Description, effectiveness, and client satisfaction of 9 European Quitlines:

Results of the European Smoking Cessation Helplines Evaluation Project (ESCHER)

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Summary

The main aim of the study was to assess the effectiveness of nine European quitlines. To this effect, around 500 callers per quitline were interviewed during and immediately following their call to the quitline and they were re-interviewed 12 months later. Success was defined by point prevalence and continuous abstinence of smoking. Cost-effectiveness was calculated in terms of costs per successful quitter. In addition, we sought to assess caller satisfaction with the quitline. Quitlines may provide callers with a wide range of services, such as giving brief advice, counseling, informing smokers about the use of pharmacotherapy, and referring callers to health professionals, smoking cessation groups courses, or to pro-active call-back counseling. We attempted to disentangle which services were most associated with positive outcomes in callers. Below, the most important findings and subsequent recommendations for European quitlines within the European Network of Quitlines are summarized.

Findings

1. The nine quitlines under study differed on many variables: target group, organisation (some work with advisers and counselors, others work only with counselors), whether the quitlines offers a pro-active call-back service in addition to a reactive service, technological innovativeness, quality and type of training of counselors, mean length of call, etc.

2. With respect to the services offered to the callers in this study, there were large differences between the nine quitlines. However, it can be concluded that most calls (about three quarter) resulted in counseling, whereas a small percentage of callers is referred to an outside service, such as a group course or a health professional.

3. Because of the unexpected large differences between quitlines, it is difficult to draw overall conclusions from this study.

4. Long term quit rates are generally quite high. The 12 months follow-up from all quitlines together shows a point prevalence abstinence of 18.2% (adjusted for non-response, callers in preparation stage and action combined) and a continuous abstinence of 9.4%. The point prevalence abstinence varied between 11.8% (Italy) and 27.6% (Portugal) and the continuous abstinence varied between 3.9% (Italy) and 14.6% (Portugal).

Overall, the long term quit rates for those that were preparing to quit were 14.3% for point prevalence abstinence (adjusted for non-response), and 5.7% for continuous abstinence (adjusted for non-response). The 12 months follow-up quit rates for the callers who were in action stage were
27.5% for point prevalence abstinence (adjusted for non-response), and 17.9% for continuous abstinence (adjusted for non-response).

5. European quitlines cater for two main groups: smokers seeking help with quitting (smokers in the preparation stage) and callers who have already quit smoking but want to prevent a relapse. The latter group is 31.7% of all callers, but this varies between countries (11.4% in Italy and 41.5% in Norway).

6. Callers in the action stage had a three-fold (point prevalence) or two-fold higher chance of being successful than the callers in the preparation stage.

7. We found no effect from the type of service (counseling, brief advice, information, etc) on success rates among quitters.

8. A rather consistent finding was the significant association between receiving additional telephone support from the quitline with continuous abstinence. This association was found in three quitlines. Across all quitlines, the odds ratio of being abstinent was 2.25 times greater (p<.001) when having received additional counseling compared to not receiving this support.

9. Seeing a health professional after having talked with a counselor from the quitline increases the odds ratio of quitting with a factor 1.55 (p<.05).

10. Only 10% of the calls were referrals from the health care system.

11. Satisfaction with the services from the quitlines was generally quite high. Overall, 83% of callers said that the service they received from the quitline met their expectations.

12. The costs per quitter were generally quite low. Overall, the costs per quitter were 51 euros (85 euros adjusted for non-response), varying between 8 (UK) and 217 (Netherlands) euros.
Recommendations

1. The nine quitlines were very heterogeneous with respect to most micro, mesa and macro level variables that we studied. It was therefore not possible to analyse the data on an aggregated level. We also could not identify clear and meaningful systematic differences and similarities between the nine quitlines, so that clusters of quitlines could be formed. We therefore recommend that future European research on quitlines had to be done on a country-by-country basis, not across countries. Within the European Network of Quitlines, first research priorities must be identified and prioritized. It is recommended that for each research question, research questions should then be answered by organising multiple research studies, conducted in various countries.

2. Use of the conceptual framework for future quitline research. This would allow for a more systematic study of factors affecting quitline outcomes.

3. Quitlines can improve both satisfaction and success rates by offering a pro-active (counselor initiated) call-back service.

4. Quitlines can improve success rates by referring callers to evidence based cessation methods, notably smoking cessation group courses and pharmacotherapy (nicotine replacement therapy).

5. European quitlines should bridge the current gap between the health care system and quitlines, for example by experimenting with various kinds of referral systems that are in use in the United States and Australia.

6. The results showed no clear beneficial effect of any specific type of service given to callers during the first counseling session. More research is needed to identify whether the effectiveness of reactive services of quitlines can be improved by changes in content.

7. Recommendations with regard to cost effectiveness of quitlines are the development of more valid and reliable instruments for the measurement of costs and number of callers. We noticed in our study that it was hard to measure costs and number of callers in the same way for all of the quitlines. Every quitline has its own way of measuring the number of callers and costs. This should be done in a more uniform manner.
1. Introduction

Ever since the first European quitline started in 1988, quitlines have become an important part of national tobacco control strategies in European countries. Since the establishment of the European Network of Quitlines (ENQ) in 2000, training programmes and European conferences have been regularly held, bringing established partners and newer quitlines together. The original six ENQ partners were Germany, Ireland, the Netherlands, Spain, Sweden, the UK and the number of ENQ member countries has now grown to 30. However, very little research has been done on quitlines in Europe, with the notable exception of the Norway, Sweden, and the UK. To overcome the lack of research done on quitlines in Europe, in a training seminar in February 2002 in The Hague STIVORO was invited to present a research proposal that would encompass interests of all ENQ members. In April 2002 during a steering group meeting in Copenhagen, this proposal was presented and discussed with all members. In January 2003 during a training seminar in Rome, a revised proposal was presented and discussed. In May 2003, a proposal was send to the EU. In July 2004, a kick-off of the European Smoking Cessation Helplines Evaluation Research (ESCHER) was organised during a training seminar in London.

During various meetings of ENQ it was recognized that research is needed to be able to further improve the quality of the European Quitlines. Furthermore, little was known about the effect of the current quitlines and about which factors determine success. This information is crucial for policy makers who decide on subsidizing national quitlines. The objective of the project, therefore, was to evaluate the effectiveness of the European Quitlines, to assess which factors influence success, and to find out what kind of assistance is sought (and received) by what kind of smokers. There is still much variation between European countries concerning how quitlines are organised and the type and organisation of the services that is provided. This variation between countries provides a unique opportunity to examine success factors. The project will result in concrete recommendations on how quitlines should be organised to have more impact on smoking behaviour.
Study Objectives

Previous quitline studies could only look at individual predictors of success (demographics, smoking consumption etc), not at organisational factors, because there was no variation in the level of the provider. The existence of the ENQ made it possible to include a larger number of quitlines into one study. We thought this presented a unique opportunity to study how characteristics of the help that is offered, and of the quitlines themselves, was directly determine to success.

Four aims were distinguished. First, to describe the type of services that European quitlines provide to callers. Second, to examine how successful European quitlines are in helping smokers quit smoking. This will be done by calculating long-term (one year) quit rates among callers. Third, to explore which factors contribute to successful quitting among callers. Fourth, to determine the cost-effectiveness of the quitlines. These study aims can be further specified into the following concrete research questions:

1. How are the quitlines organised and set up? (Chapter 3)
2. What kind of callers use the quitlines (Chapter 4)
3. What kind of assistance is given to the callers? (Chapter 5)
4. What is the effectiveness of the quitlines, in terms of point prevalence abstinence, continuous abstinence, and callers’ satisfaction with the services? (Chapter 6)
5. Which factors determine point prevalence abstinence and / or continuous abstinence among callers to the quitlines? (Chapter 7)
6. What is the cost effectiveness of the quitlines in terms of costs per successful quitter? (Chapter 9)
7. Which recommendations can be given to European quitlines with respect to improving their services to smokers? (Chapter 11)
2. Research methods

2.1 Study design

The research is a descriptive and effectiveness study using one baseline and one post-measurement. Effects were examined both in terms of quit rates, caller satisfaction and costs per quitter (cost-effectiveness). A sample of around 500 callers from 9 participating quitlines were screened and interviewed by counselors. 12 months after the first call, the participating callers were interviewed by telephone by an international research organisation. In addition, qualitative information about the quitlines was collected by a researcher during onsite visits to every quitline.

2.2 Conceptual framework

A quitline’s effectiveness is subject to many factors. These factors are depicted in Figure 1 which presents the conceptual framework that was used to guide the selection of study variables. This model is based on a literature study (Centers for Disease Control and Prevention, 2004; European Network of Quitlines, 2004; Mermelstein, Hedeker & Chi Wong, 2003; North American Quitline Consortium, 2005; Owen, 2000; Platt, Tannahill, Watson & Fraser, 1997) and results from the ENQ workshop in London 2004. The framework identifies all factors that may directly or indirectly affect the effectiveness of quitlines. These factors can be found at the micro, meso, and the macro level.
Figure 1. Conceptual Framework.
Central in the model is the interaction between caller and counselor during a counseling session. This takes place at the micro level. The content and quality of this interaction can be expected to directly determine success with quitting. Success can be described in various terms: immediate effects of the counseling session such as satisfaction of the caller with the counseling received, and improvements in psychological determinants of smoking cessation, such as improved self-efficacy expectations to be able to refrain from smoking and heightened motivation to quit. Longer term indicators of success are changes in behaviour: smoking reduction and successful smoking cessation. Content and quality of the counseling session are subject to factors at the micro, meso and macro level. At the micro level, much of the variation in outcomes is subject to individual differences in both counselors and callers. Callers may be more or less motivated and ready to quit, they may already possess the required skills or may lack these (self-efficacy), they may have cultural, personal or other barriers that hinder them in quitting smoking, they may be self-referred to the quitline or referred by a physician, etc. Counselors may have more or less experience, can have different educational backgrounds, etc. These micro-level factors are less under the control of quitlines, other than by selecting counselor with specific characteristics and targeting the quitline service to specific target groups of smokers. At the micro level, the final success of a counseling session is determined not only by the content and quality of the session, but also by any additional cessation methods that the caller might use and additional services that are provided by the quitline after a first session. In particular, callers can be invited to call back if they need any further assistance, they can be send written materials for further consultation, they may be further referred to other specialist help, and they may enrol in a pro-active call back service of the quitline.

At the meso level, we distinguish quitline organisational factors. Organisational factors can be expected to greatly influence content and quality of the caller – counselor interaction, for example by making the counselors work with a standard protocol, by implementing a supervising and quality control system and by providing for an adequate and standardized training for counselors. Furthermore, the way the quitline is run and organised and the type and number of facilities that they have to their disposal determine type and quality of counselors and types of assistance that the counselor can offer.

At a macro (country) level, various factors influence counseling in an indirect way: the way the quitline is promoted to callers determines what type of callers find their way to the quitline. For example: is the telephone number of the quitline depicted on cigarette packs or not. The stage of the tobacco epidemic in which a country is in (i.e., number of smokers, level of de-normalisation), may influence preparedness of smokers to quit smoking and level of social support. Quitlines may attract different subgroups of smokers. This may be because of cultural differences between countries, but also because of the various ways quitlines may communicate to the public, e.g. through documentation or by mass media campaigns promoting the quitline number. Some may target specific populations, such as low educated smokers, specific patient groups, ethnic groups or young smokers. Macro level factors may also influence quitline organisation, for example the height of the quitline’s annual budget, and the extent to which health professionals know about and refer
their patient to quitline services, for example by virtue of the existence of a national reimbursement scheme for cessation therapy. An important factor at the macro level is a country’s health care system. Countries vary in the extent in which health professionals such as family physicians and medical specialists actively refer their patients to a quitline. Callers who are referred by a health professional may have specific characteristics, such as a medical necessity to quit smoking and a strong motivation to quit.

In sum, the effectiveness of a national quitline depends on a complex interplay of a number of factors that can be identified at the micro, meso and macro level. Therefore, statistical analyses of the effectiveness of the quitlines should ideally be done using multivariate multilevel analytic techniques. However, this would require a substantial number of quitlines (level two variable) and countries (level three variable). Since the number of quitlines in the current study (9) was not very high and there was no variation in quitlines within countries, we used individuals (callers) as the unit of analysis. All analyses will be done separately for each quitline. Drawing conclusions at an aggregated level (across countries) can only be done tentatively.

2.3 Participating Quitlines

The first European quitline started in 1988. The original six ENQ partners were the Germany, Ireland, the Netherlands, Spain, Sweden and the UK. The number of ENQ member countries has now grown to 30. Each quitline in the network is independent and each is at its own particular stage of development. The recruitment for quitlines to take part in the research started in 2002. The quitlines participating in the study were from Denmark, France, Germany, Ireland, Italy, the Netherlands, Norway, Portugal and the UK. These were recruited because they had the infrastructure needed to participate. We also made sure to include a wide as possible range of quitlines services, and tried to recruit from different parts of Europe.

2.4 Data collection for qualitative description of quitlines

Qualitative information on quitline organisation factors was gathered by visiting each of the 9 participating quitlines and interviewing quitline representatives. The following quitline features were assessed: quitline history, organisation that runs the quitline, area of service, annual number of contacts, aims of the quitline, characteristics and education of staff, training / supervision staff, types of services provided, opening hours of the quitline, peak times, allocation criteria for certain services, protocols used, the theoretical backgrounds of the services provided, quality assurance, promotion quitline, finance, smoking cessation campaigns, political changes, and the law regarding smoking. The questionnaire for the interviews can be found in Appendix B.
2.5 Data collection for the effect evaluation.

Baseline data was collected by asking each quitline to arrange that 500 callers would be interviewed during, and immediately after the end of the call. These callers were re-contacted one year later for a follow-up measurement. The baseline data was collected via the telephone by the counselors. The follow-up data was collected by an international research agency by means of CATI (telephone interviewing). Appendix C and D presents the questionnaires. All callers were interviewed in their native language.

From February 2005 to April 2006, at each participating quitline all incoming calls were screened by counselors for eligibility. All callers who said they called for telephone support for smoking cessation were asked if they intended to quit smoking within one month (preparation stage) or if they had quit smoking in the last six months and were now calling to prevent relapse (action stage). Those who were in the preparation or action stage were eligible for the study and were asked to give informed consent. Callers who called for other reasons (for example information or advice on cessation methods while not wanting to quit, calling for another person, etc.) were excluded. The data was collected by the counselor using a paper-and-pencil questionnaire. Data was collected partly during the call and partly after the reason for the call had ended and the caller was still on the line. At each quitline, the screening ended when 500 callers had been enrolled, or at the end of the inclusion period of 15 months. A total of 9,771 callers were checked for eligibility. Of these, 3,876 (39.7%) participated in the study.

Reasons for exclusion or non-enrolment were as follows: 2,230 callers (37.8%) were not in the preparation or action stage of smoking, or were not calling for themselves, 12.7% were not interested in participating in the study after having been asked to give informed consent, 11.5% had been asked before for the same study. In addition, some callers met the eligibility criteria but were not recruited for the following reasons: distressed or abusive caller (4.9%), language barrier (1.2 %), counselor forgot to ask caller to participate (3.1%), no time to ask caller to participate (5.6%), client hung up before they could be asked (6.4%), and other reasons (16.8%). Not all quitlines were able to recruit 500 callers during the inclusion period, because of insufficient call volumes.

2.6 Caller questionnaires

The questionnaires consisted of four types of variables. First, measures of the effectiveness of the quitlines. These were gathered at the 12 months follow-up (see “outcome variables”). Caller characteristics were measured at the baseline and appear under “control variables”, since we controlled for them in the outcome analyses (see the next paragraph). The services offered by the quitline, and the actual quit methods used by the callers to the quitline were measured in the baseline and post questionnaires. The first are described under “types of services offered” and the second under “additional quit methods”.
Outcome Variables

The following outcome variables were asssed at the follow-up measurement.

**Caller satisfaction with the Quitline** – Satisfaction was measured in two ways. The first question was: “On a scale from 1 to 10, can you say how satisfied you are with the information/advice/coaching that you received 12 months ago from [name quitline]?” 1 = very dissatisfied, 10 = very satisfied. The second question was: “Did the information / advice / coaching meet your expectations?” (yes, no, don’t know).

**Subjective impact.** Callers were asked if they “As a result of the conversation, has not smoking or quitting become easier or more difficult?”. Answers were scored on a 7-point scale (1 = much easier, 7 = much more difficult). We recoded this into three categories: 1 = easier, 0 = neutral, and -1 = more difficult.

**Point prevalence abstinence** – Measured by: “Have you smoked in the past seven days?”, with answering categories 1 “yes”, and 2 “no”.

**Continuous abstinence** – Respondents were considered to be continuous abstainers if they had already quit at the time of the call and hadn’t smoked since then (“not a single drag”) or if they had quit smoking within two weeks after the call and hadn’t smoked since then (“not a single drag”).

Control Variables

**Stage of Change** – Callers were asked whether they were planning to quit within one month (preparation stage; score 0) or had quit smoking in the past six months (action stage; score 1) (Prochaska & DiClemente, 1983). Apart from an inclusion criterion for this study, this was also a control variable.

**Age** – Age as indicated in the questionnaire (open ended question).

**Education** - Education level was the highest level completed by the respondent. Exact definitions varied per country, depending on classifications that were common in each country. We asked quitline representatives to categorize the answers so that for each country we obtained comparable education categories (low, medium, high).

**Sex** – Males received a score of 0; females a score of 1.

**HSI (heavy smoking index)** – As a measure of nicotine dependence, we used a simple self-report measure, the Heaviness of Smoking Index (HIS), which is a combination of two variables: time to the first cigarette of the day and number of cigarettes smoked per day (Heatherton, Kozlowski, Frecker, Rickert, & Robinson, 1989; De Leon, et al., 2003). Answers could be between 1 and 6. A score of 4 or higher is indicative of being a ‘heavy’ (nicotine dependent) smoker.

**Number of Quit Attempts** – The caller’s indication of the number of times he or she has successfully quit using tobacco for at least 24 hours. Since some callers replied with a fairly high number of attempts (up to 200), we gave a score of 30 to every caller scoring 30 or higher to eliminate statistical outliers.

**Self Efficacy** – Was assessed by asking how confident the caller is that he or she will be able to stop smoking completely this time, on a scale from 1 to 10, with 1 being not at all confident, and 10 being extremely confident (Mudde, Willemsen, Kremers & De Vries, 2006).
Support of Partner – Assessed by asking whether the partner supports the caller in the quit attempt. When the caller does not have a partner, the answer was “no” automatically.

Support of Others – Assessed by asking whether there are relatives, friends, or colleagues who support the caller in the quit attempt.

Type of Referral - Callers were asked “Did someone refer you to our quitline?”, with answering categories ‘self-referral’, ‘a health professional (general practitioner, medical doctor, nurse, midwife, pharmacy, dentist, other)’, ‘family and friends’, ‘other’. For this report we constructed one variable indicating referral by a health professional (1) versus all others (0).

Types of services offered
Type of service / assistance that was offered by the quitline to the caller was defined as follows.

- ‘Counseling’ was ‘A caller-centred and person-tailored, in-depth, motivational interaction.’
- ‘Advice’ was defined as: ‘caller receives recommendations on how to quit smoking, for example, what would be the best method and a recommendation to see a health professional.’
- ‘Basic information’ was defined as ‘objective / neutral information to the caller about facts, consequences of stopping smoking, cravings etc (quick call).’
- ‘Specific information’ was ‘objective / neutral information to the caller about cessation methods. This could be information about pharmacotherapy, referral to a quit smoking service provided by an outside agency (e.g., a stop smoking group), or referral to a health professional (general practitioner, medical doctor, nurse, midwife, pharmacy, dentist, other).’
- ‘Literature sent’ was explained in the questionnaire as ‘Booklets or leaflets on quitting’.

In addition, the length of the call was recorded in minutes (excluding the minutes required to complete the ESCHER questionnaire).

Additional quit methods
In the follow-up measurement, we asked callers which quit methods they had used (if they had made a quit attempt) in the period between their contact to the quitline and the follow-up-measurement. The following methods were identified:

Medication - Consisting of having used Zyban (Bupropion), Nortriptyline, nicotine replacement therapy (patches, chewing gum, lozenges, microtabs, inhaler, or unspecified nicotine replacement), or tranquilizers / other anti-depressants.

Outside Services - Consisting of visiting a quit smoking group, using Allen Carr (book or course), acupuncture, soft laser therapy, hypnotherapy, or homeopathy.

