NAQC-RECOMMENDED QUALITY STANDARD: 
MEASURING QUIT RATES

IMPLEMENTATION GUIDE

Table of Contents

Purpose............................................................................................................................... 2
Implementation Timeline................................................................................................... 3
Key Definitions................................................................................................................... 3
  Consent Rate ............................................................................................................... 3
  Response Rate ............................................................................................................ 3
  Seven-month Follow-up .............................................................................................. 4
  Point Prevalence Abstinence ...................................................................................... 4
  Thirty-day Point Prevalence Abstinence ...................................................................... 4
  Seven-day Point Prevalence Abstinence .................................................................... 5
  Responder Rate .......................................................................................................... 5
  Intention-to-treat Rate ................................................................................................ 5
  Evidence-based Treatment ......................................................................................... 6
  Sampling ..................................................................................................................... 7
  Survey Mode .............................................................................................................. 7
Critical Recommendations from the NAQC Issue Paper ............................................... 8
  Obtain the Denominator ............................................................................................ 8
  Conduct Follow-up .................................................................................................... 9
  Obtain the Numerator ............................................................................................... 10
Report Results ............................................................................................................... 11
Interpreting Quit Rates .................................................................................................. 12
References ..................................................................................................................... 13
Calculating NAQC Standard Quit Rate Worksheet ......................................................... 14
Checklist of Items to Report with Quit Rates ................................................................. 16

© North American Quitline Consortium, 2009
Purpose

Tobacco users have access to quitlines throughout the United States, Canada, Mexico, and 30 other countries. A strong body of evidence supports the efficacy of telephone counseling for smoking cessation. Development of a standard measurement of quitline outcomes is desirable for several reasons:

- The expansion of quitline services has been accompanied by a growth in the number of quitline service providers. A standard measurement of outcomes is needed to assure that outcomes of these services are in the range that might be expected for an evidence-based treatment.
- The growth of quitline service providers creates the need for purchasers of quitline services to make choices between different potential providers. Standard measurement of program outcomes will help to inform purchasers during the selection process.
- The existence of standard outcome measures is important to inform program stakeholders and to argue for or justify continued funding. Standardization of outcome measures will help prevent unnecessary confusion among stakeholders.
- Standard evaluation of quitline services has the potential to facilitate identification and spur adoption of best practices.

While the calculation of a quit rate for quitlines is relatively straightforward (the number of quitline participants who stop using tobacco divided by the number of individuals who receive quitline services), there are many ways to define both the numerator and denominator. How each is defined can have a dramatic influence on the calculation of the quit rate.

The North American Quitline Consortium (NAQC) standard calculation for quit rates is designed to standardize not only the calculation of quit rates but also the definitions and measurements used to obtain both the numerator and the denominator for the quit-rate calculation. Several recent papers have provided recommendations on assessment of tobacco cessation outcomes as part of clinical trials. The goal here is to provide an easy-to-use evidence-based method to measure quitline outcomes that does not have the same degree of respondent burden and implementation cost as some of the other recommendations.

This document is intended to provide a quick and user-friendly reference to key definitions, a listing of the Critical Recommendations from the full Issue Paper that is available at http://www.naquitline.org/?page=qiiissuepapers, and a calculation worksheet.

Note: Quit rates are only one outcome evaluation measure, and outcome measures are only one type of evaluation that can be done. NAQC encourages quitlines to consider other types of evaluation (e.g., process evaluation) in their overall evaluation plan to ensure that the services that are delivered are delivered appropriately and according to
each quitline’s quality standards. Other NAQC Issue Papers will address these issues in more detail.

Implementation Timeline

Quitlines are encouraged to begin using the new standard definition and calculation as soon as possible. NAQC’s Issue Paper, “Measuring Quit Rates,” was finalized in the spring of 2009 and serves as the primary reference guide for calculating quit rates (available at http://www.naquitline.org/?page=qiiissuepapers). Technical assistance materials (including this Implementation Guide) were released in the fall of 2009. Technical assistance with implementation began in the fall of 2009 and will continue throughout 2010.

NAQC will not begin to collect data on quit rates using the new standard calculation until 2010 in order to work with quitlines to develop appropriate mechanisms for collecting and reporting on this information. To request technical assistance or to ask questions about using the NAQC standard quit-rate calculation, contact NAQC at naqc@naquitline.org or 602 279-2719.

