Stop Smoking Service; undoubtedly there are many other smokers who attempt to give up privately,

using a wide variety of other methods that fall outside the scope of this study. For example, this report would not claim to accurately count the number of smokers who choose to use hypnosis or acupuncture, as such facilities are not part of the SSS. However, based on the interviews conducted for this report and the results reported above, we conclude that the SSS was broadly successful in its objectives during the period covered by this report.

## **7. Conclusions**

Of the clients who used the intermediate service 18.3% were successful in stopping smoking. For the specialist service this figure was 12.5%. For all HAZ areas the success rate for specialist services in 2000/01 was 13%, although differences in definition make comparison difficult.

There was no significant difference between males and females and age groups in being successful at stopping smoking.

Although there are more male smokers than female in the general population, there were a proportionately higher number of female smokers attempting to quit.

Of the different strategies that were used to help with attempting to stop smoking Nicotine Replacement Therapy (NRT) was considered the most useful. The evidence suggests that those who employed more than one strategy were more successful than those who did not.

The area covered by West Cornwall PCT had the highest success rate (24%) but this could be because the SSS centre is located within the West Cornwall boundary. This raises issues of accessibility to the service for those clients living in rural areas.

The most frequent reasons given for having restarted to smoke after attempting to quit were stress at home, habit, lack of willpower and enjoyment. The majority of all the clients who used the SSS, whether they were successful or not, found the service either 'helpful' or 'very helpful'.

## References

1. Watt A., Morris J. and Salter L., 2000. *Stop Smoking Services in Cornwall: Effect of 1999 Campaign on Awareness and Behaviour*. CHRU, Cornwall College Penhaligon Building, Pool, Cornwall
2. Department of Health, 1999. *Saving Lives – Our Healthier Nation*. London: Department of Health
3. Department of Health, 1998. *Smoking Kills – A White Paper on Tobacco*. London: Department of Health
4. Department of Health, 2000. *The NHS Cancer Plan*. London: Department of Health
5. <http://www.haznet.org.uk> [accessed 29 January 2002]
6. Raw M., McNeill A. and West R., 1998. *Smoking Cessation Guidelines and their Cost Effectiveness*. *Thorax* **53**, S1-S38.
7. Health Education Authority, 1995. *Health in England*. London: Health Education Authority
8. Bolling K. and Owen L., 1997. *Smoking and Pregnancy. A Survey of Knowledge, Attitudes and Behaviour*. London: Health Education Authority
9. Department of Health, 1999. *New NHS Smoking Cessation Services within Health Action Zones: Monitoring the New Services*. London: Department of Health
10. Adams C., Bauld L. and Judge K., 2000. *Smoking Cessation Services: Early Experiences from Health Action Zones*. Glasgow: University of Glasgow

11. Adams C., Bauld L. and Judge K., 2000. *Leading the Way: Smoking Cessation Services in Health Action Zones*. Glasgow: University of Glasgow
12. Hughes J., Cummings K. and Hyland A., 1999. *Ability of smokers to reduce their smoking and its association with future smoking cessation*. *Addiction* **1**, 109-14.
13. Gilpin E., Pierce J. and Farkas A., 1997. *Duration of smoking abstinence and success in quitting*, *Journal of the National Cancer Institute*, **89**, 572-576.
14. Gilpin E. and Pierce J., 1994. *Measuring smoking cessation: problems with recall in the 1990 California Tobacco Survey*, *Cancer Epidemiology Biomarkers and Prevention* **3**, 613-7.
15. <http://www.statistics.gov.uk> [accessed 26 March 2002]
16. Cemlyn S., Fahmy E., Gordon D. and Bennett S., 2002. *Poverty and Neighbourhood Renewal in West Cornwall*. Bristol: Townsend Centre for International Poverty Research
17. Birch S., Jerrett M. and Eyles J., 2000. *Heterogeneity in the determinants of health and illness: the example of socioeconomic status and smoking*. *Social Science and Medicine*, **51:2** 307-317.
18. Dorset R. and Marsh A., 1998. *The health trap: Poverty, smoking and lone parenthood*. London: Policy Studies Institute.
19. Silagy C., Mant D., Fowler G., Lancaster T., 2000. *Nicotine replacement therapy for smoking cessation*. *Cochrane Database for Systematic Reviews* (Online: Update Software), Issue **3** Page CD000146.
20. Hughes J., Stead L., Lancaster T., 2002. *Antidepressants for smoking cessation*. *Cochrane Database for Systematic Reviews* (online: Update Software), Issue **1** Page CD 000031.

21. Carlson L., Taenzer P., Koopmans J. and Bultz B., 2000. *Eight-year follow-up of a community-based large group behavioral smoking cessation intervention*. Addictive Behaviours, **25:5** 725-741.
22. Department of Health, 2001. *Statistics on smoking cessation services in England, April 2000 to March 2001*. London: Department of Health.
23. Zhu S., Anderson C., Tedeschi G., Rosbrook B., Johnson C., Byrd M. and Gutiérrez-Terrell E., 2002. *Evidence of real-world effectiveness of a telephone quitline for smokers*. The New England Journal of Medicine, **347:14** 1087-1093.
24. Monsó, E., Campbell J., Tønnesen, P., Gustavsson G. and Morera J., 2001. *Sociodemographic predictors of success in smoking intervention*. Tobacco Control **10:2** 165-169
25. Perkins K., 2001. *Smoking cessation in women. Special considerations*. CNS Drugs **15:5** 391-411
26. Gilpin E. and Pierce J., 2002. *Demographic differences in patterns in the incidence of smoking cessation, United States 1950-1990*. Annals of Epidemiology, **12:3** 141-150
27. Zhu S., Melcer T., Sun J., Rosbrook B and Pierce J., 2000. *Smoking cessation with or without assistance. A population-based analysis*. American Journal of Preventive Medicine **18:4** 305-311