Health Professional – Consulting the family physician, a doctor, nurse, midwife, chemist, dentist, other medical, assistant of a doctor, or visiting a stop smoking course or group via a hospital.

Individual Counseling - (Not the quitline) Consisting of individual counseling (by a healthcare provider) or consulting a smoking cessation specialist.

Telephone Support – Telephone support provided by the quitline. This can be one or more additional reactive calls or proactive counseling sessions.
**Self-help materials** - Books, videos, tapes, websites

**Other** - consisting of household remedies, support from family or friends, involvement in sports or exercise, or other.

**None** – When the caller indicated to have used no additional quit smoking method.

### 2.7 Data collection for analyses of cost-effectiveness

We used the following three questions of the European version of the North American Quitline Consortium and ENQ survey (North American Quitline Consortium & European Network of Quitlines, 2006):

1. **What was the quitline budget for services for the fiscal year 2005?**
   Note: Services include all services (e.g. counselling and materials). Funding for services includes the total amount of funds budgeted for quitline services from all sources, include state, provincial, and non-government sources (Denmark, Germany, Ireland, Italy, Netherlands, Portugal and UK)

2. **How many total calls came in to the quitline during operating hours during fiscal year 2005 and were answered live?** (Germany, Ireland, Italy, Netherlands, Norway and UK)

3. **How many calls did the quitline receive during fiscal year 2005 from the tobacco user calling for self, proxy calling for family or friend, and healthcare or other professional inquiry?** (Denmark and Portugal)

### 2.8 Statistical analyses

We merged the follow-up data that was collected by the research firm with the baseline data that was collected by the quitlines, using unique identification numbers and birthdates. We deleted four cases because of erroneous identification numbers.

In the outcome analyses, missing values at follow-up can distort results. Smokers not responding to later waves of research might be more likely to still be smoker. We therefore reported quit rates both for the total group of smokers assessed during the baseline measurement, and for the group we were able to contact at both measurements. We did attrition analyses to get an impression of which caller characteristics at the baseline measurement were related to attrition at the follow-up measurement.

We used stepwise logistic regression to find out which quitline services predict outcomes.\(^1\) We did backward analyses in which all proposed predictors are put in the analyses and systematically removed on the basis of least significance (probability for stepwise removal was set at p<.10). Three steps in this analysis lead to the final model, both for the total group of callers, and

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\(^1\) Outcomes were caller satisfaction (whether the information / advice / coaching met expectations), subjective impact, point prevalence abstinence, and continuous abstinence. In the logistic regression analyses we used respondents that participated in the follow-up.

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for the callers to each quitline separately. In the first step, we entered caller characteristics that were related to outcomes. Appendix A shows univariate correlations between caller characteristics and outcomes per quitline. The first step was done to control differences between callers, so that we could consider predictors of interest, i.e., variation in quitline services. In the second step of the analyses, we entered the types of assistance given as recorded in the baseline questionnaire as predictors. In the third step, we entered the methods used after the call, as assessed in the follow-up measurement. We reported odds ratios (OR) of caller characteristics, quitline services advised, and additional quit methods used by the callers. An odds ratio shows the level of strength of the association between a predictor and the outcome variable (successful quit smoking: yes versus no). How must OR be interpreted? OR can vary from 0 to infinity. If the odds ratio is 1, there is no association. An OR between 0 and 1 indicates a negative association, while an OR higher than 1 is a positive association. For example if in the analysis the OR for being female turns out to be 3.5, this means approximately that the odds of being successful with quitting are 3.5 times as large in women than the odds for a male being successful. If the odds would be 0.5, this means that the odds are higher for men to be successful quitters. OR's can be easily interpreted in this way for predictors that are yes/no variables. For variables that have more answer categories (for example age or the mean on a 5 point scale), an OR cannot be easily interpreted in term of x times higher chance of success. However, a significant OR is still indicative of a negative or positive association.

Since it emerged from preliminary investigations of our baseline measurement data that large differences exist between the quitlines concerning the relation between callers’ characteristics such as heaviness of smoking and stages of change on the one hand and type of service given to callers on the other, we suspect that any effects of type of service on outcomes may be moderated by quitline variables. Therefore we choose to do analyses on a quitline-by-quitline basis. In this manner each quitline will get customised feedback concerning the services they provide, and their relation to outcomes. However, in cases where differences between countries are not that large, we assume that it is safe to consider data at an aggregated level. Therefore, to give insight into the relative effectiveness of types of service we will also present the results across quitlines for the total sample, and will indicate whether it is justified to generalise the results, or whether effects are too different over countries to do so. In these analyses, country is entered as a co-variant.

The study population consists of both smokers wanting to quit (preparation stage) and callers who want support to prevent a relapse (action stage of quitting). Research evaluating the effectiveness of quitlines, usually focuses on either of these two groups, but not on both at the same time. This is because most studies are done within the framework of randomized trials focussing on either quitting smoking or on relapse prevention. In contrast, our study is not a trial but a real-world evaluation of effectiveness. We wanted to examine the overall effectiveness of the quitlines in relation to their normal target group, which consists of a mixture of callers in preparation and actions stage. Both groups are important. Therefore, we put the two groups together. We did control for the effects of the stage of change participants by including the stage-of-change variable in the analysis.
3. Qualitative description of the quitlines

In this section the history, characteristics and working procedures of each quitline will be described. The nine quitlines are presented in alphabetical order. The qualitative information from this section was gathered during visits to the quitlines by ESCHER-researchers in the months September, October and November of 2004.

3.1 Denmark

The Danish quitline, or “STOP-liniens Rådgivning”, started providing counseling services in November 1999. The quitline is operated by the National Board of Health and Copenhagen City Health Administration and serves smokers in all of Denmark. In 2003, the quitline received 2,870 calls and 310 e-mails. The primary aim of the quitline is to support mid-aged heavy smokers with cessation, provide minimal intervention, and support people in the preparation phase.

Calls are free of charge. All callers are eligible to receive counseling. Counseling services are provided according to the quitline’s protocols. Separate protocols exist for young people and pregnant callers. The stop smoking program (Rygestop) was developed by the Danish Cancer Society, Lung Society and Heart Society, and the individual counseling was developed in association with the Danish Cancer Society. Background of the program is in the stages of change model, motivational interviewing, and behavioural cognitive theory.

No diverse types of staff are distinguished and all members of staff do counseling activities. No strict educational demands apply for counselors, but they have backgrounds in health, communication and education and a mixture of various expertises is pursued. Important qualifications are listening and communication skills and being an ex-smoker is considered an advantage. New counselors receive a three-day course that contains topics like psychology, motivational interviewing, stages of change, NRT, health issues, cessation methods and strategies. When starting to provide counseling, for 16 hours the new counselors’ calls are listened to and given feedback on. On a regular basis (during a 2-hour meeting once a month) counselors reflect on each other and discuss cases. Twice a year, motivational interviewing is trained, while once or twice a year courses are given in e.g. new products. There are 13 paid counselors in total, corresponding with 1.3 full time equivalents; they have on average been working 2.5 years for the quitline. Six telephone lines are available, but on average two of them are in operation. The telephone lines are open all afternoons during weekdays, and automatic answering machines are
active 24 hours a day. Peak times for the quitline are right after lunch time, the beginning of the week, in January and the end of August and September.

3.2 France

The French quitline, or "Tabac Info Service", started providing counseling services in July 2003. The quitline is operated by the Ministry of Health and receives calls from all over France. From January to October 2004, the quitline received 44,000 calls. The primary aim of the quitline is to provide information, help callers that are in the orientation phase of quitting smoking, help support smoking cessation. The principles of the quitline are those learned in the tabaccologist education, stages of change, and motivational interviewing.

The personnel of the French quitline can be divided in two groups, namely advisors (level 1) and counselors (level 2). Advisors can be divided in those only picking up the phone and taking orders, and regular advisors. They should have backgrounds in social education, and have at least finished secondary school plus two years of university or specialist school. Important qualifications are social sensibility and being interested in the addiction area. Counselors should be a smoking cessation specialist (tabacologue), or have a completed university education in a related area, such as medicine or psychology. Level 1 advisors receive 1 day of theoretical training, and level 2 advisors three days of theoretical and practical training before starting to work. Counselors receive five days of training before starting to work. There are numerous follow-ups, and six days per year a training for all personnel. Seven people work fulltime at the quitline and one part-time. A maximum of 150 telephone lines are available.

The telephone lines are open from 08.00 to 20.00, with counseling services from 09.00 to 18.00. Peak times are at the end of the morning and at the end of the afternoon. Saturdays are less busy than weekdays. Peak periods are dependent on, for example, cigarette price raises and campaigns. Average calls last three minutes, and calls that involve counseling last about 20 minutes. Calls are at the local rate.

All callers are eligible to receive proactive counseling. Pro-active counseling is provided to those who have difficulty with quitting, but are motivated to quit, and for example those who smoke and are pregnant. The guidelines for providing counseling are not very strict, but mainly subject to the judgment of the advisor.

3.3 Germany

The German quitline, called Raucher-Telefone, is part of the German Cancer Research Foundation, it started providing counseling services in January 1999. It is available to all smokers wanting to quit, and has developed a special expertise in helping cancer patients to quit smoking (from July 2003). It is run by professionals and can be reached by phone and has two websites.
The primary aim is to help smokers to quit by providing a low-barrier service, and to help cancer patients to quit smoking. The principles of the quitline are laid down in a protocol for training and counseling, which is based on lessons learned from visits to the Californian and British quitlines. Theories applied in counseling are stages of change, social learning and motivational interviewing.

The German quitline is a relatively small quitline that consists of counselors only. All counselors have finished their master’s education and they are all psychologists. Employees should have knowledge and experience in counseling. Before starting to provide counseling, new employees receive thorough training. This consists of training on tobacco and smoking cessation, shadow listening to other counselors, role plays with difficult cases, and handling calls under supervision and with debriefing. The total training takes about 40 to 50 hours and further monthly meetings with colleagues take place. On average, counselors are in function for two years and two months.

The quitline is open on Monday to Friday, from 15.00 until 19.00. Outside opening hours, and when all lines are busy, callers receive a recorded message. There is no opportunity to leave a message. Services provided are speaking with a counselor or receiving proactive or reactive counseling, providing web-based or mailed information or self-help resources, and referral to other services. Calls are at the normal telephone rate, and pro-active counseling is for free.

The situation for offering pro-active and reactive counseling is reverse from that in France. All callers are eligible for receiving reactive counseling; while proactive counseling is provided to a limited group, namely those calling to the cancer helpline, and patients who have difficulty with quitting.

3.4 Ireland

The Irish “National Smokers’ Quitline” started providing counseling services in December 1999. This concerned a small, one level quitline that received 3,000 calls a year. In November 2003, the quitline was launched again in a larger format, with extended opening hours and with the help of multi-media campaigns. The quitline is funded by the Department of Health and operated by the Irish Cancer Society and receives calls from all over Republic of Ireland. The total number of calls in 2003 was almost 11,000, with the majority of calls in November and December (due to the new format). The primary aim of the quitline is to give support and advice to smokers in their quitting process and to refer them to a relevant agency for further support. The principles of the quitline are those of the Irish Cancer Society, ENQ guidelines, stages of change, skills for change and motivational interviewing.

The personnel of the Irish quitline can be divided in two groups, namely advisors, stationed in a call centre, and counselors. No specific qualifications exist for advisors, but many of them are university students, often and preferably studying social sciences or teaching. Advisors receive 2 day training including an overview of all smoking cessation methods and benefits of quitting and
communication skills as well as follow on supervision. Counselors should have a background in a health related profession. They have to be trained in smoking cessation counseling. Furthermore, they are assessed concerning their listening and communication skills. Counselors' training is supervised by the coordinator. Advisors, working at the call centre, do not work exclusively for the quitline but also receive other calls. There are eight counselors during campaigns, and six during other periods. At the first level, 1 to 99 telephone lines are available, while at the second (counseling) level there are 4 telephone lines.

The telephone lines are open from 08.00 to 22.00 Monday - Sunday, with counseling services available Monday – Friday from 09.00 – 17:00 and from 09:00 to 21.00 on two or three days in the week. The voicemail is available for 24 hours a day. Peak days are Monday to Thursday. Peak periods occur during campaigns and around National No Smoking Day. Calls are at the local rate.

All callers are eligible for pro-active counselling including those that have set a quit date, pregnant women and callers contemplating a quit attempt. Heavy smokers, parents of young children, those having medical problems, multiple quit questions, and people under 18, or having family planning issues may receive second level counseling.

3.5 Italy

The Italian quitline, or “S.O.S. FUMO”, started providing counseling services in June 1999. The quitline is operated by a private health care institution and the “Lega Italiana per la Lotta contro i Tumori”, which is the Italian Cancer Society. The quitline receives calls from all over the country. In 2003, the total number of contacts was 3,785. The primary aim of the quitline is to provide information and support for those callers who want to quit smoking. Important principles of the quitline are transactional analyses, cognitive behavioural therapy, ego stages, and stages of change. Further, the counselors take with them their own background, and are allowed to apply their own skills.

There is one level of personnel at the quitline, and all of them do counseling work. One of them is a volunteer, and there are four psychologists, two medical doctors and one lawyer, who are all paid. The personnel should have knowledge of the working area, be motivated, objective, and in charge in conversations. Further, they should be empathic, respect privacy, and be able to separate working life from private life. When counselors start working they receive 5 hours of training, two times per week for 4 weeks, adding to a total of 40 hours. Half of it is theoretical and the other half practical training. Follow-ups take place once every two months, or during special events or problems, difficulties, or to discuss or debrief other things. The quitline has 4 incoming lines for all services, and they can be extended to 7 if necessary. On average, 2 of the lines are open.

The telephone lines are opened from 09.30 to 18.00 on Monday and Thursday, and 09.30 to 14.30 at other weekdays. The lines are closed during weekends. There is also no voicemail or
recorded messages system available. Peak times are from 11.00 to 13.00, and during campaigns. The service is free of charge.

Callers in the preparation stage are eligible for receiving pro-active counseling. However, this criterion is not taken very strictly. Further, the ones receiving pro-active counseling should have filled in a questionnaire. In general, callers are first offered group sessions to quit smoking, but when they are unable to attend or the idea of group sessions does not appeal, pro-active counseling is offered. For reactive counseling, there are no eligibility criteria.

3.6 The Netherlands

The Dutch quitline is part of STIVORO, the Dutch expert centre on tobacco control. The quitline started as a new service to smokers as part of a nationwide mass-media led smoking cessation campaign that was run in the Netherlands around the first of January 2000 (Millennium campaign). Because the quitline was a big success, it was decided to make this a permanent service. The quitline serves the whole country and is supported by a website hosted by STIVORO. The total number of callers in 2003 was 65,982. This includes the interactive voice response system which handles callers outside office hours. In addition, the quitline operates a FAQ system through STIVORO’s website ('RightNow). In 2003 there were 84,427 web-visitors who used 'RightNow' for finding an online answer to their question.

The primary aim of the quitline is to support quit attempts by increasing the motivation of smokers wanting to quit, providing information and confidence to smokers in an earlier stage, and providing knowledge and skills tailored to stages of change and problems encountered. Main principles of the quitline are the cycle of addiction, stages of change, motivational interviewing, and cognitive behavioural therapy.

Counselors should at least have finished a bachelor’s education with a social sciences orientation, and should have had social contacts in the context of earlier jobs. Further, they should have at least reached the age of 30 and be experienced when it comes to using computer systems. They should be willing to make themselves subservient to callers, listen well, and be able to express themselves well verbally. Overall they should be open and flexible. Counselors receive 9 hours (3 sessions of 3 hours) of training when first starting to work at the quitline. With respect to content, counselors receive training on addiction, medication for smoking cessation, legislative aspects of tobacco control, and computer systems. The training of skills consists of shadow listening and answering calls under supervision. After having started working, the skills are kept up to internal standards by e-mail training (1 hour a month), supervision (2 hours every 2 months), intervision (2 hours a month), meetings (2 hours a month, and knowledge improvement (5 times a year). On average, the 16 employees of the quitline (11 FTE) work for the quitline for 3 years.

The lines are open from 09.00 to 17.00. Opening hours may extent to the evening, when STIVORO runs a cessation campaign. Recorded messages are available 24 hours a day. From
10.00 to 12.00 is the busiest time, especially on Mondays. January is traditionally a busy time. Calls are 10 cents per minute.

There are no eligibility criteria for callers to receive reactive counseling, apart from being serious about quitting exist. In order to receive proactive counseling, callers need to fill in a questionnaire to first receive a computerized tailored quit advice. This advice is the starting point for further counselling sessions. Furthermore, they have to make their quit attempt within three consecutive calls. They should be able to speak Dutch, German or English.

### 3.7 Norway

The Norwegian quitline, called “Røyketelefonen”, started as a four-year project in May 1996 (at Non Smoking Day), but this period was later extended for two years and finally the decision was taken to make it a permanent service. The Røyketelefonen also has a website that is reached through [www.tobakk.no](http://www.tobakk.no). It is run by the Directorate for Health and Social Affairs and receives calls from all over Norway. In 2003 it had 29,775 contacts in total, of which 15,423 actually spoke to a counselor. The aim of the quitline is to provide a low barrier service to help smokers quit, and give information on tobacco related issues. Important principles of the quitline are motivational interviewing, cognitive behavioural theory, and the transtheoretical model of behaviour change.

The quitline has two kinds of staff. The first are the counselors, and the second are campaign staff. The campaign staff (15 in total) works for three weeks during two campaigns a year, and do not conduct pro-active counseling. Counselors should have a background in counseling, health topics, medicine, psychology, or teaching, and should have studied for at least some years at the university. They should be emphatic, patient, and be interested in people and tobacco related issues. Training of counselors is approximately 8 hours a year for all counselors. A training program exists to guide the trainings. The staff works on average 3 years at the quitline; 3 members work fulltime and 7 part-time (for 30-50%). About 8 to 10 telephone lines are available, and on average 2 to 3 of them are operated at the same time.

The telephone lines are opened from 09.00 to 18.00 on weekdays, and until 21.00 during campaigns. Voicemail recorders are open 24 hours a day. At Mondays, and during the time of campaigns in January, the highest numbers of people are calling. The quitline services are free. However, those calling from cell phones or call boxes are charged.

Pro-active counseling is available to smokers in the preparation stage (wanting to quit within three weeks), action, or maintenance stage. Reactive counseling is available to all smokers that are serious about quitting.
3.8 Portugal

The Portuguese quitline, called “SOS Deixar de Fumar”, also presented under [www.incp.pt](http://www.incp.pt) started providing counseling services in April 2002. It is a non-governmental organisation, operated by a non-profit private health care institution. The aims of the quitline are to provide information to all and advice and support smokers wanting to quit and people wanting to support others to quit smoking. Main guiding principles of the quitline are theories on behaviour change, motivational interviewing, the client centred approach, and preventing relapse.

The personnel of the quitline should have a university degree in health or a social science and should have received specific training. Before starting to work for the quitline they receive this training, which also functions as a selection tool; during this training participants are assessed concerning e.g. their attitude. Before taking calls independently, the staff receives 34 hours of theoretical training and role plays, 14 hours of observing and answering calls under supervision, and 14 hours of shadowing calls. There is a team meeting for 2 hours each week, which is used for organisational issues, but also discussions on difficult cases or clinical issues. On average, the staff, consisting of 5 clinical psychologists, works at the quitline for half a year, indicating that there is a higher turnover. Two telephone lines are available, of which usually one is operated.

The telephone lines are opened from 13.00 to 21.00, both for incoming calls and for counseling services. There is no voicemail recorder. When the lines are busy a “please call back” message can be heard. In November more people call. This may be due to the fact that more publicity is given at this time of the year, and the fact that the national non-smoking day takes place during this month. Calls are at a local rate.

3.9 United Kingdom

In the UK, several quitlines exist, namely one related to Zyban, one to Nicotinell, a quitline focussing on pregnancy, the Freefone Asian line, and Quit. Quit is the quitline participating in ESCHER, and therefore the information in this report concerns this quitline. The line started providing reactive counseling services in 1987 and can also be reached on the internet ([www.quit.uk](http://www.quit.uk)). The quitline is a non-governmental organisation and receives calls from all of Great Britain (England, Wales, and Scotland), with the exception of the Channel Islands. In 2003/04, the quitline received 61,757 calls. The primary aim of the quitline is to support smoking cessation and give education on the dangers of smoking. Main principles of the quitline are cycles of change, integration, brief solution focused therapy, motivational interviewing, and NIURO (a linguistic program).