Key Definitions

Consent Rate

Consent rate is the proportion of callers who agree to be contacted for evaluation purposes. Example: 100 people are asked at intake if they will agree to be called in 7 months to be asked about their experience with the quitline and with quitting. If 96 people say “yes,” the consent rate is 96%. Quitlines may vary in terms of the population that is asked to provide consent for follow-up; some may ask all callers to consent for follow-up, while others may only ask those who register for a multiple-call proactive counseling program. NAQC recommends including the population that was asked to provide consent along with the consent rate.

Response Rate

Response rate is the number of people who complete a survey divided by the number of people the evaluator attempted to reach to complete the survey. Example: 100 people are selected to be followed up at 7 months; 60 of them complete the survey. The response rate is 60%.
NAQC recommends that a response rate of at least 50% be achieved at follow-up when possible. See the Critical Recommendations section below for more on strategies to increase response rates.

Back to Top

Seven-month Follow-up
NAQC recommends that quitlines conduct follow-up 7 months following registration for quitline services (or date of first contact). This is equivalent to the 6-month quit-rate measurement commonly used in clinical trials and much of the literature. However, because most clinical trials measure abstinence from the end of treatment and because it can often be difficult to determine exactly when the end of treatment occurs in a real-world quitline setting, the 7-month timeframe allows for 1 month of treatment and a 6-month measurement from the approximated end of treatment.

Quitlines should strive to have the average time to follow-up be as close to the 7-month mark as possible. One strategy for this is to begin the follow-up window 2 weeks before the 7-month anniversary mark and end it 2 weeks after the 7-month anniversary mark (rather than to start making calls at the 7-month anniversary mark). NAQC recommends that quitlines report the average time to follow-up and the range of time to follow-up with the quit rate.

Back to Top

Point Prevalence Abstinence
Point prevalence abstinence is a method of measuring whether someone has stopped using a substance (in this case, tobacco) at a given point in time (in this case, 7 months after registering for services). In point prevalence abstinence measures, the interval for measuring the use of the substance in question is often shorter than in long-term abstinence measures.

Shorter term measures like point prevalence abstinence are recommended because
- there is a high degree of correlation between point prevalence and continuous abstinence measures,
- more published studies use point prevalence measures, and
- continuous abstinence measures often result in an underestimate of the true quit rate, given that many people relapse or slip in their quit attempts but then go on to achieve a successful quit.

Back to Top

Thirty-day Point Prevalence Abstinence
Thirty-day point prevalence abstinence is a measure of, in this case, tobacco cessation outcomes for quitlines. At a given point in time (in this case, 7 months after program registration), quitline participants are asked whether they have used cigarettes or other forms of tobacco in the past 30 days. Those who reply that they have not used tobacco in
the past 30 days are considered to have quit. Thirty-day point prevalence abstinence is measured with the Minimal Data Set (MDS) follow-up question: “Have you used any [INSERT TOBACCO TYPE], even a puff or pinch, in the last 30 days?” NAQC recommends 30-day point prevalence abstinence as the primary measure for reporting on quitline outcomes (See Reporting Checklist below).

Seven-day Point Prevalence Abstinence

Seven-day point prevalence abstinence is a measure of, in this case, tobacco cessation outcomes for quitlines. At a given point in time (in this case, 7 months after program registration), quitline participants are asked whether they have used cigarettes or other forms of tobacco in the past 7 days. Those who reply that they have not used tobacco in the past 7 days are considered to have quit. Seven-day point prevalence abstinence is measured with the optional MDS follow-up question “Have you used any [INSERT TOBACCO TYPE], even a puff or pinch, in the last 7 days?” While 7-day point prevalence abstinence is not recommended by NAQC as the primary measure for reporting on quitline outcomes, it may be very useful for quitlines to continue to measure and report on 7-day point prevalence outcomes for many reasons, including ensuring comparability of outcomes over time.

Responder Rate

The responder rate (RR) is a measure of quit rate in which the numerator is all respondents who report having quit using tobacco and the denominator is all those who responded to the survey. Example: If 100 people were in the sample for follow-up, 60 completed the survey, and 18 reported having quit using tobacco, the responder rate is 18 divided by 60, or 30%. The RR calculation produces a more optimistic quit-rate estimate for all quitline participants than the intention-to-treat (ITT) rate (see below).