The British quitline’s personnel are not divided in types. People calling will be immediately connected to counselors. Counselors should have successfully completed a recognised counselling course of at least one year duration. The essential requirements for new counselors are flexibility, excellent interpersonal skills, commitment, enthusiasm, drive, a non-smoker or an ex-smoker of at
least one year, ability to offer information accurately and impartially and the ability to respond to challenging calls. New counselors receive a part-time training of 2 to 3 weeks before they start picking up calls themselves. They receive 14 hours of theoretical training, and 8 hours and 2 days of practical training. As a follow-up their work is debriefed once in every 6 shifts, and there are half days of training. Counselors work on average 5 years at the quitline and are about 50 in number, though most work in part-time and also deliver other counseling activities. 30 telephone lines are available, of which in general 5 are in operation.

The telephone lines are opened 7 days a week, from 09.00 to 21.00. Peak times during the week are on Monday until Thursday, and from January to March. Most of the calls are handled within 15 minutes. Calls are free of charge.

All smokers, regardless of stage of change and motivation, are eligible for receiving reactive counseling. Pro-active counseling is not available. Also help is available for pregnant smokers, health professionals, and those wanting to help others to quit smoking.
4. Characteristics of callers

4.1 Response

Table 1 presents number of respondents to the baseline measurement and response rates for the follow-up measurement. Percentages response varied from 50% (Norway) to 72% (Netherlands). The somewhat low response rate as shown in the table may cause problems given the fact that in the intention-to-treat outcome analyses non-response has to be treated as continuing smokers. It is therefore important to get an idea of the extent to which attrition is random or systematic, i.e., whether callers that could not be contacted at the follow-up systematically differed from the other respondents. We conducted a logistic regression analysis in which caller characteristics and types of assistance provided by the quitline (at baseline) were regressed on attrition status at follow-up (1=non-response, 0 = response). This showed that the chance of being lost to follow-up was higher among younger callers (OR = .99; p<.001) and smaller among female callers (OR=.89; p<.10). Heaviness of smoking (HIS score), motivational stage (preparation, action), and the self-efficacy score were unrelated to attrition. This is reassuring, since these latter variables are known to be highly correlated with success with quitting smoking.

Table 1. Number of Participants and Response to the Follow-up Measurement per Quitline

<table>
<thead>
<tr>
<th></th>
<th>DM</th>
<th>FR</th>
<th>GE</th>
<th>IR</th>
<th>IT</th>
<th>NL</th>
<th>NO</th>
<th>PT</th>
<th>UK</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline (N)</td>
<td>421</td>
<td>616</td>
<td>180</td>
<td>494</td>
<td>518</td>
<td>492</td>
<td>532</td>
<td>123</td>
<td>500</td>
<td>3,876</td>
</tr>
<tr>
<td>Follow-up (N)</td>
<td>226</td>
<td>325</td>
<td>121</td>
<td>309</td>
<td>341</td>
<td>354</td>
<td>266</td>
<td>75</td>
<td>279</td>
<td>2,296</td>
</tr>
<tr>
<td>Response (%)</td>
<td>53.7</td>
<td>52.8</td>
<td>67.2</td>
<td>62.6</td>
<td>65.8</td>
<td>72.0</td>
<td>50.0</td>
<td>61.0</td>
<td>55.8</td>
<td>59.2</td>
</tr>
</tbody>
</table>

Note. DM = Danish quitline, FR = French quitline, GE = German quitline, IR = Irish quitline, IT = Italian quitline, NL = Dutch quitline, NO = Norwegian quitline, PT = Portuguese quitline, UK = UK quitline.
4.2 Caller characteristics

Table 2 presents caller characteristics. Most characteristics differ significantly between quitlines, even though differences are often small at an absolute level. For example, the average age of callers is between 40 and 46 across quitlines. Callers to all quitlines have an average education that is around the medium level. In all quitlines more females than males call for help. However, concerning other variables, larger differences existed. For example the number of people who were heavier smokers, the amount of support that was received from the partner or others, and the stage of change of quitting.
## Table 2. Caller Characteristics per Quitline (baseline data).

<table>
<thead>
<tr>
<th></th>
<th>DM</th>
<th>FR</th>
<th>GE</th>
<th>IR</th>
<th>IT</th>
<th>NL</th>
<th>NO</th>
<th>PT</th>
<th>UK</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stage of Change (%)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Preparation</strong></td>
<td>68.4</td>
<td>67.4</td>
<td>71.7</td>
<td>61.5</td>
<td>88.6</td>
<td>68.5</td>
<td>58.5</td>
<td>67.5</td>
<td>64.2</td>
<td>68.3</td>
</tr>
<tr>
<td><strong>Action</strong></td>
<td>31.6</td>
<td>32.6</td>
<td>28.3</td>
<td>38.5</td>
<td>11.4</td>
<td>31.5</td>
<td>41.5</td>
<td>32.5</td>
<td>35.8</td>
<td>31.7</td>
</tr>
<tr>
<td><strong>Age (mean)</strong></td>
<td>46.4</td>
<td>42.0</td>
<td>43.4</td>
<td>40.3</td>
<td>42.4</td>
<td>46.1</td>
<td>44.5</td>
<td>42.9</td>
<td>42.2</td>
<td>43.3</td>
</tr>
<tr>
<td><strong>Education (%)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Low</strong></td>
<td>25.9</td>
<td>35.8</td>
<td>25.4</td>
<td>22.1</td>
<td>32.9</td>
<td>27.9</td>
<td>20.7</td>
<td>36.3</td>
<td>38.5</td>
<td>29.4</td>
</tr>
<tr>
<td><strong>Mediate</strong></td>
<td>49.8</td>
<td>24.0</td>
<td>37.3</td>
<td>39.9</td>
<td>51.7</td>
<td>44.1</td>
<td>43.2</td>
<td>34.3</td>
<td>36.4</td>
<td>40.2</td>
</tr>
<tr>
<td><strong>High</strong></td>
<td>24.3</td>
<td>40.2</td>
<td>37.3</td>
<td>38.0</td>
<td>15.4</td>
<td>28.0</td>
<td>36.1</td>
<td>29.4</td>
<td>25.1</td>
<td>30.4</td>
</tr>
<tr>
<td><strong>Female (%)</strong></td>
<td>65.8</td>
<td>61.2</td>
<td>61.1</td>
<td>55.3</td>
<td>57.1</td>
<td>73.4</td>
<td>73.1</td>
<td>58.0</td>
<td>58.5</td>
<td>63.0</td>
</tr>
<tr>
<td><strong>Heavy Smoker (%)</strong></td>
<td>55.3</td>
<td>46.2</td>
<td>48.9</td>
<td>48.5</td>
<td>46.1</td>
<td>57.9</td>
<td>39.5</td>
<td>47.6</td>
<td>46.3</td>
<td>48.2</td>
</tr>
<tr>
<td><strong># of Past Quit Attempts</strong></td>
<td>4.1</td>
<td>4.2</td>
<td>4.3</td>
<td>3.9</td>
<td>3.1</td>
<td>3.7</td>
<td>4.6</td>
<td>2.2</td>
<td>3.6</td>
<td>3.8</td>
</tr>
<tr>
<td><strong>Self-Efficacy (mean)</strong></td>
<td>7.9</td>
<td>6.6</td>
<td>6.3</td>
<td>7.1</td>
<td>6.6</td>
<td>7.2</td>
<td>7.9</td>
<td>7.1</td>
<td>6.9</td>
<td>7.1</td>
</tr>
<tr>
<td><strong>Support from Partner (%)</strong></td>
<td>90.6</td>
<td>77.8</td>
<td>82.1</td>
<td>93.5</td>
<td>71.6</td>
<td>86.9</td>
<td>91.9</td>
<td>89.4</td>
<td>88.0</td>
<td>85.2</td>
</tr>
<tr>
<td><strong>Support from Friends (%)</strong></td>
<td>76.4</td>
<td>61.9</td>
<td>77.0</td>
<td>85.8</td>
<td>66.1</td>
<td>69.1</td>
<td>80.9</td>
<td>81.6</td>
<td>81.7</td>
<td>74.6</td>
</tr>
<tr>
<td><strong>Referred by Health professional (%)</strong></td>
<td>14.4</td>
<td>14.1</td>
<td>0.0</td>
<td>6.3</td>
<td>3.8</td>
<td>14.1</td>
<td>12.6</td>
<td>6.6</td>
<td>12.0</td>
<td>10.3</td>
</tr>
</tbody>
</table>

*Note. DM = Danish quitline, FR = French quitline, GE = German quitline, IR = Irish quitline, IT = Italian quitline, NL = Dutch quitline, NO = Norwegian quitline, PT = Portuguese quitline, UK = UK quitline.*
5. Types of assistance provided by the quitlines

As part of the baseline measurement, the counselors recorded which assistance they had given to a caller. Table 3 presents the results for each participating quitline. Most calls resulted in combinations of various services. The most frequent type of service was counseling (76.2%), while information about pharmacotherapy was given to 45%. In 7.7% of calls, this related to bupropion (Zyban), in 31% to nicotine patches, in 19.2% to gum, in 11.8% to lozenges, in 6.2% to sub-lingual tablets and in 5.7% to inhalers (information not in the table). The mean length of calls was 16.4 minutes (SD = 10.4), and 24% of calls lasting longer then 20 minutes.
Table 3. Types of Assistance Provided by the Quitlines to Respondents per Quitline (%).

<table>
<thead>
<tr>
<th>Assistance:</th>
<th>DM</th>
<th>FR</th>
<th>GE</th>
<th>IR</th>
<th>IT</th>
<th>NL</th>
<th>NO</th>
<th>PT</th>
<th>UK</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of respondents</td>
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<td></td>
<td></td>
<td>3,876</td>
</tr>
<tr>
<td>Counseling</td>
<td>66.1</td>
<td>87.4</td>
<td>70.0</td>
<td>91.5</td>
<td>60.0</td>
<td>51.9</td>
<td>94.8</td>
<td>80.5</td>
<td>77.8</td>
<td>76.2</td>
</tr>
<tr>
<td>Basic information (quick call)</td>
<td>76.7</td>
<td>66.1</td>
<td>67.2</td>
<td>72.9</td>
<td>45.6</td>
<td>55.0</td>
<td>83.7</td>
<td>81.3</td>
<td>43.2</td>
<td>64.0</td>
</tr>
<tr>
<td>Advice on how to quit</td>
<td>27.1</td>
<td>71.6</td>
<td>43.9</td>
<td>88.7</td>
<td>37.3</td>
<td>2.0</td>
<td>81.3</td>
<td>86.2</td>
<td>35.2</td>
<td>51.3</td>
</tr>
<tr>
<td>Information about pharmacotherapy</td>
<td>48.0</td>
<td>74.0</td>
<td>61.1</td>
<td>51.0</td>
<td>9.4</td>
<td>32.5</td>
<td>51.5</td>
<td>61.0</td>
<td>33.0</td>
<td>45.0</td>
</tr>
<tr>
<td>Referred to outside service</td>
<td>10.8</td>
<td>1.1</td>
<td>17.2</td>
<td>4.3</td>
<td>62.3</td>
<td>8.7</td>
<td>5.8</td>
<td>14.6</td>
<td>27.2</td>
<td>16.9</td>
</tr>
<tr>
<td>Referred to a health professional</td>
<td>4.0</td>
<td>14.4</td>
<td>20.6</td>
<td>14.8</td>
<td>16.5</td>
<td>3.9</td>
<td>16.9</td>
<td>59.3</td>
<td>13.4</td>
<td>14.2</td>
</tr>
<tr>
<td>Literature sent ^2</td>
<td>7.1</td>
<td>51.9</td>
<td>53.9</td>
<td>78.3</td>
<td>31.7</td>
<td>-</td>
<td>71.0</td>
<td>87.8</td>
<td>60.0</td>
<td>46.0</td>
</tr>
<tr>
<td>Length call (mean # minutes)</td>
<td>18.5</td>
<td>19.6</td>
<td>24.4</td>
<td>16.4</td>
<td>10.0</td>
<td>10.0</td>
<td>18.7</td>
<td>29.1</td>
<td>12.9</td>
<td>16.4</td>
</tr>
</tbody>
</table>

Note. DM = Danish quitline, FR = French quitline, GE = German quitline, IR = Irish quitline, IT = Italian quitline, NL = Dutch quitline, NO = Norwegian quitline, PT = Portuguese quitline, UK = UK quitline. ^1 Multiple answers allowed. ^2 Data for the Netherlands missing.

As part of the follow-up interview, we asked participants whether they had made a quit attempt after the call to the quitline and if yes, whether they had used any specific cessation aids. Table 4 summarizes quit methods and cessation aids that quitters reported to have used in the 12 months between the call to the quitline and the follow-up measurement.

It is clear from the table, that many quitters used some form of medication as a means to relieve the difficulties of making a quit attempt. The method most often used was nicotine replacement therapy (patches, chewing gum and lozenges). This is a rather consistent finding across quitlines.
Noteworthy is also that in Denmark, Germany, Netherlands, Norway, and the UK between 10% and 21% receive additional telephone counseling after the first call. These percentages are much lower in the other countries. In Ireland, Italy, Norway and the Netherlands, this may be callers receiving a pro-active call back service. In other countries these are re-active callers, since no pro-active call back service was provided.

Table 4. Smoking Cessation Methods and Aids Used Between the Call and the Follow-up Measurement (in percentage of all callers who had made a quit attempt per quitline).
<table>
<thead>
<tr>
<th>Method</th>
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<th>FR</th>
<th>GE</th>
<th>IR</th>
<th>IT</th>
<th>NL</th>
<th>NO</th>
<th>PT</th>
<th>UK</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other medical</td>
<td>0.0</td>
<td>11.0</td>
<td>10.2</td>
<td>0.0</td>
<td>2.9</td>
<td>3.5</td>
<td>0.0</td>
<td>1.4</td>
<td>1.3</td>
<td>3.4</td>
</tr>
<tr>
<td>Assistant of a doctor</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.8</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.1</td>
</tr>
<tr>
<td>Total: Advice from a Health</td>
<td>21.7</td>
<td>27.8</td>
<td>21.4</td>
<td>7.7</td>
<td>8.7</td>
<td>15.6</td>
<td>14.1</td>
<td>6.9</td>
<td>23.3</td>
<td>17.8</td>
</tr>
<tr>
<td>Professional</td>
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</tr>
<tr>
<td>Counseling by healthcare</td>
<td>5.4</td>
<td>1.9</td>
<td>10.2</td>
<td>1.3</td>
<td>6.8</td>
<td>3.5</td>
<td>2.0</td>
<td>4.2</td>
<td>7.9</td>
<td>4.2</td>
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<tr>
<td>provider</td>
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<tr>
<td>Telephone support</td>
<td>14.7</td>
<td>4.9</td>
<td>17.3</td>
<td>3.8</td>
<td>1.0</td>
<td>16.8</td>
<td>20.6</td>
<td>4.2</td>
<td>4.4</td>
<td>10.0</td>
</tr>
<tr>
<td>Tabacologue</td>
<td>0.0</td>
<td>8.4</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>1.3</td>
</tr>
<tr>
<td>Total: Individual Counseling</td>
<td>17.9</td>
<td>13.7</td>
<td>26.5</td>
<td>4.7</td>
<td>7.8</td>
<td>19.1</td>
<td>20.6</td>
<td>8.3</td>
<td>11.4</td>
<td>14.4</td>
</tr>
<tr>
<td>Household remedies</td>
<td>0.0</td>
<td>0.0</td>
<td>4.1</td>
<td>0.0</td>
<td>0.0</td>
<td>0.4</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.3</td>
</tr>
<tr>
<td>Support from family/friends</td>
<td>0.0</td>
<td>0.8</td>
<td>1.0</td>
<td>0.4</td>
<td>0.0</td>
<td>0.8</td>
<td>0.0</td>
<td>0.0</td>
<td>1.3</td>
<td>0.5</td>
</tr>
<tr>
<td>Self-help (books, videos,</td>
<td>11.4</td>
<td>1.1</td>
<td>15.3</td>
<td>5.6</td>
<td>4.9</td>
<td>14.5</td>
<td>17.1</td>
<td>5.6</td>
<td>10.5</td>
<td>9.5</td>
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<tr>
<td>tapes, websites)</td>
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<tr>
<td>Sport \ exercise</td>
<td>0.0</td>
<td>0.4</td>
<td>0.0</td>
<td>0.4</td>
<td>1.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.4</td>
<td>0.2</td>
</tr>
<tr>
<td>Other</td>
<td>6.0</td>
<td>9.5</td>
<td>11.2</td>
<td>1.7</td>
<td>9.7</td>
<td>7.8</td>
<td>6.5</td>
<td>19.4</td>
<td>11.0</td>
<td>8.1</td>
</tr>
<tr>
<td>Total: Other</td>
<td>16.3</td>
<td>10.3</td>
<td>22.4</td>
<td>6.8</td>
<td>14.6</td>
<td>21.5</td>
<td>22.1</td>
<td>25.0</td>
<td>20.2</td>
<td>16.7</td>
</tr>
<tr>
<td>None of the above</td>
<td>35.9</td>
<td>16.5</td>
<td>22.4</td>
<td>36.3</td>
<td>43.7</td>
<td>26.2</td>
<td>24.6</td>
<td>31.9</td>
<td>20.2</td>
<td>27.3</td>
</tr>
</tbody>
</table>

Note. DM = Danish quitline, FR = French quitline, GE = German quitline, IR = Irish quitline, IT = Italian quitline, NL = Dutch quitline, NO = Norwegian quitline, PT = Portuguese quitline, UK = UK quitline. Note: Categories of methods are indexed between 0 and 1, in such a way that when people used more than one method within the same category, they only scored 1 on the total category.
6. Caller satisfaction and quit rates

6.1 Caller satisfaction

Respondents were asked during their follow-up interview how satisfied they were with the service they received from the quitline. Table 5 presents caller satisfaction scores per quitline. The mean satisfaction score is 7.5 (on a scale from 1 to 10). The Irish and Portuguese quitlines have significantly higher satisfaction scores than this overall mean. This can be seen by comparing the 95% confidence intervals around the mean satisfaction score. The lower bound in these two countries is higher than the upper bound of the mean for the total sample.

Satisfaction was further measured by asking if the call to the quitline met callers’ expectations. The results to this question can be found in Table 6. Overall, 83% of callers said that the service they received met their expectations. Again, this was highest in the Irish and Portuguese quitlines.

Table 5. Caller Satisfaction at Follow-Up (On a scale from 1 to 10, can you say how satisfied you are with the information / advice / coaching that you received?").

<table>
<thead>
<tr>
<th>Mean Score (on scale 1-10)</th>
<th>DM</th>
<th>FR</th>
<th>GE</th>
<th>IR</th>
<th>IT</th>
<th>NL</th>
<th>NO</th>
<th>PT</th>
<th>UK</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.9</td>
<td>6.9</td>
<td>7.7</td>
<td>8.0</td>
<td>7.0</td>
<td>7.5</td>
<td>7.2</td>
<td>8.3</td>
<td>7.5</td>
<td>7.5</td>
<td>7.5</td>
</tr>
</tbody>
</table>

Note: DM = Danish quitline, FR = French quitline, GE = German quitline, IR = Irish quitline, IT = Italian quitline, NL = Dutch quitline, NO = Norwegian quitline, PT = Portuguese quitline, UK = UK quitline.
Table 6. Answer to the Question “Did the information / advice/ coaching meet your expectations?”.

<table>
<thead>
<tr>
<th></th>
<th>DM</th>
<th>FR</th>
<th>GE</th>
<th>IR</th>
<th>IT</th>
<th>NL</th>
<th>NO</th>
<th>PT</th>
<th>UK</th>
<th>Total</th>
<th>Sign.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>84.8</td>
<td>82.9</td>
<td>82.3</td>
<td>88.4</td>
<td>77.4</td>
<td>82.2</td>
<td>78.2</td>
<td>87.9</td>
<td>86.3</td>
<td>83.1</td>
<td>p&lt;.001</td>
</tr>
</tbody>
</table>

Note. DM = Danish quitline, FR = French quitline, GE = German quitline, IR = Irish quitline, IT = Italian quitline, NL = Dutch quitline, NO = Norwegian quitline, PT = Portuguese quitline, UK = UK quitline.

The vast majority of callers seem quite satisfied. In the next table, we present results of analyses in which we systematically examined which factors contribute to whether the caller’s expectations were met. This shows that callers whose expectations were met, more often had received counseling during their call to the quitline (after controlling for caller characteristics). The OR is 1.49, meaning that callers who received counseling had an almost 1.5 times greater chance of being satisfied compared to callers receiving no counseling. In addition, calling back after the first call (i.e., repeated caller) was also associated with a positive feeling, whereas callers who obtained written self-help materials (however, not necessarily from the quitline) were more likely to say they were disappointed.

The results for each individual quitline are also presented in the table. Only significant associations are shown in the table (p<.10). Counseling was particularly well received by Danish callers (OR = 2.99). The distribution of self-help materials was also positively associated with caller satisfaction in the Irish and Italian quitlines, but this same action seems to have a negative effect in the French quitline. However, we must keep in mind that these associations can always be interpreted in two ways: callers can be less satisfied because they received self-help materials or it can be that callers were less satisfied for some other reason and this unknown reason also is related to why these callers had a somewhat higher chance of receiving self-help materials.
Table 7. Results of Stepwise Logistic Regression Analyses (best fitting models) Predicting Whether the Quitline came up to Expectations from Quitline Assistance and Additional Support Received (Odds Ratios with p>.10 are presented).

<table>
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<tr>
<th></th>
<th>DM</th>
<th>FR</th>
<th>GE</th>
<th>IR</th>
<th>IT</th>
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<th>NO</th>
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<th>UK</th>
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</thead>
<tbody>
<tr>
<td><strong>Step 1: Caller Characteristics</strong></td>
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<td><strong>Action Stage</strong></td>
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<tr>
<td><strong>Support Partner</strong></td>
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<tr>
<td><strong>Support from others</strong></td>
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<tr>
<td><strong># Quit Attempts</strong></td>
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<td># Quit Attempts</td>
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<tr>
<td># Quit Attempts</td>
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* Note. DM = Danish quitline, FR = French quitline, GE = German quitline, IR = Irish quitline, IT = Italian quitline, NL = Dutch quitline, NO = Norwegian quitline, PT = Portuguese quitline, UK = UK quitline.
* <.05; **<.01; ***<.001; a Quitline variable (8 dummies) entered as covariate in analyses concerning all respondents.

### 6.2 Subjective impact

Before we present the results on the quit rates (6.3), it is interesting to have a closer look at whether the callers felt that the assistance they got from the quitline was helpful at all in making quitting easier. This was asked in the follow-up interview. Table 8 shows the results. Overall, 47% of callers said that the contact has made it easier for them not to smoke or to stay quit, whereas about 43% said that this made no difference. Note that these percentages are much lower than the percentages in table 7. So: although 83% of callers said that the quitline service met their expectations, only 47% said that the help from the quitline made it easier for them to quit. Noteworthy is that again callers in the Portuguese and Irish quitlines seem somewhat more optimistic, compared to the other quitlines.
Table 8. Answer to the Question “As a result of the conversation, has not smoking or quitting become easier or more difficult?”.

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Note. DM = Danish quitline, FR = French quitline, GE = German quitline, IR = Irish quitline, IT = Italian quitline, NL = Dutch quitline, NO = Norwegian quitline, PT = Portuguese quitline, UK = UK quitline.

Can we say more about which quitline factors specifically contribute to callers’ subjective increase in these self-efficacy expectations? Again, we attempted to answer this question with logistic regression analyses. Table 9 presents the results. Only associations with a value smaller than .10 are shown in the table. For the total sample (all respondents), we found that calling back to the quitline (more than 1 time) and receiving additional telephone support after the first call, substantially contributed to callers’ feeling that the quitline made it easier for them to quit smoking. In addition, using NRT and receiving counseling from a health professional was also beneficial. Overall, the type of assistance given during the first call (counseling, brief advice, information, etc) seems to have no particular effect on self-efficacy expectations if we take the effect of caller characteristics into account (see Table). However, in the UK (p<.05) and the Italian quitline (indicative: p<.10) it appears that a positive outcome is produced through the provision of counselling. If we do the overall analysis but without the caller characteristics, we do find a rather strong positive overall effect for having received counseling during the call (OR = 1.43; p<.01; 95% CI = 1.09-1.87). We conclude that counseling during the first call seems to have a positive effect on increasing callers’ feeling of self-efficacy, at least in some quitlines and that this effect probably holds true for a subgroup of callers particularly. More in-depth analyses involving interactions between caller characteristics and type of service might shed more light on these complicated associations. This however, would take this matter too far for the present report.
Table 9. Association Between Whether a Caller Says that the Quitline Made it Easier and Assistance Given During the Call and Additional Support Received After the Call, Controlling for Caller Characteristics.

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6.3 Quit rates

Quit rates will be reported separately for smokers who were in preparation stage of quitting at baseline measurement (i.e., smokers) and callers who were in the action stage of quitting. The latter group had already made their quit attempt when they contacted the quitline. The two groups are quite distinct. Callers in the preparation stage still have to make a quit attempt and therefore the chances that they will be a non-smoker one year later is much lower. Callers who are already in the action stage of quitting have a higher chance of being still abstinent because they have already have made a quit attempt. Both groups are target groups of quitlines and it is therefore important to report quit rates for both groups.

We will report the results for the two behavioural outcomes (point prevalence and continuous abstinence) separately. Individual quitlines can then decide which outcomes are more relevant for their particular situation.

Non-response may have a large effect on outcomes, since non-response may reflect people having been unable to quit smoking. Therefore the actual percentages of people having quit
smoking will most likely be somewhere in between that found in those that did respond, and the percentage found when correcting for the non-response by assuming that non-responders are (still) smokers. For the reason that response rates differed between quitlines, and to illustrate the interval in which actual quit rates will be found, we reported both uncorrected results (quit rates among respondents to the follow-up-measurement), and corrected results (smokers lost to follow up regarded as being continuing smokers).

Table 10 presents quit rates for callers who were in preparation stage of quitting when they made contact with the quitline. Table 11 presents quit rates for callers who were in action stage. Overall, of those that were preparing to quit 24.0% (14.3% corrected) were point prevalence abstinent, and 9.6% (5.7% corrected) were continuous abstinent. The quit rates for each individual quitline can be found in the tables.
Table 10. **Point Prevalence and Continuous Abstinence Quit Rates among Callers who were in Preparation Stage of Quitting at Baseline.**

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<td>83</td>
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<td>299</td>
<td>246</td>
<td>152</td>
<td>50</td>
<td>162</td>
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<tr>
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<td>22</td>
<td>60</td>
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<td>55</td>
<td>44</td>
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<td>51</td>
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<td>21.8</td>
<td>26.5</td>
<td>31.6</td>
<td>14.0</td>
<td>22.4</td>
<td>28.9</td>
<td>32.0</td>
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<td>129</td>
<td>304</td>
<td>459</td>
<td>337</td>
<td>311</td>
<td>83</td>
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<td>2,647</td>
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<td>44</td>
<td>16</td>
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<td>373</td>
</tr>
<tr>
<td>Quit rate (%)</td>
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<td>9.2</td>
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<td>152</td>
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<td>15</td>
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<tr>
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<tr>
<td>Quit rate (%)</td>
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</tr>
</tbody>
</table>

*Note.* DM = Danish quitline, FR = French quitline, GE = German quitline, IR = Irish quitline, IT = Italian quitline, NL = Dutch quitline, NO = Norwegian quitline, PT = Portuguese quitline, UK = UK quitline. Corrected results are intention-to-treat results (non-response is assumed to be smoker at follow-up).

*Not Applicable (too few cases to attain a reliable percentage).*
As might be expected, many more callers from the action stage have been able to quit smoking compared to those who were in the preparation stage. Of those that were in the action stage, 45.4% (27.5% corrected) were point prevalent abstinent, and 29.5% (17.9% corrected) were continuous abstinent. Again, the quit rates for each individual quitline can be found in the tables.

Table 11. Point Prevalence and Continuous Abstinence Quit Rates (%) among Callers who were in Action Stage (Already Quit) at Baseline.

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*Note. DM = Danish quitline, FR = French quitline, GE = German quitline, IR = Irish quitline, IT = Italian quitline, NL = Dutch quitline, NO = Norwegian quitline, PT = Portuguese quitline, UK = UK quitline.*
7. Prediction of success with quitting

The quit rates as presented in chapter 6 varied considerably between quitlines. In the present chapter we explore if quit rates are related to particular types of services that callers received from the quitlines. We used the same types of logistic regression analyses as were presented in chapter 6 when we explored whether quitline services were associated with caller satisfaction. Again, the tables only show those associations (Odds Ratio’s) that were at least indicative of a statistical significance (p<.10). Country-by-country results will be summarized in chapter 8.

From Table 12 it can be concluded that, overall, point prevalence abstinence at follow-up is rather unrelated to the specific type of assistance that callers received when they first called the quitline. Much more important appears to be smokers’ characteristics (being already in the action stage of quitting, being higher educated and having higher self-efficacy expectations), and that callers received advice from a health professional or took part in a smoking cessation course in the period after they had their talk to the quitline counselor. The exception to this is the UK quitline. Advice on quitting and referral to an outside (both at a significance level of p<.10) quit smoking service increase abstinence 12 months later. Furthermore, shorter calls and receiving only ‘basic information’ (a quick call) was negatively associated with success in the UK.
Table 12. Results of Stepwise Logistic Regression Analyses (Best Fitting Models) Predicting Point Prevalence Abstinence from Assistance given during the call and Additional Support Received after the Call, Controlling for Caller Characteristics.

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Continuous abstinence is also not very strongly related to what kind of specific assistance callers had received from the quitline during their call (Table 13). More importantly seems to be that they had received additional telephone support after their first call (OR = 2.25; p<.001). This effect was particularly strong in the German, Norwegian and Dutch quitlines. All three offer pro-active (counselor initiated call-back) counseling. Moreover, additional advice from health professionals, the use of nicotine replacement therapy and participation in smoking cessation groups format all benefit to smoking abstinence 12 months later.

Many of the caller characteristics were predictive of whether callers were able to stay quit for 12 months: being in the action stage, being older, higher educated, and having a
supportive partner. Smokers who have one or more of these characteristics have a smaller likelihood of relapse.

Table 13. Results of Stepwise Logistic Regression Analyses (Best Fitting Models) Predicting Continuous Abstinence from Assistance given during the Call and Additional Support Received after the Call, Controlling for Caller Characteristics.

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Step 2: Types of Assistance at call

<p>| Counseling                           | -   | -   | -   | -   | -   | -   | -   | -   | -   | -     |
| Basic information (quick call)       | -   | -   | -   | -   | -   | -   | -   | -   | -   | -     |
| Advice on quitting                   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -     |
| Information about pharmacotherapy    | -   | -   | -   | -   | -   | -   | -   | -   | .26 | -     |
| Referred to outside service          | -   | -   | -   | -   | -   | -   | -   | 1.98 | -   | -     |
| Referred to H.P.                     | 3.82 | -   | -   | -   | -   | -   | -   | -   | -   | -     |
| Literature sent                      | 4.38* | -   | -   | -   | -   | -   | -   | -   | -   | -     |</p>
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Note. DM = Danish quitline, FR = French quitline, GE = German quitline, IR = Irish quitline, IT = Italian quitline, NL = Dutch quitline, NO = Norwegian quitline, PT = Portuguese quitline, UK = UK quitline.
* <.05; **<.01; ***<.001; a quitline variable (8 dummies) entered as covariate for analysis concerning all respondents.
8. Summary of quantitative results per quitline

8.1 Denmark

Quit rates among callers to the Danish quitline are very much in line with most other quitlines in the study. Smokers who were preparing to quit when they called the quitline have between 13% (non responders counted as continuing smokers) and 24% chance of being a non-smoker 12 months later. Callers who already had quit smoking (they were in action stage) and contacted the Danish quitline for support with preventing relapse were successful in 23% - 43% of cases (again, range depending on treatment of non response). Of course, continuous abstinence rates are somewhat lower, because according to the more stringent definition, continuous abstainers aren't 'allowed' to have had slips since their quit attempts. Continuous abstinence for the Danish quitline is between 6% and 11% among smokers who were in preparation stage when they called and between 18% and 33% in callers who were in action stage of quitting.

Danish callers who were in the action stage and were less dependent on nicotine were more successful. Higher educated callers had a greater chance of success (only point prevalence abstinence). Danish callers who said that their contact with the quitline fulfilled their expectations, more often had received counseling during that call (table 7).

Health professionals seem to play an important role for Danish callers. Callers who were further referred by the quitline to see a health professional and callers who actually received advice from a health professional in the period following the call to the quitline, had a higher chance of success (tables 11 and 12). Getting counseling from a health professional was associated with a positive feeling that the quitline made it easier for the caller to quit (table 9).

From table 3 we know that only a very small percentage of Danish callers (4%) were referred further to a health professional. Table 4 shows that advice from a health professional in most cases comes from a general practitioner or from a chemist. In particular (compare to other countries) a rather large proportion of the Danish callers (13%) get advice from a chemist.

Sending callers literature also seemed to be beneficial for increasing the odds of being continuous abstinent. However, only 7% of Danish callers are given literature to read (table 3).
8.2. France

In general, quit rates among callers to the French quitline seem somewhat lower compared to the average of the quitlines in this study. Smokers who were preparing to quit when they called the quitline have between 11% (non responders counted as continuing smokers) and 22% chance of being a non-smokers 12 months later. Callers who had already quit smoking (they are in action stage) and contacted the French quitline for support to prevent relapse were successful in 19% - 36% of cases (again, depending on treatment of non response). Of course, continuous abstinence rates are somewhat lower, because according to the more stringent definition, continuous abstainers aren't 'allowed' to have had slips since their quit attempts. Continuous abstinence for the French quitline is between 5% and 10% among smokers who were in preparation stage when they called and between 12% and 23% in callers who were in action stage of quitting.

French callers who were in the action stage and were higher educated had a greater chance of being point prevalence abstinent at the follow-up. Continuous abstinence seems associated with being in action stage and a smaller number of previous quit attempts.

Which quitline services particularly contribute to quit success among French callers? Call backs to the quitline does not appear to improve the odds of being a non-smoker at follow-up (table 12). In contrast, point prevalence abstinence seems higher if callers use Zyban or an NRT (table 12). Continuous abstinence is associated with additional advice from a health professional in the period following the call to the quitline (table 13). Referral to a general practitioner (15% or another medical professional (11%) seems to be higher in France than in other countries (Table 4). Furthermore, a striking finding is that many of the French callers (74%, which is much higher than the average of 51% among callers to other quitlines) receive advice on the usage of pharmacotherapy from the quitline. 72% of callers do use some kind of pharmaceutical aid, most often nicotine patches (53%), but also gum (21% and lozenges (11%) (Table 4).

In 83% of cases, French callers said that the service received met their expectations, which is very much in line with most other quitlines (table 6). Callers, who said that the service met their expectations, were more likely to use NRT after the call and less likely to join a group course (table 7). Furthermore, 50% of French callers said that the contact with the quitline made quitting easier, whereas 18% said it became more difficult (table 8). Callers, who said that the contact made it easier, were more often higher educated, had a higher self-efficacy expectation to begin with, had had a lengthier talk to the counsellor, and less often were send literature (table 9). In addition, they more often received telephone support from the quitline after the first call and used NRT’s more often.
8.3 Germany

Since only 180 respondents from Germany were involved in the baseline measurement of the study, of which 121 were re-contacted at the follow-up measurement, it must be taken into account that the observed quit rates might not be very reliable. For example an observed proportion of 20% in reality will be between a wide range of about 12% and 28% (with a 95% certainty). So, there is a rather large confidence interval around the observed proportions. In the following summary, we will present the actual observed proportions, so the reader is advised to keep in mind that in reality these results might be somewhat lower or higher.

Overall, the quit rates among German callers who were in preparation stage of quitting seem in line with most other European quitlines in this study. However, the data suggest that the German quitline does particularly well among callers in action stage of quitting, with higher long-term quit rates for this group of callers, compared to most other countries.

Smokers who were preparing to quit when they called the quitline have between 17% (corrected for non response) and 27% (uncorrected) chance of being a non-smokers 12 months later. Callers who already had quit smoking (they are in action stage) and contacted the German quitline to assist them in preventing relapse were successful in 41% - 55% of cases (again, depending on treatment of non response). Of course, continuous abstinence rates are somewhat lower, because according to the more stringent definition, continuous abstainers aren't 'allowed' to have had slips since their quit attempts. Continuous abstinence for the German quitline is between 5% (corrected) and 7% (uncorrected) among smokers who were in preparation stage when they called and between 28% (corrected) and 37% (uncorrected) in callers who were in action stage of quitting.

Statistical power was also limited for in-depth analyses of the predictors of quitting. This means that there was limited power to statistically detect relevant and interesting associations. The findings that were significantly related to continuous abstinence were the following: German callers who were in the action stage of quitting are much more likely to end up being continuous abstinent than those in the preparation stage (table 13). The analysis on point prevalence abstinence at the follow-up measurement again showed that callers in the action stage (compared to preparation stage) were more often abstinent at follow-up. In addition, they were also somewhat older and more often had a higher educational level (table 12).

Which quitline services particularly contribute to quit successes amongst German callers? Callers who received additional telephone support from the German quitline after the first call were more likely to be continuous abstinent during the follow-up measurement. No other associations were found between success with quitting and types of quitline service, nor with any additional types of support that callers might have had after the first call.
In 82% of cases, callers said that the service they had received from the quitline met their expectations. This percentage is in line with most other quitlines (Table 6). Callers who said that the contact met their expectations, often had repeated contact with the quitline (at least one call-back after the first call; p<.10), and were less likely to have joined a group course instead (Table 7). Furthermore, reported satisfaction with the service they received from the quitline was also quite satisfactory: a mean score of 7.7 on a scale of 1-10 (Table 5). Furthermore, a rather large number of German callers (53%) said that the contact with the quitline made quitting easier for them (Table 8). This was associated with calling back to the quitline and using NRT (Table 9).

8.4 Ireland

In general, quit rates among callers to the Irish quitline seem somewhat higher compared to the average of other quitlines in this study. This seems true both for callers in preparation (Table 10) and callers in the action stage of quitting (Table 11). Smokers who were preparing to quit when they called the quitline have between 20% (corrected for non-response) and 32% (uncorrected) chance of being a non-smokers 12 months later. The variation is due to whether non-response is regarded as continuing smokers. Callers who had already quit smoking (they are in the action stage) and contacted the Irish quitline to assist them in preventing relapse were successful in 30% - 47% of cases (again, depending on treatment of non response). Of course, continuous abstinence rates are somewhat lower, because according to the more stringent definition, continuous abstainers aren't 'allowed' to have had slips since their quit attempts. Continuous abstinence for the Irish quitline is between 10% and 16% among smokers who were in preparation stage when they called and between 20% and 31% in callers who were in action stage of quitting.

Callers who were in the action stage were more likely to be abstinent one year later. In addition, point prevalence abstainers were somewhat older, more often had a higher education, were more often male, had higher self-efficacy expectations, and were lighter smokers (Table 12).

Long term quitting was not significantly associated with specific Quitline services (counselling, advice, and written materials etc). The only association was that callers who were given self-help materials had a slightly higher chance of continuous abstinence (p<.10; Table 13).

Reported satisfaction among callers with the service they received from the quitline was quite satisfactory: a mean score of 8.0 on a scale of 1-10 (Table 5). Furthermore, in 88% of
cases, callers said that the service they had received from the quitline met their expectations. This percentage is in line with most other quitlines if not somewhat higher (table 6). Those callers were more likely to have received literature from the quitline and some basic information (quick call), and were less likely to be referred to a health professional (table 7). Furthermore, a rather large number of Irish callers (56.5%) said that the contact with the quitline made quitting easier for them (table 8). Callers who said that the contact had made it easier, more often had repeated contacts to the quitline (at least one call-back after the first call) and were less likely to use some alternative (non-efficacious) cessation aid after the call (Table 9).

8.5 Italy

In general, quit rates amongst callers in the action stage of quitting were very much in line with most other European quitlines, but the Italian quitline seems to be somewhat less successful with callers who were in preparation stage of quitting. Smokers who were preparing to quit when they called the quitline have between 9% (corrected for non-response) and 14% (uncorrected) chance of being a non-smokers 12 months later. The variation is due to whether non-response is regarded as continuing smokers. Callers who had already quit smoking (they are in the action stage) and contacted the Italian quitline to assist them in preventing relapse were successful in 32% - 45% of cases (again, depending on treatment of non response). Of course, continuous abstinence rates are somewhat lower, because according to the more stringent definition, continuous abstainers aren't 'allowed' to have had slips since their quit attempts. Continuous abstinence for the Italian quitline is between 2% and 3% among smokers who were in the preparation stage when they called and between 20% and 29% in callers who were in the action stage of quitting.