NAQC recommends using the responder rate as the primary measure for reporting of quit rates according to the NAQC standard calculation of quit rates. Based on data from two quitlines (California and Minnesota), the responder rate appears to produce quit-rate estimates closer to the actual quit rate than the intention-to-treat rate does within the expected ranges of response rates. See the Issue Paper for more details at http://www.naquitline.org/?page=qiiissuepapers. Because the accuracy of the quit rate (RR or ITT) depends on the response rate, NAQC recommends that the response rate be reported along with the responder rate. (See the checklist below.)

Intention-to-treat Rate

The ITT quit rate is a measure of quit rate in which the numerator is all respondents who report having quit using tobacco and the denominator is all those in the follow-up sample, regardless of whether or not they completed the survey. All those who did not complete
the survey (or who did not answer the question about quit status) are assumed to be still using tobacco. Example: If 100 people were in the sample for follow-up, 60 completed the survey, and 18 reported having quit using tobacco, the intention-to-treat quit rate is 18 divided by 100, or 18%. The ITT calculation produces a more conservative estimate of the quit rate for all quitline participants.

Evidence-based Treatment

For the purposes of calculating quit rates for quitlines, evidence-based services include the provision of any amount of counseling or medications. Even a small amount of counseling has been shown to be effective in a clinical setting. While a clinical setting is not identical to a quitline setting, it is reasonable to assume that the same types of relationships exist between length of total contact time and outcomes for quitlines as for counseling in a clinical setting.

The 2008 Clinical Practice Guideline divides counseling into several categories based on total amount of person-to-person contact time in a clinical setting, from 1-3 minutes to more than 300 minutes (Fiore et al., 2009). (See Table 6.9 on page 85 of the Guideline for details.)

While any contact time significantly increased abstinence rates over those produced by no contact, there was a clear correlation between increased contact time and higher abstinence rates up to 90 minutes. There was no evidence that abstinence rates continued to increase beyond 90 minutes of total contact time (Fiore et al., 2009). For quitlines, time spent conducting intake or other assessment procedures should not be included in the calculation of the number of minutes of counseling. If quitlines cannot identify exactly when counseling starts, they should identify an average number of minutes for noncounseling activities (e.g., intake, assessment), and subtract that from the total number of minutes of interaction to obtain the number of minutes of counseling. Estimates are fine, especially if identifying an exact number would be burdensome for a quitline.

While it is not critical to be able to identify the exact number of minutes of counseling each caller received, quitlines are encouraged to consider how the total number of counseling minutes provided fits into their goals and available resources. Quitlines may want to examine the relationship between quit rates and total number of minutes of counseling in order to help answer the question of whether the differences in efficacy found in the literature for clinical settings also hold for telephone quitlines.

Medications counted as evidence-based treatment include nicotine replacement therapy (NRT), bupropion, and varenicline.

As new treatments amass sufficient proof of their efficacy, the list of evidence-based treatments will grow. For example, while the evidence base for Web-based services is still developing, a recent meta-analysis concluded that there is sufficient clinical evidence
to support the use of Web- and computer-based smoking cessation programs for adult smokers (Myung, 2009). Additional research is needed, especially to determine what elements of Web-based services are necessary to be effective. NAQC will review the literature and revise the definition of “evidence-based services” that should be counted in the calculation of quit rates on a regular basis.

Sampling
Choosing to conduct a 7-month follow-up survey with every eligible quitline participant can be costly. Yet it is critical that those surveyed for a quit-rate study represent the whole group of eligible participants fairly. One way to both contain the costs of an evaluation and to survey a representative group of program participants is random sampling: the process of systematically selecting a subset of participants to be included in a quit-rate evaluation. A random sample is based on the principle that each subject selected to participate has an equal probability of being included in the study. Random sampling may be conducted on an ongoing or rolling basis. NAQC considers this to be the optimal sampling strategy because seasonal variation can be controlled for and changes in protocol can be assessed. Other sampling strategies may also be employed, including single or multiple time-limited (cohort) sampling, and may meet the needs of individual quitlines. See the Critical Recommendations on Conducting Follow-up for more details.