Callers who were in the action stage were much more likely to be abstinent one year later. Long term quitting was not significantly associated with specific Quitline services (counselling, advice, and written materials etc). Instead, advice from a health professional and usage of NRT significantly increases the odds of being continuous abstinent (table 13). In addition, counseling from a health professional has a beneficial effect on being point prevalent abstinence at follow-up.

Reported satisfaction among callers with the service they received from the quitline seem somewhat lower compared to other quitlines (table 5). The same holds true for the percentage of callers who said that the service they had received from the quitline met their expectations (table 6). Furthermore, ‘only’ 33% of callers said that the contact to the quitline has made quitting smoking easier for them (table 8). However, we did not run separate analyses to
check for statistical significance of these comparisons, so these findings must be interpreted at face value. We do know from the data that callers who found that the contact had made it easier for them to quit were more likely to have received counseling from the Italian quitline, although this association is indicative (p<.10; see Table 9). It should also be noted that callers who said it became easier were more likely to have joined a stop smoking course. Callers who said that the quitline met their expectations were more likely to have been sent written literature (table 7).

8.6 The Netherlands

In general, quit rates among callers to the Dutch quitline were in line with those found in most other European quitlines in this study. Smokers who were preparing to quit when they called the quitline have between 16% (corrected for non-response) and 22% (uncorrected) chance of being a non-smokers 12 months later. The variation is due to whether non-response is regarded as continuing smokers. Callers who already had quit smoking (they are in action stage) and contacted the Dutch quitline to assist them in preventing relapse were successful in 27% - 39% of cases (again, depending on treatment of non response). Of course, continuous abstinence rates are somewhat lower, because according to the more stringent definition, continuous abstainers aren't 'allowed' to have had slips since their quit attempts. Continuous abstinence for the Dutch quitline is between 7% and 9% among smokers who were in preparation stage when they called and between 20% and 29% in callers who were in action stage of quitting.

Callers who were in the action stage were much more likely to be abstinent one year later. Point prevalence abstinence was higher among older callers and callers with a higher self-efficacy expectation. Having received telephone support in the period after the first call was significantly associated with continuous abstinence among Dutch callers (table 13). These were most likely callers receiving pro-active counseling. An unexpected finding was that quit success was also higher among callers who used acupuncture or laser therapy. This was true both for point prevalence (table 12; p<.05) and continuous abstinence (table 13; p<.10).

Reported satisfaction among callers with the service they received from the quitline was 7.5 (on a scale from 0 -10) and is comparable to levels found in most other European quitlines in this study (table 5). The same holds true for the percentage of callers who said that the service they had received from the quitline met their expectations (table 6). Forty-four percent of callers said that the contact to the quitline has made quitting smoking easier for them, which is also in line with the other quitlines (table 8). Whether the quitline met callers’ expectations was not related to any of specific quitlines service (table 7). Callers who said that quitting became easier as a result of the call to the Dutch quitline, were more likely to call back to the quitline, and were more likely to have received additional telephone support from the Dutch quitline.
In addition, these callers were also more likely to use NRT and self-help materials but less likely to use acupuncture or laser therapy.

8.7 Norway

In general, quit rates among callers to the Norwegian quitline were rather in line with those found in most other European quitlines in this study. Smokers who were preparing to quit when they called the quitline have between 14% (corrected for non-response) and 29% (uncorrected) chance of being a non-smoker 12 months later. The variation is due to whether non-response is regarded as continuing smokers. Callers who already had quit smoking (they are in action stage) and contacted the Norwegian quitline to assist them in preventing relapse were successful in 27% - 52% of cases (again, depending on treatment of non response). Of course, continuous abstinence rates are somewhat lower, because according to the more stringent definition, continuous abstainers aren't 'allowed' to have had slips since their quit attempts. Continuous abstinence for the Norwegian quitline is between 5% and 10% among smokers who were in preparation stage when they called and between 12% and 24% in callers who were in action stage of quitting.

Callers who were in the action stage were much more likely to be abstinent one year later. Point prevalence abstinence was higher among older callers, higher educated callers, and callers with a higher self-efficacy expectation. Having received telephone support in the period after the first call was significantly associated with continuous abstinence among Norwegian callers (table 13). These might very well be callers receiving pro-active counseling from the Norwegian quitline. No other specific quitlines services were found to be related to quitting smoking. Callers who used NRT after their call to the quitline were less likely to be non-smoker 12 months later (table 12).

Reported satisfaction among callers with the service they received from the quitline was 7.2 (on a scale from 0 -10) and is comparable to levels found in most other European quitlines in this study (table 5). The same holds true for the percentage of callers who said that the service they had received from the quitline met their expectations, which was 78% (table 6). Forty-eight percent of callers said that the contact to the quitline has made quitting smoking easier for them, which is also in line with the other quitlines (table 8).

Callers who said that the contact met their expectations, more often had repeated contacts to the Norwegian quitline (at least one call-back after the first call; p<.10), and less often had joined a group course, used Zyban or used self-help materials as an aid to quit smoking instead (Table 7). Callers, who said that quitting became easier as a result of the call
to the Norwegian quitline, were more likely to have received additional telephone support from the quitline (table 9).

8.8 Portugal

Since only 123 respondents from Portugal were involved in the baseline measurement of the study, of which 75 were re-contacted at the follow-up measurement, it must be taken into account that the observed quit rates might not be very reliable. For example an observed proportion of 20% in reality will be between a wide range of about 12% and 28% (with a 95% certainty). So, there is a rather large confidence interval around the observed proportions. In the following summary, we will present the actual observed proportions, so the reader is advised to keep in mind that in reality these results might be somewhat lower or higher.

Overall, the quit rates among Portuguese callers who were in the preparation stage of quitting seem to be in line with most other European quitlines in this study. The data suggest that the Portuguese quitline does particularly well among callers in the action stage of quitting, with higher long-term quit rates for this group of callers compared to most other countries (Table 11).

Smokers who were preparing to quit when they called the quitline have between 32% (corrected for non response) and 19% (uncorrected) chance of being a non-smokers 12 months later. Callers who already had quit smoking (they are in action stage) and contacted the Portuguese quitline to assist them in preventing a relapse were successful in 72% - 45% of cases (again, depending on treatment of non response). Of course, continuous abstinence rates are somewhat lower, because according to the more stringent definition, continuous abstainers aren't 'allowed' to have had slips since their quit attempts. Continuous abstinence for the Portuguese quitline is between 8% (corrected) and 7% (uncorrected) among smokers who were in preparation stage when they called and between 56% (corrected) and 35% (uncorrected) in callers who were in action stage of quitting.

Statistical power was also limited for in-depth analyses of the predictors of quitting. This means that there was limited power to statistically detect relevant and interesting associations. The factors that were significantly related to point prevalence abstinence were the following: Portuguese callers who were in the action stage of quitting are much more likely to end up being abstinent than those in the preparation stage (table 12). In addition, there was a modest effect with being referred to a health professional for further assistance with cessation. These callers were somewhat less successful (p<.10). The analysis on continuous abstinence at the follow-up measurement again showed that callers in the action stage (compared to the preparation stage) were more often abstinent at the follow-up (table 12). In addition, they were
less likely to have received information about pharmacotherapy from the counsellor (p<.10). No other associations were found between success with quitting and the types of quitline service, nor with any additional types of support that callers might have had after the first call.

In 88% of cases, callers said that the service they had received from the quitline met their expectations (Table 6). This percentage is in line with most other quitlines. Furthermore, reported satisfaction with the service they received from the quitline was also very satisfactory: a mean score of 8.3 on a scale of 1-10 (table 5), which seems higher compared to other quitlines. A rather large number of Portuguese callers (56%) said that the contact with the quitline made quitting easier for them (table 8). Again, this was higher than in most other quitlines. Regrettably, no significant associations could be detected between specific quitline services and satisfaction scores, probably due to insufficient statistical power.

8.9 United Kingdom

In general, quit rates among callers to the UK quitline were somewhat higher for callers in the preparation stage of quitting compared to other quitlines, while quit rates for callers in the action stage were in line with those found in most other European quitlines in this study.

Smokers who were preparing to quit when they called the quitline have between 16% (corrected for non-response) and 32% (uncorrected) chance of being a non-smokers 12 months later. The variation is due to whether non-response is regarded as continuing smokers. Callers who already had quit smoking (they are in action stage) and contacted the UK quitline to assist them in preventing relapse were successful in 27% - 46% of cases (again, depending on treatment of non response). Of course, continuous abstinence rates are somewhat lower, because according to the more stringent definition, continuous abstainers aren't 'allowed' to have had slips since their quit attempts. Continuous abstinence for the UK quitline is between 8% and 15% among smokers who were in preparation stage when they called and between 18% and 31% in callers who were in action stage of quitting.

Callers who were in the action stage were much more likely to be abstinent one year later. Having received advice on quitting and referring callers to an outside service was associated with point prevalence abstinence (table 12). The likelihood of being a non-smoker at the 12 month follow-up was smaller if callers were given only brief, basis information (quick call) and when they had a shorter length of call (table 12). Continuous abstinence was associated with having a supportive partner, and (again) referring the caller to an outside service and a brief call (table 13).

Reported satisfaction among callers with the service they received from the quitline was 7.5 (on a scale from 0 -10) and is comparable to levels found in other European quitlines in this
study (table 5). The same holds true for the percentage of callers who said that the service they had received from the quitline met their expectations, which was 86% (table 6). Fifty-one percent of callers said that the contact to the quitline has made quitting smoking easier for them, which is also in line with the other quitlines (table 8).

Callers who said that the contact met their expectations, more often had repeated contacts to the UK quitline (at least one call-back after the first call; p<.10), and less often had used alternative cessation aids instead (Table 7). Callers, who said that quitting became easier as a result of the call to the UK quitline, were more likely to use NRT after they had their call to the quitline (table 9).
9. Cost effectiveness of the quitlines

In this chapter we present the cost effectiveness of the quitlines. It is widely acknowledged that the majority of smoking cessation methods is both effective and cost-effective (Tomson, Helgason & Gilljam, 2004). However, not many European quitlines have been evaluated for their cost effectiveness. One of the exceptions is the Swedish quitline (Tomson et al., 2004).

In our cost effectiveness analysis the outcome was measured as cost per quitter, as defined by point prevalence abstinence at 12 months follow-up (Fiore et al., 2008). Costs per quitter was based on a calculation of the annual costs for services of the quitline in 2005 divided by multiplying the point prevalence abstinence quit percentages (uncorrected and corrected for non-response) of each quitline by the annual number of callers in 2005. The callers in the action and preparation stage were combined.

The cost effectiveness results for the Danish, Dutch, German, Irish, Italian, Norwegian, Portuguese and UK quitlines are shown in table 14. The quitline from France was unable to report the data. Overall, the costs per successful quitter was 51 Euros (85 Euros corrected for non-response), varying between 8 (UK) and 217 (Netherlands) Euros. Variation in costs per quitter between quitlines might be caused by differences in the calculation of the annual costs for services and the annual number of calls. Many quitlines mentioned that it was very difficult for them to answer the cost effectiveness questions, because for example quitline budgets often were part of broader smoking cessation budgets. Furthermore, the question with regard to the annual number of calls was also not easy to answer for many of the quitlines. The way of collecting the total number of calls was not similar for all of the quitlines. Therefore, the interpretations of the comparisons between the individual quitlines have to be done with caution.

Compared to other non-smoking interventions, the cost of tobacco use treatments has been modest, ranging from a few hundred to a few thousand dollars per quit (Fiore et al., 2008). Furthermore, compared to other smoking cessation interventions, the cost of the quitlines per quitter seems to be low. Feenstra and colleagues (2005) for example estimated the costs per quitter at 1,000 euro for minimal counselling by a general practitioner, 2,200 euro per quitter for short counselling followed by nicotine gum or patches for a period of on average eight weeks, and 3,000 euro for intensive treatment by a trained counsellor combined with nicotine replacement therapy. However, there were differences between the studies in measurement of the cost per quitter. Feenstra and colleagues for example took continuous abstinence as a quit smoking abstinence measure while we took point prevalence abstinence as the quit smoking abstinence criterion. Therefore, the outcomes of our findings with respect to cost-effectiveness of the quitlines should be interpreted very carefully.
<table>
<thead>
<tr>
<th></th>
<th>DM</th>
<th>FR</th>
<th>GE</th>
<th>IR</th>
<th>IT</th>
<th>NL</th>
<th>NO</th>
<th>PT</th>
<th>UK</th>
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<td>37.5</td>
<td>17.9</td>
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<td>5000</td>
<td>6397</td>
<td>7186</td>
<td>750</td>
<td>49183</td>
<td>79933</td>
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<tr>
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<td>-</td>
<td>238</td>
<td>2831</td>
<td>895</td>
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<td>2781</td>
<td>340</td>
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<td>-</td>
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<td>250,000</td>
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<td>245,066</td>
<td>36,412</td>
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<td>-</td>
<td>126</td>
<td>88</td>
<td>61</td>
<td>217</td>
<td>88</td>
<td>107</td>
<td>8</td>
<td>51</td>
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<tr>
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<td>-</td>
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<td>6397</td>
<td>7186</td>
<td>750</td>
<td>49183</td>
<td>79933</td>
</tr>
<tr>
<td><strong>Estimated number of quitters through quitline</strong></td>
<td>509</td>
<td>-</td>
<td>160</td>
<td>1774</td>
<td>590</td>
<td>1260</td>
<td>1394</td>
<td>207</td>
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<td>15267</td>
</tr>
<tr>
<td><strong>Annual costs for services quitline 2005 (in EUR)</strong></td>
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<td>-</td>
<td>30,000</td>
<td>250,000</td>
<td>54,300</td>
<td>380,000</td>
<td>245,066</td>
<td>36,412</td>
<td>149,375</td>
<td>1,301,685</td>
</tr>
<tr>
<td><strong>Costs per quitter (in EUR)</strong></td>
<td>308</td>
<td>-</td>
<td>188</td>
<td>141</td>
<td>92</td>
<td>302</td>
<td>176</td>
<td>176</td>
<td>15</td>
<td>85</td>
</tr>
</tbody>
</table>

**Note.** DM = Danish quitline, FR = French quitline, GE = German quitline, IR = Irish quitline, IT = Italian quitline, NL = Dutch quitline, NO = Norwegian quitline, PT = Portuguese quitline, UK = UK quitline. Corrected results are intention-to-treat results (non-response is assumed to be smoker at follow-up). - = unable to report.
10. General discussion of the main findings

We included both callers who wanted to quit smoking and callers who had already made a quit attempt and called to prevent relapse. By including the latter group, ESCHER provides a more complete picture of the effectiveness of quitlines, compared to other evaluations which restricted their focus to smokers wanting to quit. Callers who called to prevent relapse make out a substantial proportion of all callers to European quitlines. Across quitlines, 31% had already quit smoking, varying between 11.0% (Italy) and 41.5 (Norway). This is therefore an important target group of European quitlines.

A second important observation was that callers who had already quit were relatively successful. On an intention-to-treat basis, across countries 12-month continuous abstinence rates were 18.0% among quitters calling for relapse compared to 6.0% among smokers intending to quit within one month. Our results thus indicate that success rates of quitlines among callers who call in an attempt to prevent relapse are about three times higher compared to success rates among callers who still smoke. Moreover point-prevalence quit rates were about twice as high among non-smokers compared to smokers (27.0% - 14.0%). This is very much in line with an earlier study done in the UK that reported an adjusted point prevalence quit rate of 29.0% among non-smokers and 15.6% among smokers (Owen, 2000). An important lesson from this data might be that overall the absolute success rates of quitlines are higher than usually reported in the literature (for example in Cochrane meta-analyses), especially if you take the important group of callers who are in action stage into account. In most studies included in the Cochrane review telephone counselling for smoking cessation (Stead, Perera & Lancaster, 2006) only smokers are included.

A word of caution is warranted when interpreting quit rates across quitlines in ESCHER. These cannot be compared to each other. Quit rates can only be interpreted in light of each countries unique situation and circumstances. Figure 1 illustrates the wide range of factors that affect outcomes. Many of these factors, especially factors at the macro and meso level, are not accounted for in our analyses. Differences in culture between countries and differences in the selection of people contacting the quitlines (some may attract a sub sample of smokers that will have more difficulty quitting) may account for differences in quit rates. Therefore it is not safe to assume that a quitline with high quit rates does a better job than a quitline that has lower quit
rates. To thoroughly examine the effectiveness of differences in quitlines, a randomised trial should be done on subjects that are blindly randomised to various quitline conditions.

An important finding was that we hardly found any associations between specific types of quitline service with smoking cessation after controlling for baseline characteristics of callers. The only exception was the UK quitline, where callers who were given information on how to quit were more often abstinent according to the point prevalence criterion. In addition, cases where the session was restricted to a short call with only the provision of basic information often resulted in a lower success point prevalence in quitting. An important conclusion from the study, therefore, is that the specific type of assistance that the quitlines give to a caller during the first call (we differentiated between counseling, basic information, and advice) seems hardly related to long-term cessation outcomes. This conclusion supports findings from a recent meta-analysis of randomised controlled trials of quitlines, which failed to detect an effect of the type of telephone counselling on success rates among quitters (Stead et al., 2006). See also Ossip-Klein & McIntosh (2003) who reviewed several studies that have examined whether reactive interventions are differentially effective. They found that no differences have been reported among various counseling strategies.

Thus, what seems more important is what happens to the smoker after the call: do they receive additional telephone counseling from the quitline, do they get advice or counseling from a health professional, do they join a smoking cessation group course, and do they use pharmacotherapeutic aids for smoking cessation? Any of these types of additional support was found in at least one quitline to be related to long-term quitting. A rather consistent finding was the significant association between receiving additional telephone support from the quitline with continuous abstinence. This association was found in three quitlines. Across all quitlines, the odds ratio of being abstinent was 2.25 times greater when having received additional counseling compared to not receiving this support. This finding underscores the importance of providing callers the option of enrolling in a pro-active counseling track with multiple counseling sessions. The finding is also consistent with evidence from studies outside Europe. For example, Hollis and colleagues (2007) report that multi-session telephone support within the Oregon tobacco quitline led to higher quit rates compared to brief sessions (Hollis et al., 2007). The Cochrane review of telephone counselling also finds that follow-up calls increase quit rates (Stead et al., 2007). Another strong association that was found in several quitlines was between getting advice from a health professional and continuous abstinence. Seeing a health professional after having talked with a counselor from the quitline increases the odds ratio of quitting with a factor 1.55. This data thus underscores the importance of quitlines as a national centre for information or triage service for smoking cessation. A place where smokers can be referred to further professional support if needed, in addition to the possibility for smokers receiving professional
counseling from the quitline itself. Our results are consistent with the recent Cochrane meta-analysis. Eight studies that compared additional proactive calls to provision of materials or brief counselling at a single call showed evidence of a benefit from the additional support, consistent across all studies, despite moderate heterogeneity. The pooled OR was 1.41, (95% CI 1.27 - 1.57).
11. Recommendations

This study was the first to examine several quitlines within the same research framework. We examined factors affecting quitline outcomes at the meso and micro level. The study made it clear that large differences exist between European quitlines at the micro level such as the types of services provided to callers, the length of call, and caller characteristics. We were not able to disentangle the specific relationships between macro, meso with these micro level factors. This must be subject for further research. We recommend that the conceptual framework that was developed in ESCHER (Figure 1) be used to this effect.

An important function of quitlines is to support the health care system in helping patients to quit smoking (Borland & Segan, 2006). A Swedish study showed that being referred to the quitline by a health care professional can raise quit rates (Helgason et al., 2004). In our study only 10% of calls were referrals from the health care system, with the Danish quitline having the highest percentage (14%). In contrast, in California between 14.5% and 51.3% of callers (depending on whether they used nicotine replacement therapy) heard about the quitline from a health care provider (Zhu et al., 2000). It seems worthwhile for European quitlines to put more effort into bridging the current gap between the health care system and quitlines, for example by experimenting with the various kinds of referral systems that are in use in the United States and Australia, such as fax and e-mail referral. Physicians should consider referring more of their smoking patients to their national quitline, while policy makers are advised to explore ways of integrating quitlines more into their countries' health care system.

Our analyses suggested that the specific type of assistance that callers receive during their first call is hardly related to long term outcomes. Whether the session characterized as brief advice, counseling or a quick call, long-tom success rates were about the same. A previous study found that the specific content of the counseling session was not predictive of success, but this was only true for women (Mermelstein et al., 2003). More elaborate counseling, including motivational interviewing in which content was also tailored to the stage of cessation and other factors related to success, resulted in higher quit rates among male callers in comparison to a primarily supportive session. Further analyses on the ESCHER dataset might reveal whether the conclusion drawn on the content of the first call is important and whether this holds true for all types of callers. An important recommendation is thus that more research is clearly needed to identify whether the effectiveness of reactive services of quitlines can be improved by changes in content.
What seems important is that a connection is established between the caller and counsellor and that this provides an opportunity for further, more intensive, contact and assistance which can reduce the chance of relapse. Our data show that further referral to a health professional or a cessation course makes a significant contribution to long term continuous abstinence. Furthermore, provision of additional telephone counseling by the quitlines and use of nicotine replacement therapy seems beneficial (in terms of continuous abstinence).

The results from the logistic regression analyses suggest that callers who receive additional telephone support have a greater chance of success. The questions in the follow-up measurement were not specific enough to determine whether these calls were (part of) a pro-active call-back service or whether these were repeated calls initiated by the caller. However, we know that at least in the Netherlands and Norway most of these calls were most likely part of the pro-active call back service which involves up to 6 or 7 sessions. These results thus support previous research that pro-active counseling is highly efficacious.

Recommendations with regard to the cost effectiveness of quitlines are the development of valid and reliable instruments for the measurement of costs and number of callers. We noticed in our study that it was hard to measure costs and total number of callers in the same way for all of the quitlines. Every quitline has its own way of measuring the number of callers and costs.

Satisfaction with the services from the quitlines was generally quite high. Overall, 83% of callers said that the service they received from the quitline met their expectations. Not surprisingly, callers who said that the quitline met their expectations were more likely to call back. Callers, who said that the quitline made it easier for them to quit smoking, were more likely to have received additional telephone support from the quitline and were more likely to have used NRT while attempting to quit. This finding again points to the importance of both advising smokers into the direction of pharmacotherapy and making it possible that callers undergo additional telephone counseling.
12. Literature


13. Acknowledgements

We are grateful to the participating quitlines who contributed to the research: STOP-Line Counselling, Tabac Info Service, German Cancer Research Unit, The National Smokers Quitline, Lega Italiana per la lotte contro il tumo, STIVORO for a smoke-free future, Norwegian Directorate for Health and Social Affairs, Instituto Nacional de Cardiologia Preventiva, QUIT®, and Insititut National de Prévention et d’Education pour la Santé. Furthermore, Roel Joosten, Amber van der Toorn, Ellen Mookhoek, and Carl Simons at STIVORO and the staff of the European Network of Quitlines, are thanked for their assistance with the research. We would also like to thank the many quitline counselors who collected the data for the baseline measurement. TNS-NIPO is acknowledged for organising data collection for the follow-up measurement. Prof. dr. Gerard Schippers from the Amsterdam Institute for Addiction Research (AIAR), Academic Medical Centre was adviser to the ESCHER project.
14. Appendix A

Significant Pearson Correlations (p<.05 or less) between Control Variables (Baseline) and **Point Prevalence Abstinence** (Follow-up), per quitline and for the total sample.

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<thead>
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<th>Control Variables</th>
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<th>PT</th>
<th>UK</th>
<th>Total</th>
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</thead>
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<tr>
<td>Stage of Change (action / preparation)</td>
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<td>.15</td>
<td>.28</td>
<td>.16</td>
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<td>.17</td>
<td>.23</td>
<td>.38</td>
<td>.14</td>
<td>.22</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td>-</td>
<td>.27</td>
<td>-.16</td>
<td>-</td>
<td>.12</td>
<td>.20</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Education (low, mediate, high)</td>
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<td>.16</td>
<td>.25</td>
<td>-</td>
<td>-</td>
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<td>.12</td>
<td>-</td>
<td>-</td>
<td>.11</td>
</tr>
<tr>
<td>Sex (female / male)</td>
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<td>-</td>
<td>-.14</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<td>Support Others (yes, no)</td>
<td></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>.05</td>
</tr>
</tbody>
</table>

1 Only participants who had completed both measurements and were in action or preparation stage at baseline, were included (N=2,287). Pairwise deletion of missing cases.
Significant Pearson Correlations (p<.05 or less) between Control Variables (Baseline) and **Continuous Abstinence** (Follow-up), per quitline and for the total sample.

<table>
<thead>
<tr>
<th>Control Variables</th>
<th>DM</th>
<th>FR</th>
<th>GE</th>
<th>IR</th>
<th>IT</th>
<th>NL</th>
<th>NO</th>
<th>PT</th>
<th>UK</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage of Change (action / preparation)</td>
<td>.28</td>
<td>.18</td>
<td>.37</td>
<td>.17</td>
<td>.36</td>
<td>.19</td>
<td>.53</td>
<td>.18</td>
<td>.25</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>.05</td>
</tr>
<tr>
<td>Education (low, mediate, high)</td>
<td>.19</td>
<td>.12</td>
<td>.19</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>.09</td>
</tr>
<tr>
<td>Sex (female / male)</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Dependence (HIS score)</td>
<td>-.19</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>.14</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Number of Quit attempts</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>.11</td>
</tr>
<tr>
<td>Self Efficacy score</td>
<td>-</td>
<td>.11</td>
<td>-</td>
<td>-</td>
<td>.10</td>
<td>.14</td>
<td>.15</td>
<td>-</td>
<td>.13</td>
<td>.12</td>
</tr>
<tr>
<td>Support Partner (yes, no)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>.16</td>
<td>.08</td>
</tr>
<tr>
<td>Support Others (yes, no)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>.05</td>
</tr>
</tbody>
</table>

1 Only participants who had completed both measurements and were in action or preparation stage at baseline, were included (N=2,287). Pairwise deletion of missing cases.
15. Appendix B

Questionnaire for qualitative description of the quitlines
Questionnaire Quitline ESCHER-project

*Questionnaire for the interviews with the national representatives of the Quitlines (14-10-2004)*

The purpose of this interview is to better understand the organisation, service and delivery of your quitline. The questions are divided in three levels: (I) Individual level; (II) Quitline level; and (III) Country level. The questions on individual level refer to (1) the characteristics of the callers and staff. The questions on quitline level refer to (2) the quitline in general; (3) the services provided by the quitline; (4) training and supervision of the staff; (5) theoretical background and starting points counselling and training; (6) promotion of the quitline; (7) organisational structure; (8) quality assurance; (9) use of evidence based methods; (10) partnerships; (11) technical part; (12) finance; and (13) utilisation. The questions on country level refer to (14) smoking cessation campaigns and NRT accessibility; (15) political changes and law regarding smoking; and (16) tobacco prevalence.

The interview is part of the ESCHER-project. The objectives of this project are to evaluate the effectiveness of the participating quitlines throughout Europe, to assess which factors influence success and to find out what kind of assistance is sought and received by what kind of smokers. Furthermore, the cost-effectiveness of the quitlines will be explored.

| Name Quitline: |
| Country: |
| Name representative of the quitline: |
| Email: |
| Phone: |
CALLERS
With callers we mean people who call the quitline for telephone support for smoking cessation (information, advice and/or counselling).

1. What data is routinely collected from the callers at intake (time of call)? (Check all that apply)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>O Age</td>
<td>O Smoking status (smoker / non-smoker)</td>
</tr>
<tr>
<td>O Gender</td>
<td>O Smoking history (quit attempt)</td>
</tr>
<tr>
<td>O Postal / Zip Code</td>
<td>O Reason for quitting, Motivation to quit</td>
</tr>
<tr>
<td>O Address</td>
<td>O Stage of change</td>
</tr>
<tr>
<td>O Phone number</td>
<td>O Self-efficacy</td>
</tr>
<tr>
<td>O Language</td>
<td>O Nicotine dependency</td>
</tr>
<tr>
<td>O Ethnicity</td>
<td>O Other cessation help used</td>
</tr>
<tr>
<td>O Education</td>
<td>O Smoking permitted on callers home</td>
</tr>
<tr>
<td>O Income</td>
<td>O Smoking permitted on callers work</td>
</tr>
<tr>
<td>O Occupation</td>
<td>O</td>
</tr>
<tr>
<td>O Insurance status</td>
<td>O</td>
</tr>
<tr>
<td>O</td>
<td>O</td>
</tr>
</tbody>
</table>

2a. Is it possible to get information about the percentages of these collected data?

O Yes
O No → skip to 3

2b. How were the following characteristics of the callers divided in 2003?

<table>
<thead>
<tr>
<th>Age</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>......%</td>
<td>......% Male</td>
</tr>
<tr>
<td>......%</td>
<td>......% Female</td>
</tr>
<tr>
<td>......%</td>
<td></td>
</tr>
<tr>
<td>......%</td>
<td>Geographic region</td>
</tr>
<tr>
<td>......%</td>
<td>......%</td>
</tr>
<tr>
<td>......%</td>
<td>......%</td>
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<td>......%</td>
<td>......%</td>
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<td>......%</td>
<td>......%</td>
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<td>......%</td>
<td>......%</td>
</tr>
<tr>
<td>......%</td>
<td></td>
</tr>
<tr>
<td>......%</td>
<td>Linguistic</td>
</tr>
<tr>
<td>......%</td>
<td>Native speaker</td>
</tr>
<tr>
<td>Ethnic</td>
<td>Non-native speaker</td>
</tr>
<tr>
<td>......%</td>
<td>......%</td>
</tr>
<tr>
<td>......%</td>
<td>......%</td>
</tr>
<tr>
<td>......%</td>
<td>......%</td>
</tr>
<tr>
<td>......%</td>
<td>Education</td>
</tr>
<tr>
<td>......%</td>
<td>Lower</td>
</tr>
</tbody>
</table>
What is the percentage of the total of callers who wants to reduce smoking (but don’t want to quit)?

............%
3. In what kind of groups do you distinguish the staff who answers the phone (f.i. intake, counsellors)?
   a. ........................................... → skip to 4a – 7a
   b. ........................................... → skip to 4b – 7b
   c. ........................................... → skip to 4c – 7c

4a. What are the required educational qualifications for the ........ staff?
   ........................................................................................................
   ........................................................................................................
   ........................................................................................................
   Standardized this means:
   O Completion of high school
   O Completion of college/university
   O Completion of graduate work (Masters / PhD)
   O Specific educational training, please name:
      ..............................................................

5a. What are the average years (and range) of experience for the ........ staff with answering the calls?
   .............years
   .............range
   ............. total number of ........ staff

6a. How many years is the ........ staff on average (and range) working for the quitline?
   .............years
   .............range

7a. What are the required skills for the ........ staff?
   ........................................................................................................
   ........................................................................................................
   ........................................................................................................

4b. What are the required educational qualifications for the ........ staff?
   ........................................................................................................
   ........................................................................................................
   Standardized this means:
   O Completion of high school
   O Completion of college/university
   O Completion of graduate work (Masters / PhD)
   O Specific educational training, please name:
      ..............................................................

5b. What are the average years (and range) of experience for the ........ staff with telephonic counselling?
   .............years
   .............range
   ............. total number of ........ staff
6b. How many years is the ........ staff on average (and range) working for the quitline?

...........years

...........range

7b. What are the required skills for the ............ staff?

........................................................................................................................................

........................................................................................................................................

........................................................................................................................................

5c. What are the average years (and range) of experience for the ........ staff with answering the calls?

...........years

...........range

............. total number of ........ staff

6c. How many years is the ........ staff on average (and range) working for the quitline?

...........years

...........range

7c. What are the required skills for the ............ staff?

........................................................................................................................................

........................................................................................................................................

........................................................................................................................................

8. Are the counsellors answering the phones with their real names or anonymous?

O With their real names

O Anonymous

Why? ........................................................

........................................................................................................................................

9. Are the staff volunteers or are they paid for their job?

O volunteers

O paid job
**Quitline level**

**GENERAL QUITLINE**

10. What is the contact information for your quitline:
   - Name of quitline: ………………………………………………………………………………………………
   - Phone number(s): ………………………………………………………………………………………………
   - Website: ……………………………………………………………………………………………………………

11. How would you describe the primary aim of the quitline?
   ………………………………………………………………………………………………………………………………
   ………………………………………………………………………………………………………………………………
   ………………………………………………………………………………………………………………………………
   ………………………………………………………………………………………………………………………………

12. How would you describe the population that the quitline aims to serve?
   ………………………………………………………………………………………………………………………………
   ………………………………………………………………………………………………………………………………
   ………………………………………………………………………………………………………………………………
   ………………………………………………………………………………………………………………………………

13. What date did the quitline begin providing counselling services?
   ……………………(Month/Year)

14a. Who operates the quitline (i.e., who provides the quitline services)?
   - O State government
   - O Federal government
   - O Local government
   - O University
   - O Non-governmental organisation
   - O Charitable foundation
   - O Health care institution (indicate public or private)
   - O insurance Company
   - O Employer organisation
   - O Other, please list:

14b. What is the name of the operating organisation:

15. What is the geographic area served by the quitline?
   - O Local
   - O State
   - O Regional
   - O National
   - O Other (please describe)
SERVICES

16a. Which description best describes your quitline services? Check all that apply
   O Speak with a counsellor at any time (available 24 hours)
   O Speak with a counsellor within set hours of service
   O Pre-recorded messages
   O Email messages
   O Web-based information
   O Web-based interactive counselling
   O Mailed information or self-help resources
   O Proactive counselling
   O Reactive counselling
   O Group cessation programs
   O Provision of quit smoking medication at low cost
   O Provision of quit smoking medication at no cost
   O Referral to other services (quit smoking group programs, professional services
   O Other, please describe:

16b. Which of the following services do you provide?
   O Speak with a counsellor at any time (available 24 hours)
   O Speak with a counsellor within set hours of service
   O Pre-recorded messages
   O Email messages
   O Web-based information
   O Web-based interactive counselling
   O Mailed information or self-help resources
   O Proactive counselling
   O Reactive counselling
   O Group cessation programs
   O Provision of quit smoking medication at low cost
   O Provision of quit smoking medication at no cost
   O Referral to other services (quit smoking group programs, professional services
   O Other, please describe:

17a. What kind of information is provided mainly by the quitline?
   O Evidence-based methods of quitting
   O Nicotine addiction
   O Pharmacological therapies
   O Habit and psychological addiction
   O Emotional support
   O Strategies for quitting
   O Health risks and health benefits
   O Diet and exercise
   O Promotion of a smoke free lifestyle
   O Information on tobacco related issues
O Services for smokers, via the internet
O Legal advice in relation to smoking/ non-smoking protection
O Legislation on smoking
O Alternatives therapies

and

O Basic information
O Specific information → O Medication → O Zyban
    O NRT (patches)
    O NRT (inhaler)
    O NRT (spray)
    O NRT (lozenge)
    O Referral
    O

O Counselling → O Proactive
    O Reactive

O Literature sent → O
    O

O Other:........................................................................................................................................

Basis information: information to the caller about stopping smoking, cravings etc.
Specific information: NRT on prescription or the local smoking cessation clinic
Counselling: more involved call, using the cycle of change motivational interviewing
Literature: booklets on quitting

What are your definitions of giving information, advice and counselling.................
.........................................................................................................................................................
.........................................................................................................................................................
.........................................................................................................................................................
.........................................................................................................................................................

17b. What kind of information is provided by the quitline? (Check all that apply)
  O Evidence-based methods of quitting
  O Nicotine addiction
  O Pharmacological therapies
  O Habit and psychological addiction
  O Emotional support
  O Strategies for quitting
  O Health risks and health benefits
  O Diet and exercise
  O Promotion of a smoke free lifestyle
  O Information on tobacco related issues
  O Services for smokers, via the internet
  O Legal advice in relation to smoking/ non-smoking protection
  O Legislation on smoking
  O Alternatives therapies

and

O Basic information
O Specific information → O Medication → O Zyban
    O NRT (patches)
    O NRT (inhaler)
    O NRT (spray)
18. What are the hours and days of operation of the quitline?
For incoming calls

For counselling assistance

For the voicemail

For recorded messages

19. What are the after office hours and days of operation of the quitline?
For incoming calls

For counselling assistance

For the voicemail

For recorded messages

20. What are the peak time periods for services
Time(s) of day
Day(s) of week
Time of year

21. What are the holidays during which the quitline is closed?

22a. How many phone lines are available?

22b. What is the average number of operating lines?

22c. What is the average number of operating lines for counselling?

22d. What is the average number of operating lines for information?

23. What are the eligibility criteria for receiving proactive / reactive counselling? (fe ready to quit in the next 30 days)
   Proactive:
   ..............................................................................................................
   ..............................................................................................................
   Reactive:
   ..............................................................................................................
   ..............................................................................................................

24. For counselling calls, what proportion of callers completed (in 2003):
   1 counselling session? ......%
   2 counselling sessions? ......%
   3 counselling sessions? ......%
   4 counselling session? ......%
   5 counselling sessions? ......%
   More than 5 counselling sessions? ......%

25. What is the intensity of the counselling according to the protocol?
   Frequency?
   ..............................................................................................................
   Duration?
   ..............................................................................................................
   Scheduling of calls?
   ..............................................................................................................

26. What is the content of the counselling per call? (see protocols)
   Intake:
   ..............................................................................................................
   ..............................................................................................................
   ........................................................... Call 2:
   ..............................................................................................................
   ..............................................................................................................
   ........................................................... Call 3:
   ..............................................................................................................
27. Are there tailored counselling protocols for specific target groups? (e.g. pregnancy, adolescent) (see protocols)
........................................................................................................................................................................
........................................................................................................................................................................
........................................................................................................................................................................
........................................................................................................................................................................

What are the differences with the regular counselling protocol?
........................................................................................................................................................................
........................................................................................................................................................................
........................................................................................................................................................................
........................................................................................................................................................................

28. What are the populations served by the quitline? (Check all that apply)
- All smokers, regardless of stage of change or motivation to quit
- Smokers in a specific stage of change – specify:
  - Pregnant smokers
  - Smokeless tobacco users
  - Racial/Ethnic or priority populations – specify:
  - Uninsured smokers
  - Health professionals
  - Those who want to help others quit
  - Other, please describe:

29. What are the populations for whom counselling is provided? (Check all that apply).
- All smokers, regardless of stage of change or motivation to quit
- Smokers in a specific stage of change – specify:
  - Smokers in specific age groups – specify (e.g. youth?):
  - Other, please describe:
O Pregnant smokers
O Smokeless tobacco users
O Racial/Ethnic or priority populations – specify:
O Uninsured smokers
O Health professionals
O Those who want to help others quit
O Other, please describe:

**TRAINING & SUPERVISION STAFF**

See question 3

a. ........................................... → skip to 30a – 36a
b. ........................................... → skip to 30b – 36b
c. ........................................... → skip to 30c – 36c

30a. What is the quitline’s minimum standard (time) for training prior to an ....... taking calls?

..........................................................
..........................................................
..........................................................
..........................................................

31a. What is the content of the training for the ....... staff? (Theory / practical)

..........................................................
..........................................................
..........................................................
..........................................................

32a. Hours of theory?

.................................

33a. Hours of practical training

.................................

34a. Hours of follow-up

.................................

35a. Is there a trainings protocol for the ....... staff?
O Yes
O No

36a. Does the quitline require ....... staff to pursue ongoing education and training?
O Yes
O No

30b. What is the quitline’s minimum standard (time) for training prior to an ....... taking calls?

..........................................................
..........................................................
..........................................................
31b. What is the content of the training for the ....... staff? (Theory / practical)
................................................................................................................................................................
................................................................................................................................................................
................................................................................................................................................................
................................................................................................................................................................

32b. Hours of theory?
....................................................

33b. Hours of practical training
............................................................

34b. Hours of follow-up
............................................................

35b. Is there a trainings protocol for the ....... staff?
O  Yes
O  No

36b. Does the quitline require ....... staff to pursue ongoing education and training?
O  Yes
O  No

30c. What is the quitline’s minimum standard (time) for training prior to an ....... taking calls?
................................................................................................................................................................
................................................................................................................................................................
................................................................................................................................................................
................................................................................................................................................................

31c. What is the content of the training for the ....... staff? (Theory / practical)
................................................................................................................................................................
................................................................................................................................................................
................................................................................................................................................................
................................................................................................................................................................