Survey Mode
Survey mode refers to the method by which survey data is gathered. Common modes include telephone, mail, and Internet options, or some combination of the three. For quitlines, follow-up data collection by telephone may make the most sense because quitline services are also provided by telephone, and potential respondents may be more inclined to provide information in this format. However, telephone surveys can be expensive, and some combination of survey modes (e.g., mail or Internet surveys followed by telephone follow-up with nonresponders) may also work well and may reduce evaluation costs. Multiple modes may also help to increase response rates to or above the NAQC-recommended minimum of 50%. When using multiple modes, quitlines will need to consider the administrative costs of tracking multiple modes as well as logistical details, such as translating skip patterns appropriately to a paper or Internet-based survey.
Critical Recommendations from the NAQC Issue Paper

The full Issue Paper, “Measuring Quit Rates,” is available at http://www.naquitline.org/?page=qiissuepapers or by contacting naqc@naquitline.org.

Obtain the Denominator

1. Include in the denominator all tobacco users who:
   1.1. Are current tobacco users, or recent quitters at first contact/intake
      1.1.1. Quitlines should use MDS questions 5a-e “Do you currently [USE TOBACCO TYPE] every day/daily, some days/occasionally, or not at all?” to determine who should be counted as current tobacco users. Those reporting they currently use at least one form of tobacco every day/daily or some days/occasionally should be included in the quit-rate calculation, provided the remaining criteria apply.
   1.2. Have not been quit at first contact/intake/registration for more than 30 consecutive days
      1.2.1. Quitlines should use MDS questions 5a-e(2) “When was the last time you [USED TYPE OF TOBACCO] even a puff [or pinch]?” to determine who should be included in the quit-rate calculation. Those using tobacco within the past 30 days at intake, even if they report they currently use tobacco “not at all” (to question 5a-e) should be included in the quit-rate calculation, provided the remaining criteria apply.
   1.3. Consent to follow-up
      1.3.1. Quitlines can use consent questions that meet their needs. No standard consent question is recommended.
   1.4. Register for services (if the quitline registers any callers for services, either on the first call or subsequent calls) and receive some evidence-based treatment
      1.4.1. “Evidence-based treatment” is considered beginning the first counseling session and/or provision of NRT, bupropion, or varenicline through the quitline (see the definition for Evidence-based Treatment above). Time spent on intake or assessment should not be counted as counseling.
         1.4.1.1. The definition of treatment is expected to evolve as quitlines become more involved in providing a range of cessation services.
         1.4.1.2. NAQC will review the literature and revise the definition of “evidence-based services” that should be counted in the calculation of quit rates on a regular basis.
   1.4.2. Individuals who do not receive any counseling or NRT should not be included in quit-rate calculations.
      1.4.2.1. Failure to deliver counseling to individuals who register for services is a quitline quality issue that should be addressed in companion papers.
Conduct Follow-up

2. **Follow-up should be conducted 7 months following quitline enrollment** (or date of first contact).
   2.1. This is equivalent to the commonly used 6-month quit-rate measurement in clinical trials and much of the literature. However, since most clinical trials measure abstinence from the end of treatment, and because it can often be difficult to determine exactly when the end of treatment occurs in a real-world quitline setting, the 7-month time frame allows for 1 month of treatment and a 6-month measurement from the approximate end of treatment.
   2.2. Quitlines should strive to have the average time to follow-up be as close to the 7-month mark as possible. One strategy for this is to begin the follow-up window 2 weeks before the 7-month anniversary mark and end it 2 weeks after the 7-month anniversary mark (rather than to start making calls at the 7-month anniversary mark).
   2.3. Report the average time to follow-up and the range of time to follow-up with the quit rate.

3. **Select a sample for follow-up.**
   3.1. Select the sampling strategy that best meets the needs and resources of the quitline.
      3.1.1. Best: Select a random sample of callers on an ongoing rolling basis. This reduces evaluation cost and eliminates the influence of seasonal variation and environmental factors on caller characteristics.
      3.1.2. Better: Select consecutive (or random) callers during selected periods of time over the course of the year. This allows sampling cohorts to be chosen to measure the effect of changes in quitline protocols or the impact of environmental factors. Can also produce quit rates in a shorter period of time.
      3.1.3. Good: Conduct time-limited sampling at the same time each year. Repeating a survey at the same time each year can reduce the impact of seasonal variation, but environmental factors may still affect caller characteristics.
   3.2. Select a sample that will generate a reasonable confidence interval. A sample size of 400 is recommended based on its estimated ability to generate a confidence interval with a margin of error of +/-5% (CI=1 divided by the square root of N as a conservative estimate). Quitlines should obtain sample sizes that will generate confidence intervals for the specific calculations and comparisons they are most interested in, depending on the resources available. It may be useful to consult a statistician to determine the necessary sample size for your quitline.