32c. Hours of theory?
....................................................

33c. Hours of practical training
............................................................

34c. Hours of follow-up
............................................................

35c. Is there a trainings protocol for the ....... staff?
O  Yes
O  No

36c. Does the quitline require ....... staff to pursue ongoing education and training?
O  Yes
O  No
Main principles & Sources of inspiration & Theoretical background

37. What are the main principles (theoretical background) for the training?
   (who developed the program, authors, publications, protocols, sources)
   ………………………………………………………………………………………………………………………………………
   ………………………………………………………………………………………………………………………………………
   ………………………………………………………………………………………………………………………………………
   ………………………………………………………………………………………………………………………………………

38. What are the main principles (theoretical background) for the counselling?
   (who developed the program, authors, publications, protocols, sources)
   ………………………………………………………………………………………………………………………………………
   ………………………………………………………………………………………………………………………………………
   ………………………………………………………………………………………………………………………………………
   ………………………………………………………………………………………………………………………………………

Promotion

39. What are the methods used to promote the quitline? (Check all that apply)
   O Television
   O Radio
   O Newspaper
   O Journal / Magazine
   O Website
   O Print materials (brochures, pamphlets, fact sheets)
   O Posters, Flyers
   O Outdoor advertising / Transit Ads
   O Worksite campaigns
   O School campaigns
   O Outreach (presentations to groups)
   O Liaison with health professionals or community groups
   O Contests
   O Special events
   O Phone directory
   O Other, please name:
   ………………………………………………………………………………………………………………………………………

40. Which promotion methods the quitline perceives are most successful in reaching the target population? (Check all that apply)
   O Television
   O Radio
   O Newspaper
   O Journal / Magazine
   O Website
Organisational Structure

41. Organisation structure: (intake staff, counsellors, shift leaders, managers...)

Quality Assurance

42. What resources are available for counsellors taking calls? Check all that apply
   - Computer based counselling tool/protocol
   - Computer reference database
   - Written counselling materials/protocol
   - Policy and procedure manuals
   - Reference library
   - Supervisor available at all times
   - Health professional backup
   - Other, please describe:

43. Please list the types of protocols used by the quitline (i.e. protocol for all adults, special population protocol for pregnant women, etc.)

44. What types of evaluation are conducted? (Check all that apply) (Are there reports?)
   - Outcome evaluation
   - Process evaluation
   - Implementation evaluation
   - Operational monitoring
   - Client satisfaction surveys
   - Staff performance evaluations
   - Quality assurance surveys
   - Special studies or research to test new ideas or services
   - Other:

45. Who conducts the evaluations?
O Quitline staff
O Funder / host agency
O Outside evaluation firm
O Other:

46. Provide counsellors each other with feedback on an informal basis?
   O Yes
   O No

47. Are there staff meetings during counsellors can discuss issues with regard to the content of counselling?
   O Yes
   O No

48. How often take this meetings place?
    ..................... times

49. Has the quitline a quality improvement plan? (A quality improvement plan should describe the procedures, standards, and measures to be used to ensure quality)
   O Yes → Copy?
   O No

50. Does the quitline use national or international guidelines as starting points for the counselling and service?
    O Yes → Which one?
    .................................................................
   O No

EVIDENCE BASE

51. Does the quitline participate in any of the following activities?
    [CHOOSE ‘currently participate’, ‘used to participate’, ‘planning to participate’, or ‘not planning to participate’]

   Activity
   Smoking prevention activities (education, awareness) ...........................................................

   Training health professionals .................................................................

   Outreach to health care Professionals and systems ...........................................................

   Research Studies .................................................................
Other, please describe: .................................................................

52. What are other partners (organisations and institutions) were the quitline cooperates with?
(partnerships for promotion and referrals; partnerships to integrate the quitline into a comprehensive tobacco control program; systems-level partnerships)
What is the content of the cooperation?
........................................................................................................

**Technical**

53. What kind of technology is used by the quitline?
- O Basic technology providing essential service
- O Increased cost-effectiveness and customer service
- O Relationship management and customer differentiation
- O Enterprise-wide customer management

**Finance**

54. Is the Quitline a free service or charged at local rate?
........................................................................................................

55. What is the quitline budget for 2003
- Operations ....................
- Promotion ....................

56. Who funds the quitline? (Check all that apply)
- O State government
- O Federal government
- O Local government
- O Charitable foundation
- O Health care institution (indicate public or private)
- O Insurance company
- O Employer organisation
- O Other, please identify

........................................................................................................

57. Please name the funding organisations:
........................................................................................................

58. Cost per caller ?????????

**Utilisation**

59. What was the quitline’s annual call volume in 2003?
For all calls?  

For information only?  
For counselling (1 session)  
For counselling (more than 1 ses.)  
For literature (self-help)  

Receive medication from quitline

60. What is the population of smokers in your country/area which your Quitline covers?

…………………………………………………………………………………………………………………………

61. Does the quitline have a specific goal for reach of the quitline? (e.g. 5% of all smokers)?
O Yes
O No

If yes, what is the goal?
…………………………………………………………………………………………………………………………
…………………………………………………………………………………………………………………………
…………………………………………………………………………………………………………………………
…………………………………………………………………………………………………………………………

Country level

**Smoking cessation campaigns & Accessibility for NRT**

62. Are there smoking cessation campaigns currently in your country or in the last year? (f.e. from the government, pharmaceutical industry etc.)
What is their target group?
…………………………………………………………………………………………………………………………
…………………………………………………………………………………………………………………………
…………………………………………………………………………………………………………………………
…………………………………………………………………………………………………………………………

63. Are there smoking cessation campaigns planned in the future in your country? (f.e. from the government, pharmaceutical industry etc.)
What is their target group?
…………………………………………………………………………………………………………………………
…………………………………………………………………………………………………………………………
…………………………………………………………………………………………………………………………
…………………………………………………………………………………………………………………………

64. How about the accessibility for NRT?
O Health insurance
O For free
### Political changes & Law regarding smoking

65. Political changes (climate) with regard to smoking?

66. Quitline number on package?
   - Yes → since.....
   - No

67. Effect in number of calls after implementing the quitline number on packages?

68. What are the taxes on tobacco?

### Tobacco prevalence

69. What is the tobacco prevalence in 2003?
   - By age?
   - By gender?

other:

70. Do you have published research on your Quitline?

71. What plans in the future do you have for your Quitline?
Appendix C

Baseline questionnaire for callers
ESCHER questionnaire for callers (version UK 12/1/2005)

Fill in the questionnaire for every caller who calls for telephone support for smoking cessation (information, advice and/or counselling)

V

Caller’s details

We would like to call you again in a year and ask you some of the same questions. Therefore we need your address and telephone numbers.

First name & Surname: .............................................................................................................

Address: ..............................................................................................................................

..............................................................................................................................

Town/City: ..........................................................................................................................

Post code: ............................................................................................................................

Email: .................................................................................................................................

May I have two phone numbers, because we would like to call you again in a year. And therefore it is important that we can get in touch with you.

Tel (home): ..........................................................................................................................

Tel (work): ...........................................................................................................................

Tel (mobile): ..........................................................................................................................

(Copy from part IV question 18)

Date of birth: ...../....../....... (d/m/y)
Go to part VI
Make sure you fill in part VI immediately after finishing the call

 Eligibility

A caller is eligible for the recruitment when he/she meets one of the following two criteria (fill in):

1. He/she wants to quit smoking within one month (preparation stage)

   O No
   O Yes

   Eligible: Fill in question A

   A. Did he/she set a quit date?

   O No
   O Yes, When?
   ……/……../…….. (d/m/y)

2. He/she quits smoking in the last six months and calls for preventing relapse (action stage)

   O No
   O Yes

   Not eligible Fill in part III

   Eligible: Fill in question B and C

   B. How long since he/she did quit smoking?

   .......... days ago
   .......... weeks ago
   .......... months ago

   C. Has he/she smoked in the past 6 days

   O No
   O Yes

   Go to part II

   Go to part II
We are participating in a European project for improving the quitline services throughout Europe. This means that we would like to ask you some additional questions. The first couple of questions will take only ten minutes and can be done right now. A second questionnaire will be conducted one year from now by a telephonic research centre and will also take about ten minutes of your time. All answers will be held strictly confidential. If there are any questions you feel uncomfortable with you don’t need to answer them. Would you be interested in participating in this project?

O No → Thank you for calling. If you have more questions or you need support you can always call us → Fill in III

O Yes ↓

Is this the first time you have been asked to answer this additional questionnaire?

O No → It is not necessary to ask you the questions again, because you already answered them. Thank you for participating in the project → Fill in III

O Yes → Go to IV
IV Questions

Thank you for participating. First I like to ask you a few questions about your smoking habit, then a few questions about the quitline.

Maybe some questions will look similar to some I already asked you before, but for the research it is important that I ask these questions again but maybe in a slightly different way.

Instructions:
- Read out instructions to the caller shown in speech box in italics
- Ask the questions literally.
- Do not name the answer categories.
- Only ask questions if you do not know the answer yet!
- A variation to a response or an additional response is only acceptable to questions marked Additional response acceptable.

- Some questions are required to be asked in either the present or past sense. These are marked in square brackets [ ]. For callers in the action stage these questions have to be asked in the past sense.

1. [Do you/did you] smoke daily or occasionally?
   O Daily
   O Occasionally (=less than 1 cigarette per day)

2. What [do you/did you] smoke?
   (Additional response acceptable.)
   O Cigarettes
   O Hand-rolled cigarettes
   O Cigars
   O Pipe

3. How many [do you/did you] smoke?
   (Additional response acceptable; if necessary ask for an average number)
   .......... Cigarettes (number per day)
   .......... Hand-rolled cigarettes (number per day)
   .......... Cigars (number per day)
   .......... Pipe (number per day)

4. How soon after you wake up [do you/did you] smoke your first cigarette?
   O Within 5 minutes
   O 6 to 30 minutes
   O 31 to 60 minutes
   O After 60 minutes
5. Have you reduced the amount you smoke[d] within the last month [before your quitdate]?
   O Yes
   O No
   O Don’t know

6. Since you started smoking daily, how many times have you successfully quit using tobacco for at least 24 hours?
   .................(number of quit attempts) (if zero attempts go to question 8)

7. Thinking about your longest quit attempt, for how long did you stop?
   ................ O hours/O days/O weeks/O months/O years

8. Have you ever used treatments or health professionals to support you quitting?
   For example NRT, Zyban, self-help materials, stop smoking groups, counselling or an advice from a health professional.
   (mark all that apply)
   O No
   O Yes → What kind of treatments or health professionals?
   O Medication → O Zyban / Bupropion
                  O NRT – patches
                  O NRT – gum
                  O NRT – nasal spray
                  O NRT – inhaler
                  O NRT – lozenges
                  O NRT – sub-lingual tablet
   O Self-help materials (booklets, videos, tapes, websites)
   O Stop smoking group
   O Individual counselling
   O Quitline
   O Advice from → O Medical doctor
                   O General Practitioner
                   O Nurse
                   O Other: ...........................................
   O Allen Carr → O Book
                 → O Course
   O Acupuncture / Softlaser therapy
   O Hypnotherapy
   O Other (please state): ................................................
9. What specifically triggered you to decide to stop smoking? (Single most important one)
   O A health problem I have at present
   O Better for my health in general
   O Smoking is becoming anti-social
   O Smoking bans
   O Cigarette pack warning
   O Aesthetic and cosmetic reasons (smell, stained teeth)
   O I stopped liking it
   O I don’t like being addicted / I want to take control of my life
   O Doctor said I should stop
   O Family/friends wanted me to stop
   O The price of cigarettes
   O Pregnancy / Family planning
   O Worried about the effect on my children
   O Other (please state)………………………………………………………………………

10. At what age did you start smoking daily?
    ...................(age)

11. On a scale from 1-10, with 1 being not at all confident, and 10 being extremely confident, how confident are you that you will be able to stop smoking completely this time?

<table>
<thead>
<tr>
<th>Not at all confident</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>Extremely confident</th>
</tr>
</thead>
</table>

12. On a scale from 1-10, with 1 being not at all important, and 10 being extremely important, how important is it for you to stop smoking completely this time?

<table>
<thead>
<tr>
<th>Not at all important</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>Extremely important</th>
</tr>
</thead>
</table>

13. Are there relatives or friends or colleagues who support you in your quit attempt?
   O Yes
   O No

14. Do you have a partner?
   O No  → Go to question 18
   O Yes  → Go to question 15
15. Does your partner support you in your quit attempt?
   O No
   O Yes

16. Is your partner a smoker?
   O No, partner never smoked  → Go to question 18
   O No, partner is an ex-smoker  → Go to question 18
   O Yes  → Go to question 17

17. Does your partner want to quit smoking?
   O No, doesn’t want to quit
   O Yes, wants to quit

18. Could I have your date of birth?
   ...../......./....... (d/m/y)

Introduction:
*The following three questions are personal questions. The reason for asking these questions is that these topics are related to smoking.*

19. Have you ever had 2 weeks or more during which you felt sad, blue, or depressed or when you lost all interest or pleasure in things that you usually cared about or enjoyed?
   O No  → go to question 21
   O Yes

20. Did you have such a period of two weeks or more within the last month?
   O No
   O Yes

21. What is the highest level of education you have completed?
   (caller states actual educational level and counsellor categorizes)
   O GCSE
   O A-level
   O NVQ’s
   O graduate
   O Post graduate
22. Is this your first call to the quitline?
O No → How many times did you call to the quitline in the past?
   ..........(number of times)
O Yes

23. Where did you see the quitline number?
   (Additional response acceptable)
O Mass Media → O Radio
   O TV
   O Newspaper
   O Magazine
O Other advertising → O Billboard / transport
   O Phone book / Yellow book
   O Leaflets
   O Internet

O Cigarette pack warning
O Other: ........................................................................................................

24. Did someone refer you to our quitline?
   (Additional response acceptable)
O No
O Yes → who? → O Health professional → O General Practitioner
   O Medical doctor
   O Nurse
   O Midwife
   O Pharmacy
   O Dentist
   O Other health professional
   ........................................................................................................
   O Family / friends / colleagues
   O Self-referral
   O Other: .................................................................

25. Overall, how satisfied were you with the service you received from the quitline?
   Is this very, mostly, somewhat or not at all satisfied?
O Very satisfied
O Mostly satisfied
O Somewhat satisfied
O Not at all satisfied
Fill in part V – the caller’s details

After filling in part V:
Thank the caller for participating and finish the call

Summarize the call with two lines about the counselling part and two lines about the European project.
For example:
This was my last question. Thank you for participating in the project. You called us for........
.............................. If you have more questions or you need more support give us a call.

Go to part VI
Make sure you fill in part VI immediately after finishing the call

VI
Output

1.  Sex:  O Male
    O Female

2.  Outcome / Intervention (mark all that apply):
    O Basic information

    O Specific information → O Medication:  O Zyban
    O NRT (patches)
    O NRT (gum)
    O NRT (spray)
    O NRT (inhaler)
    O NRT (lozenges)
    O NRT (sublingual tablet)

    O Referrals:  O Stop smoking group
    O Allen Carr (book)
    O Allen Carr (course)
    O Acupuncture
    O Hypnotherapy
    O Health professional  →  O General Practitioner
    O Medical doctor
    O Nurse
    O Midwife
    O Pharmacy
O Dentist
O Other health professional:

………………………………………………………………………………………………………
O Other:
………………………………………………………………………………………………………

O Advice: What kind of advice?: ………………………………………………………………………

O Counselling:
O Proactive
O Reactive

O Literature sent:
O Flyer advertising the email service
O Quit smoking without putting on weight
O The quit guide to stopping smoking

O Other: ……………………………………………………………………………………………………………………

Definitions:
Basic information→ Objective / neutral information to the caller about facts, consequences of stopping smoking, cravings etc. (quick call)
Specific information→ Objective / neutral information to the caller about cessation methods, referral to the local smoking cessation services or referral to health professional
Advice→ Caller receives recommendations on how to quit smoking. For example what would be the best method and a recommendation for seeing a health professional.
Counselling→ Caller centred and person tailored, in-depth, motivational interaction
Literature sent→ Booklets / leaflets on quitting

Length of call (fill in):
…… Minutes excluding ESCHER-questionnaire
…… Minutes including ESCHER-questionnaire
Appendix D

12 Months follow-up questionnaire for callers
Good...
You are speaking to (name of interviewer) at TNS-NIPO.
I would like to speak to *? NAME.
*FONT 3 (Interviewer: ask to speak to the correct person) *FONT 0

1: Correct person on the phone
2: Correct person not present (make an appointment) *NONRESP “A”
3: Refusal *NONRESP “E”

*QUESTION 10 *CODES 428
About a year ago, you spoke to the *QUIT Smoking Cessation Helpline (in the UK).
At the end of that call, you gave your permission to participate in
a short telephone survey to evaluate stop smoking lines and your quit attempt.
You may have already received a letter about this recently.
This letter informed you that we have been commissioned by the
*Quit Smoking Cessation Helpline, and that we might call you for a short telephone interview, of no
more than 5 minutes as part of this continued research.

This is the reason I am calling you. Is this a suitable time?

1: Yes, continue
2: No, make an appointment *NONRESP “A”

*QUESTION 20 *CODES 429
We would like to ask you to answer the questions as honestly as possible.
There are no right or wrong answers. We are interested in your opinions.

9: Continue

*QUESTION 30 *CODES 430
About a year ago, you spoke with someone at
QUIT Smoking Cessation Helpline about quitting smoking.
We would like to know how you have been doing since then.
First of all, I would like to know what you thought about the conversation
you had a year ago.

9: Continue
*QUESTION 40 *CODES 431
Do you remember your reason for calling at the time? Did you have a question about help quitting smoking, or about information about quitting or about persevering in an attempt to quit?

1: A question about help quitting smoking
2: A question about information about quitting smoking
3: A question about persevering in an attempt to quit
8: Other *OPEN
9: Don’t know (or remember)

*QUESTION 50 *CODES 432
Did the information/advice/coaching meet your expectations?

1: Yes
2: No
9: Don’t know (or remember)

*QUESTION 60 *CODES 433L19 *MULTI *IF [ Q50 , 2 ]
In what way did the information/advice/coaching not meet your expectations?
*FONT 3 (Interviewer: do not help, more than one answer possible) *FONT 0

2: Unclear information
3: Information too general
4: Information too limited
5: Not encouraging
6: Impersonal
7: Too little assistance
8: Contact not frequent enough
9: Not knowledgeable
10: Person not nice
11: Little understanding
18: Other, namely *OPEN
19: Really don’t know (or remember) *NMUL

*QUESTION 70 *CODES 452
As a result of the conversation, has not smoking or quitting smoking become easier or more difficult?
*FONT 3 (Interviewer: read out 1-7) *FONT 0
1: Much easier
2: Easier
3: A little easier
4: Not easier and not more difficult
5: A little more difficult
6: More difficult
7: A lot more difficult
9: Don't know

*QUESTION 80 CODES 453L2
On a scale from 1 to 10, can you say how satisfied you are with the information/advice/coaching that you received 12 months ago from QUIT Smoking Cessation Helpline?
1 is very dissatisfied and 10 is very satisfied.

1: 1
2: 2
3: 3
4: 4
5: 5
6: 6
7: 7
8: 8
9: 9
10: 10
11: Don't know

*QUESTION 90 FORM
In the past 12 months, what is the total number of times you have been in touch with QUIT?
*FONT 3 (Interviewer: this includes the conversation 12 months ago. If the subject really does not remember, type 999) *FONT 0

1: *NUMBER 455L3 RANGE [ 1 TO 200 ; 999 ] Number of times

*QUESTION 100 CODES 458
Now I would like to ask you some questions about smoking.
Do you currently smoke or have you quit smoking?