4. **Select a combination of strategies appropriate to the quitline’s unique resources and needs in order to obtain a follow-up response rate of 50%.**
   4.1. Obtain consent at intake. Nonrespondents to follow-up surveys are more likely to be tobacco users. Therefore, seeking consent at intake, before the result of the quit attempt is known, should produce a more representative sample of survey contacts.
4.1.1. Consider consulting a Human Subjects Research or Institutional Review Board regarding consent procedures, as appropriate.

4.2. Consider obtaining additional contact information at intake and carefully attend to policies and protocols regarding survey introductions, conversion of soft refusals, and the number of attempts to increase response rates.

4.3. When response rates fall below the goal of 50%, consider using advance letters and incentives that literature has shown to be cost-effective and increase response rates.

4.4. When response rates fall below 50%, quit rates should be interpreted with caution because responder rates are likely to be much more optimistic estimates of the true quit rate, and intention-to-treat quit rates are likely to be much more conservative estimates of the true quit rate. Both RR and ITT rates are likely to be much less accurate when response rates fall below 50%.

4.5. NAQC can provide assistance for evaluating whether additional strategies to increase response rates would be helpful or worth the cost. Contact NAQC at naqc@naquitline.org or 602 279-2719.

5. Mode for follow-up

5.1. Conduct follow-up surveys by telephone. There is no need to use other modes for follow-up (if a quitline is not already using multiple modes for follow-up) unless a follow-up response rate of at least 50% is not achieved. If alternate modes are already in use, there is no need to discontinue using those modes. This recommendation is based on the assumption that most quitlines are conducting follow-up by telephone. If quitlines wish to use other modes of follow-up primarily and only use telephone follow-up to reach nonresponders, they should feel free to do so as long as response rates remain above 50%. This may also help cut the costs of conducting evaluation.

6. The Evaluation Team

6.1. Use an evaluator with experience in quitline evaluation.

6.2. Evaluation may be conducted by an external evaluator or internally by quitline service providers as long as those individuals conducting the evaluation are entirely separate from and independent of the counseling staff.

6.3. Select an evaluation team based upon transparency of reporting and demonstrated ability to achieve adequate response rates on follow-up evaluation surveys.

Obtain the Numerator

7. Measure and report 30-day point prevalence abstinence.

7.1. Use the MDS item for 30-day point prevalence abstinence.

7.1.1. This measure is recommended because it: (a) is commonly used in the literature; (b) has a high degree of correlation with prolonged abstinence measures; (c) is used in more studies than prolonged abstinence measures; (d) is less likely to underestimate the percentage of individuals who eventually become abstinent than continuous abstinence measures; (e) assures that individuals who are newly quit (and thus most likely to relapse)
are not counted as “successes” in the quit-rate calculation; and (f) is easier to explain to people outside the tobacco control field.

7.2. Divide the number reporting they have not used tobacco in the past 30 days at 7-month follow-up by the number completing the survey. (See the worksheet for details on completing this calculation.)

8. **Do not conduct biochemical validation. The literature shows that self-reported smoking behavior is an adequate means to measure quit rates for tobacco cessation programs.**

8.1. Remain aware that self-reported quit rates are likely to include some small amount of inflation and that this inflation is likely to be higher if the special populations you measured feel an elevated social expectation to quit or a greater need to hide their smoking (e.g., pregnant women, recent immigrants).

9. **Report the follow-up survey response rate along with the quit rate.**

10. Use the responder rate (RR) quit rate (number quit divided by the number of follow-up survey respondents) as the primary measure for reporting quitline outcomes.

10.1. NAQC can help quitlines explain changes in how quit rates are reported.

10.2. Other types of calculations of quit rates should still be used where they are useful for historical comparison or other purposes.

11. **Report information about program intensity with quit rates.**

11.1. Duration of programming

11.2. Availability of NRT or other medications

11.3. Special counseling strategies and protocols

11.4. Special counseling content

12. **Calculate numerators and denominators separately for each program.** For example, callers in a multical program providing NRT could be grouped in separate numerators and denominators from those participating in a one-call brief counseling intervention with no NRT.

12.1. Note: This may not be desirable or advisable depending on the numbers of callers served in each program. NAQC can provide assistance in determining whether it would be advisable to calculate separate quit rates for separate counseling protocols.

12.2. For quitlines that have a program designed specifically to serve those who have already quit (i.e., those whose date of last tobacco use was 31 days or more before first contact with the quitline), callers who have already quit should be treated as a special target population and a separate numerator and denominator should be calculated for this group.

12.3. Quitlines are encouraged to calculate separate quit rates for the different categories of quitline counseling intensity that are actually received by callers. (See **Key Definitions** above for the definitions of minimal, low-intensity, and higher-intensity counseling.)
13. **Report additional variables that have been shown to influence quit rates.** (See checklist.)

13.1. Report confidence intervals with all abstinence rates, and include the number of subjects used in the calculation.

13.2. Report information about the demographic and clinical characteristics of callers and program characteristics.

13.2.1. Quitlines may want to compare demographic and clinical characteristics as well as utilization information between respondents and nonrespondents to the follow-up survey as a means of understanding potential response bias.

13.3. Explore the possibility of reporting abstinence-rate findings as odds ratios via logistic regression. If conducted, relative risk and differential probabilities should also be reported.

**Back to Top**

### Interpreting Quit Rates

14. **Use caution when comparing one quitline’s quit rate to those of other quitlines.** Consider the similarity of the quitline programs as well as the demographic and tobacco use characteristics of respondents.

14.1. Quitlines will want to consider elements contained in the checklist when determining how similar the services provided by each quitline are. In addition to the types of services offered by the quitlines, the ways that callers use the services will be important to consider (e.g., number of calls completed, number of minutes of counseling).

14.2. Quitlines may want to consider the following when interpreting their own quit rates:

14.2.1. How do the respondents compare with nonrespondents in terms of tobacco use characteristics and demographics?

14.2.2. How do respondents compare with nonrespondents in terms of utilization of services?

14.2.3. How do callers who consent to follow-up compare with those who decline to consent?

14.2.4. Quit rates obtained with a response rate of less than 50% should be interpreted with caution.

**Back to Top**
References


Back to Top
## Calculating NAQC Standard Quit Rate Worksheet

Please note that the calculation below is for the NAQC standard calculation of quit rates ONLY. There are many other ways to calculate quit rates. Quitlines should continue to use calculations they have found useful in the past and include specific populations in the numerator and denominator as is most useful and appropriate for their needs (e.g., using the 7-day point prevalence abstinence measurement rather than the 30-day measurement). Follow-up can be conducted with the populations each quitline feels are most appropriate for its needs, goals, and available resources. When calculating the NAQC standard quit rate, the following procedures should be used.