1: Smokes
2: Has quit
*QUESTION 110 *CODES 459L9 *MULTI *IF [ Q100 , 1 ]
What do you smoke?
*FONT 3 (Interviewer: do not help, more than one answer possible) *FONT 0

1: Cigarettes
2: Roll-ups
3: Cigars
4: A pipe

*QUESTION 120 *FORM *CONTROL Q110 W
On average, how much do you smoke a day?
*FONT 3 (Interviewer: complete all fields, if the answer is don’t know, then type 999) *FONT 0

1: Cigarettes *NUMBER 468L3 *RANGE [ 0 TO 100 ; 999 ]
2: Roll-ups *NUMBER 471L3 *RANGE [ 0 TO 100 ; 999 ]
3: Cigars *NUMBER 468L3 *RANGE [ 0 TO 100 ; 999 ]
4: Pipe *NUMBER 477L3 *RANGE [ 0 TO 100 ; 999 ]
5: DUMMY *NUMBER 480L3 *RANGE [ 0 TO 100 ; 999 ]
6: DUMMY *NUMBER 483L3 *RANGE [ 0 TO 100 ; 999 ]
7: DUMMY *NUMBER 486L3 *RANGE [ 0 TO 100 ; 999 ]
8: DUMMY *NUMBER 489L3 *RANGE [ 0 TO 100 ; 999 ]

*QUESTION 130 *CODES 492
Have you smoked any cigarettes and/or roll-ups and/or cigars and/or pipe in the last 7 days?

1: Yes
2: No

*QUESTION 140 *CODES 493 *IF [ Q100 , 1 ]
Do you plan to quit smoking in the future?

1: Yes, within 1 month
2: Yes, within 6 months, but not in the coming month
3: Yes, within a year, but not in the coming 6 months
4: Yes, within 5 years
5: Yes, but not within 5 years
9: No, I do not plan to quit
*QUESTION 150 *CODES 494
After the conversation with QUIT, did you reduce the number of cigarettes and/or roll-ups and/or cigars and/or pipe you smoke each day?

1: Yes
2: No
9: Not applicable, quit smoking immediately after the conversation or had already stopped before the conversation.

*QUESTION 160 *CODES 495
Have you made any attempts to quit since you spoke to QUIT 12 months ago?
Attempt to quit means that you did not smoke a cigarette for at least 24 hours.

1: Yes, 1 attempt to quit
2: Yes, 2 attempts to quit
3: Yes, more than 2 attempts to quit, namely (enter number) *OPEN

8: No
9: I had already quit at the time and I have not smoked since.

*QUESTION 170 *CODES 496 *IF [ Q160 , 1 ]
How soon after the conversation with QUIT did you quit smoking?
*FONT 3 (Interviewer: Enter the time unit first here, in the next screen you can enter the number of days/weeks/months) *FONT 0

1: Days
2: Weeks
3: Months
9: Won’t say

*QUESTION 171 *FORM *NCLS *CONTROL Q170 W *BUT 999 "Wil niet zeggen"
*FONT 3 (Interviewer: Enter the number here) *FONT 0

1:days  *NUMBER 497L3 *RANGE [ 1 TO 400 ; 999 ]
2:weeks  *NUMBER 500L3 *RANGE [ 1 TO 60 ; 999 ]
3:months *NUMBER 503L3 *RANGE [ 1 TO 15 ; 999 ]
*QUESTION 180 *CODES 506 *IF [ Q160 , 2 - 3 ]
The following questions refer to your first attempt to quit following the conversation with QUIT
How soon after the conversation with QUIT did you quit smoking for the first time?
*FONT 3 (Interviewer: Enter the time unit first here, in the next screen you can enter the number of days/weeks/months) *FONT 0

1: Days
2: Weeks
3: Months
9: Won’t say

*QUESTION 181 *FORM *NCLS *CONTROL Q180 W *BUT 999 "Wil niet zeggen"
*FONT 3 (Interviewer: Enter the number here) *FONT 0

1:days  *NUMBER 507L3 *RANGE [ 1 TO 400 ; 999 ]
2:weeks  *NUMBER 510L3 *RANGE [ 1 TO 60 ; 999 ]
3:months  *NUMBER 513L3 *RANGE [ 1 TO 15 ; 999 ]

**Indien vraag 10, code 2 en vraag 16, code 1:
*QUESTION 190 *CODES 516 *IF [ Q100 , 2 & Q160 , 1 ]
How long has it been since you quit smoking?
*FONT 3 (Interviewer: Enter the time unit first here, in the next screen you can enter the number of days/weeks/months) *FONT 0

1: Days
2: Weeks
3: Months
9: Won’t say

*QUESTION 191 *FORM *NCLS *CONTROL Q190 W *BUT 999 "Wil niet zeggen"
*FONT 3 (Interviewer: Enter the number here) *FONT 0

1:days  *NUMBER 517L3 *RANGE [ 1 TO 400 ; 999 ]
2:weeks  *NUMBER 520L3 *RANGE [ 1 TO 60 ; 999 ]
3:months  *NUMBER 523L3 *RANGE [ 1 TO 15 ; 999 ]
**QUESTION 200** *CODES 526 *IF [ Q100, 1 & Q160, 1 ]
How long did your attempt to quit last?
*FONT 3 (Interviewer: Enter the time unit first here, in the next screen you can enter the number of days/weeks/months) *FONT 0

1: Days
2: Weeks
3: Months
9: Won’t say

**QUESTION 201** *FORM *NCLS *CONTROL Q200 W *BUT 999 "Wil niet zeggen"
*FONT 3 (Interviewer: Enter the number here) *FONT 0

1:days *NUMBER 527L3 *RANGE [ 1 TO 400 ; 999 ]
2:weeks *NUMBER 530L3 *RANGE [ 1 TO 60 ; 999 ]
3:months *NUMBER 533L3 *RANGE [ 1 TO 15 ; 999 ]

**Indien vraag 10, code 2 en vraag 16, code 1:**

*QUESTION 210 *CODES 536 *IF [ Q100, 2 & Q160, 1 ]
Have you smoked since your last attempt to quit?

1: No, not a single drag
2: Yes, 1-5 cigarettes and/or roll-ups and/or cigars and/or pipe in total
3: Yes, more than 5 cigarettes and/or roll-ups and/or cigars and/or pipe in total

**Indien vraag 16, code 1 en vraag 20, code 2 of 3:**

*QUESTION 220 *CODES 537 *IF [ Q160, 1 & Q210, 2 - 3 ]
If we look at the period starting 2 weeks after the first day of your attempt to quit, did you smoke during your attempt to quit?

1: No, not a single drag
2: Yes, 1-5 cigarettes and/or roll-ups and/or cigars and/or pipe in total
3: Yes, more than 5 cigarettes and/or roll-ups and/or cigars and/or pipe in total
*QUESTION 230 *CODES 538 *IF [ Q100, 1 & Q160, 1 ]
Did you smoke during your attempt to quit?

1: No, not a single drag
2: Yes, 1-5 cigarettes and/or roll-ups and/or cigars and/or pipe in total
3: Yes, more than 5 cigarettes and/or roll-ups and/or cigars and/or pipe in total

*QUESTION 240 *CODES 539 *IF [ Q230, 2 - 3 ]
If we look at the period starting 2 weeks after the first day of your first attempt to quit, did you smoke during your first attempt to quit?

1: No, not a single drag
2: Yes, 1-5 cigarettes and/or roll-ups and/or cigars and/or pipe in total
3: Yes, more than 5 cigarettes and/or roll-ups and/or cigars and/or pipe in total
4: Not applicable, attempt to quit was shorter than two weeks

*QUESTION 250 *CODES 540L99 *MULTI *IF [ Q160, 1 ]
Did you use one or more of the following aids or methods in your attempt to quit smoking?

*FONT 3 (Interviewer: read out everything and make a note of answers given) *FONT 0

MEDICATION
12: Zyban (Bupropion)
13: Nortriptyline

NICOTINE REPLACEMENT THERAPY (NRT)
22: Patches
23: Chewing gum
24: Lozenges
25: Microtabs

METHODS/THERAPY
32: Quit smoking group (e.g. Pakje Kans)
33: Allen Carr (book)
34: Allen Carr (course)
35: Acupuncture / soft laser therapy
36: Hypnotherapy

HEALTHCARE/ADVICE FROM...
42: GP
43: Doctor
44: Nurse
45: Midwife
46: Chemist
47: Dentist
48: Other *OPEN

COACHING
52: Individual counselling / coaching (by professional healthcare provider)
53: Telephone support

OTHER METHODS
62: Self-help materials (books, videos, tapes, websites)

98: Other *OPEN
99: None of the above *NMUL

*QUESTION 260 *CODES 639 *IF [ Q160 , 2 - 3 ]
How long did your first attempt to quit last?
*FONT 3 (Interviewer: Enter the time unit first here, in the next screen you can enter the number of days/weeks/months) *FONT 0

1: Days
2: Weeks
3: Months
9: Won't say

*QUESTION 261 *FORM *NCLS *CONTROL Q260 W *BUT 999 "Wil niet zeggen"
*FONT 3 (Interviewer: Enter the number here) *FONT 0

1:days  *NUMBER 640L3 *RANGE [ 1 TO 400 ; 999 ]
2:weeks  *NUMBER 643L3 *RANGE [ 1 TO 60 ; 999 ]
3:months *NUMBER 646L3 *RANGE [ 1 TO 15 ; 999 ]

*QUESTION 270 *CODES 649 *IF [ Q160 , 2 - 3 ]
Did you smoke during your first attempt to quit?

1: No, not a single drag
2: Yes, 1-5 cigarettes and/or roll-ups and/or cigars and/or pipe in total
3: Yes, more than 5 cigarettes and/or roll-ups and/or cigars and/or pipe in total
*QUESTION 280 *CODES 650 *IF [ Q270 , 2 - 3 ]
If we look at the period starting 2 weeks after the first day of your first attempt to quit, did you smoke during your first attempt to quit?
This refers to smoking during your first attempt to quit.

1: No, not a single drag
2: Yes, 1-5 cigarettes and/or roll-ups and/or cigars and/or pipe in total
3: Yes, more than 5 cigarettes and/or roll-ups and/or cigars and/or pipe in total
4: Not applicable, attempt to quit was shorter than two weeks

*QUESTION 290 *CODES 651L99 *MULTI *IF [ Q160 , 2 - 3 ]
Did you use one or more of the following aids or methods in your first attempt to quit smoking?

*FONT 3 (Interviewer: read out everything and make a note of answers given) *FONT 0

**MEDICATION**
12: Zyban (Bupropion)
13: Nortriptyline

**NICOTINE REPLACEMENT THERAPY (NRT)**
22: Patches
23: Chewing gum
24: Lozenges
25: Microtabs

**METHODS/ThERAPY**
32: Quit smoking group (e.g. NHS Stop Smoking Service)
33: Allen Carr (book)
34: Allen Carr (course)
35: Acupuncture / soft laser therapy
36: Hypnotherapy

**HEALTHCARE/ADVICE FROM...**
42: GP
43: Doctor
44: Nurse
45: Midwife
46: Chemist
47: Dentist
48: Other *OPEN
COACHING
52: Individual counselling / coaching (by professional healthcare provider)
53: Telephone support

OTHER METHODS
62: Self-help materials (books, videos, tapes, websites)

98: Other *OPEN
99: None of the above *NMUL

*QUESTION 300 *CODES 750 *IF [ Q160 , 2 - 3 ]
The following questions refer to your second attempt to quit following the conversation with *? NAME_ADVIESCENTRUM.
How soon after the failure of your first attempt to quit did you quit smoking for the second time?
*FONT 3 (Interviewer: Enter the time unit first here, in the next screen you can enter the number of days/weeks/months) *FONT 0

1: Days
2: Weeks
3: Months
9: Won’t say

*QUESTION 301 *FORM *NCLS *CONTROL Q300 W *BUT 999 "Wil niet zeggen"
*FONT 3 (Interviewer: Enter the number here) *FONT 0

1: days *NUMBER 751L3 *RANGE [ 1 TO 400 ; 999 ]
2: weeks *NUMBER 754L3 *RANGE [ 1 TO 60 ; 999 ]
3: months *NUMBER 757L3 *RANGE [ 1 TO 15 ; 999 ]

*QUESTION 310 *CODES 760 *IF [ Q160 , 2 - 3 ]
How long did your second attempt to quit last?
*FONT 3 (Interviewer: Enter the time unit first here, in the next screen you can enter the number of days/weeks/months) *FONT 0

1: Days
2: Weeks
3: Months
9: Won’t say
*QUESTION 311 *FORM *NCLS *CONTROL Q310 W *BUT 999 "Wil niet zeggen"
*FONT 3 (Interviewer: Enter the number here) *FONT 0

1:days *NUMBER 761L3 *RANGE [ 1 TO 400 ; 999 ]
2:weeks *NUMBER 764L3 *RANGE [ 1 TO 60 ; 999 ]
3:months *NUMBER 767L3 *RANGE [ 1 TO 15 ; 999 ]

*QUESTION 320 *CODES 770 *IF [ Q160 , 2 - 3 ]
Did you smoke during your second attempt to quit?

1: No, not a single drag
2: Yes, 1-5 cigarettes and/or roll-ups and/or cigars and/or pipe in total
3: Yes, more than 5 cigarettes and/or roll-ups and/or cigars and/or pipe in total

*QUESTION 330 *CODES 771 *IF [ Q320 , 2 - 3 ]
If we look at the period starting 2 weeks after the first day of your second attempt to quit, did you smoke during your second attempt to quit?
This refers to smoking during your second attempt to quit.

1: No, not a single drag
2: Yes, 1-5 cigarettes and/or roll-ups and/or cigars and/or pipe in total
3: Yes, more than 5 cigarettes and/or roll-ups and/or cigars and/or pipe in total
4: Not applicable, second attempt to quit was shorter than two weeks

*QUESTION 340 *CODES 772L99 *MULTI *IF [ Q160 , 2 - 3 ]
Did you use one or more of the following aids or methods in your second attempt to quit smoking?
*FONT 3 (Interviewer: read out everything and make a note of answers given) *FONT 0

   MEDICATION
12: Zyban (Bupropion)
13: Nortriptyline

   NICOTINE REPLACEMENT THERAPY (NRT)
22: Patches
23: Chewing gum
24: Lozenges
25: Microtabs

   METHODS/THERAPY
32: Quit smoking group (e.g. NHS Stop Smoking Service)
33: Allen Carr (book)
34: Allen Carr (course)
35: Acupuncture / soft laser therapy
36: Hypnotherapy

HEALTHCARE/ADVICE FROM...
42: GP
43: Doctor
44: Nurse
45: Midwife
46: Chemist
47: Dentist
48: Other *OPEN

COACHING
52: Individual counselling / coaching (by professional healthcare provider)
53: Telephone support

OTHER METHODS
62: Self-help materials (books, videos, tapes, websites)

98: Other *OPEN
99: None of the above *NMUL

** Was al gestopt en is dat nog steeds
*IF [ Q160 , 9 ] *GOTO 350 *ELSE *GOTO 400
*QUESTION 350 *CODES 871
How long before the conversation with *? NAME_ADVIESCENTRUM did you quit smoking?
*FONT 3 (Interviewer: Enter the time unit first here, in the next screen you
can enter the number of days/weeks/months) *FONT 0

1: Days
2: Weeks
3: Months

9: Won't say
*QUESTION 351 *FORM *NCLS *CONTROL Q350 W *BUT 999 "Wil niet zeggen"
*FONT 3 (Interviewer: Enter the number here) *FONT 0

1: days  *NUMBER 872L3 *RANGE [ 1 TO 930 ; 999 ]
2: weeks  *NUMBER 875L3 *RANGE [ 1 TO 130 ; 999 ]
3: months  *NUMBER 878L3 *RANGE [ 1 TO 30 ; 999 ]

*QUESTION 360 *CODES 881
How long has it been since you quit smoking?
*FONT 3 (Interviewer: Enter the time unit first here, in the next screen you
  can enter the number of days/weeks/months) *FONT 0

1: Days
2: Weeks
3: Months
9: Won't say

*QUESTION 361 *FORM *NCLS *CONTROL Q360 W *BUT 999 "Wil niet zeggen"
*FONT 3 (Interviewer: Enter the number here) *FONT 0

1: days  *NUMBER 882L3 *RANGE [ 1 TO 930 ; 999 ]
2: weeks  *NUMBER 885L3 *RANGE [ 1 TO 130 ; 999 ]
3: months  *NUMBER 888L3 *RANGE [ 1 TO 30 ; 999 ]

*QUESTION 370 *CODES 891
Have you smoked since your attempt to quit?

1: No, not a single drag
2: Yes, 1-5 cigarettes and/or roll-ups and/or cigars and/or pipe in total
3: Yes, more than 5 cigarettes and/or roll-ups and/or cigars and/or pipe in total

*QUESTION 380 *CODES 892 *IF [ Q370 , 2 - 3 ]
If we look at the period starting 2 weeks after the first day of your attempt to quit, did you smoke
during your attempt to quit?

1: No, not a single drag
2: Yes, 1-5 cigarettes and/or roll-ups and/or cigars and/or pipe in total
3: Yes, more than 5 cigarettes and/or roll-ups and/or cigars and/or pipe in total
*QUESTION 390 *CODES 893L99 *MULTI
Did you use one or more of the following aids or methods in your attempt to quit smoking?
*FONT 3 (Interviewer: read out everything and make a note of answers given) *FONT 0

MEDICATION
12: Zyban (Bupropion)
13: Nortriptyline

NICOTINE REPLACEMENT THERAPY (NRT)
22: Patches
23: Chewing gum
24: Lozenges
25: Microtabs

METHODS/Therapy
32: Quit smoking group (e.g. NHS Stop Smoking Service)
33: Allen Carr (book)
34: Allen Carr (course)
35: Acupuncture / soft laser therapy
36: Hypnotherapy

HEALTHCARE/ADVICE FROM...
42: GP
43: Doctor
44: Nurse
45: Midwife
46: Chemist
47: Dentist
48: Other *OPEN

COACHING
52: Individual counselling / coaching (by professional healthcare provider)
53: Telephone support

OTHER METHODS
62: Self-help materials (books, videos, tapes, websites)

98: Other *OPEN
99: None of the above *NMUL
*QUESTION 400 *FORM *NCLS *CONTROL Q170 W *BUT 999999 "Wil niet zeggen"
May I ask your date of birth?

1:*NUMBER 992L6 (DD/MM/JJ)

*QUESTION 410 *CODES 998
The following questions are personal questions.
The reason we ask these questions is that they relate to smoking behaviour.
9: Continue

*QUESTION 420 *CODES 999
Have you ever experienced a period of two consecutive weeks (or longer) when you felt gloomy or depressed OR when you had lost all interest and sense of fun?

1: Yes
2: No *GOTO 6000

*QUESTION 430 *CODES 1000
If we look at the last 18 months, did you experience a period of two consecutive weeks (or longer) when you felt gloomy or depressed OR when you had lost all interest and sense of fun?

1: Yes
2: No *GOTO 6000

*QUESTION 440 *FORM
How many of these periods occurred in the past 18 months?
*FONT 3 (Interviewer: if the subject does not want to say, then type 998)
If the subject really does not remember, type 999) *FONT 0

1: *NUMBER 1001L3 *RANGE [ 1 TO 100 ; 998 ; 999 ]

*QUESTION 450 *CODES 1004
Since you spoke to **? NAME_Adviescentrum 12 months ago, have you had a period of depression?
1: Yes
2: No *GOTO 6000

*QUESTION 460 *FORM *NCLS *CONTROL Q170 W *BUT 999999 "Wil niet zeggen"
When was the first period of depression after the (first) attempt to quit?

1: *NUMBER 1005L6 begin-datum (DD/MM/JJ)

*QUESTION 470 *CODES 1011
How long did this period last?

1: Months
2: Weeks

9: Won’t say

*QUESTION 471 *FORM *NCLS *CONTROL Q470 W
*FONT 3 (Interviewer: Enter here) *FONT 0

1: Months *NUMBER 1012L3 *RANGE [ 0 TO 12 ; 999 ]
2: Weeks *NUMBER 1015L3 *RANGE [ 0 TO 52 ; 999 ]

*QUESTION 6000 *ALPHA 1018L200 *IF [ RAN 1 ]
Reserve space for any extra questions.

*GOTO 6907
*QUESTION 6905 *CODES 1218
That was the last question.
I would like to thank you very much for your assistance.

*FONT 3 (Interviewer: sufficient interviews have been held with this subject’s group)
   (Interviewer: type a 4) *FONT 0

4: Interview not successful, but can be used
   (Reason: stratification)

*COPY Q5000 Q6905
*ENDNGB
That was the last question.
I would like to thank you very much for your assistance.

*FONT 3 (Interviewer: Enter a 2) *FONT 0
2: Interview not successful, but can be used (Reason: outside target group)

*COPY Q5000 Q6906
*ENDNB
*QUESTION 6907 *CODES 1220
That was the last question. Thank you for your assistance.

*FONT 3 (Interviewer: Enter a 1) *FONT 0
1: Interview was successful.

*COPY Q5000 Q6907
*END