<table>
<thead>
<tr>
<th>Step 1. Select all callers.</th>
<th>Data source</th>
<th>Notes</th>
<th>Calculations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Quitline records</td>
<td><em>Includes all those calling for themselves or others. Does not need to be de-duplicated at this point.</em></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 2. Exclude prank calls, hang-ups, wrong numbers, etc.</th>
<th>Data source</th>
<th>Notes</th>
<th>Calculations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Quitline records</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 3. Exclude proxy callers.</th>
<th>Data source</th>
<th>Notes</th>
<th>Calculations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MDS item: “Just to confirm, are you calling for yourself, or on behalf of or to help someone else?”</td>
<td><em>Those calling on behalf of or to help someone else should be excluded.</em></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 4. Exclude all nontobacco users.</th>
<th>Data source</th>
<th>Notes</th>
<th>Calculations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MDS intake items: “When was the last time you [USED TYPE OF TOBACCO] even a puff [or pinch]?”</td>
<td><em>Anyone whose date of last tobacco use was within 30 days of first contact with the quitline should be included in the quit-rate calculation. If the date of last use for ALL types of tobacco was more than 30 days prior to first contact with the quitline, they should be excluded from the quit-rate calculation.</em></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 5. Exclude all those who did not consent to follow-up.</th>
<th>Data source</th>
<th>Notes</th>
<th>Calculations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Quitline records</td>
<td><em>Each quitline will have its own requirements for and methods of requesting consent for follow-up. If a caller declines to give consent for follow-up, they should not be followed up and should not be included in the quit-rate calculation.</em></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 6.</th>
<th>Data source</th>
<th>Notes</th>
<th>Calculations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MDS Intake</td>
<td><em>Receipt of evidence-based</em></td>
<td></td>
</tr>
<tr>
<td>Step</td>
<td>Description</td>
<td></td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>-------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 7.</td>
<td>De-duplicate list. Quitline records Make sure each individual is calling only once. The de-duplication process can be done at any point.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 8.</td>
<td>Select a sample for follow-up survey. Select sample from the total population identified in step 7 above Recommend rolling sample of randomly selected participants, if possible. (See the Critical Recommendations on Conducting Follow-up for alternative sampling strategies.) N=</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 9.</td>
<td>Identify number of responders to the survey. Follow-up survey results Follow-up should be conducted 7 months following quitline enrollment (or date of first contact). Enter number of completed surveys in box at right. N=</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 10.</td>
<td>Obtain a response rate. Follow-up survey results—strive to have at least 50% complete the survey. The number of participants who completed a follow-up survey (and provided a response to the quit-status question) divided by the number in the sample Divide total on line 9 by total on line 8 above = %</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 11.</td>
<td>Assess quit status of respondents. MDS follow-up item: “Have you smoked any cigarettes or used other tobacco, even a puff or pinch, in the last 30 days?” Enter the number of respondents who reply “no” to the MDS question at left in the box at right. N=</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 12.</td>
<td>Calculate NAQC quit rate. Responder rate using 30-day point prevalence measure Divide the number in step 11 (those replying “no” to the question “Have you smoked any cigarettes or used other tobacco, even a puff or pinch, in the last 30 days?”) by the total number of respondents in step 9. Quit rate = %</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Checklist of Items to Report with Quit Rates

☐ 30-day point prevalence abstinence rate (responder rate), calculated at 7 months after intake/registration/first contact. (See the worksheet above for step-by-step instructions.)
☐ Confidence intervals
☐ Consent rate and description of population asked to provide consent
☐ Total N in the follow-up sample
☐ Total n of respondents
☐ Response rate
☐ Average and range of time to follow-up
☐ Who conducted the evaluation (e.g., internal or external to the quitline)

☐ Description of the program
  ☐ Type of protocol (single vs. multiple call protocol, proactive vs. reactive)
  ☐ Number of calls indicated by the protocol and average number of calls completed
  ☐ Optional: Average number of total (cumulative) minutes of counseling
  ☐ Duration of program (e.g., typically five calls over a 2-month period; reactive support for up to 12 months)
  ☐ Special counseling strategies, protocols and content (if any)
  ☐ NRT or other medications provided (types and amounts)
  ☐ If reporting a single quit rate for all types of programs and protocols together, provide proportions of people served by each program.
  ☐ Quitlines may also want to consider calculating quit rates for each category of counseling intensity actually received (minimal, low, higher), for different categories of number of calls completed, or for combinations of counseling intensity, number of calls, number of minutes and medication use.

☐ Eligibility criteria for the program
☐ Demographics of callers for each program or group of programs included in the quit-rate calculation. (Use MDS items where applicable.)
  ☐ Gender (percentage male and percentage female)
  ☐ Age (mean, median, minimum, maximum)
  ☐ Ethnicity (in the United States only; percentage Hispanic/Latino)
  ☐ Race (percentage reporting each major race and ethnicity category as listed in the MDS for Canada and the United States)
  ☐ Insurance status (in the United States only; percentage uninsured, percentage with government-sponsored insurance, percentage with private insurance)

☐ Tobacco use characteristics of callers for each program or group of programs included in the quit-rate calculation
  ☐ Every day and daily tobacco users vs. some day and occasional tobacco users vs. not-at-all tobacco users (“not-at-all” tobacco users would include only those who have quit within the past 30 days)
  ☐ Cigarettes per day (percentage of callers falling into light, moderate, and heavy categories)
  ☐ Time to first cigarette (percentage reporting in each category as listed in the MDS)
  ☐ Readiness to quit (percentage reporting in each category as listed in the MDS)