Promoting Quitting Among Adults and Young People:

Outcome Indicators for Comprehensive Tobacco Control Programs—2015

National Center for Chronic Disease Prevention and Health Promotion
Division name here

Acknowledgments

This technical assistance guide was developed by the Centers for Disease Control and Prevention's Office on Smoking and Health. The resource was developed as the second part of a three-part series of technical assistance guides intended to update the first three goal areas of the *Key Outcome Indicators for Evaluating Comprehensive Tobacco Control Programs*, released in 2005. The guide is intended to help state and territorial health departments plan and evaluate state tobacco control programs. The updated guides can be found at the following web address: http://www.cdc.gov/tobacco/stateandcommunity/tobacco_control_programs/surveillance_evaluation/index.htm.

We would like to extend special thanks to the following individuals for their assistance in preparing and reviewing this publication:

Expert Panel Members (Appendix B)

Outcome Indicator Workgroup (Appendix B)

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Suggested Citation

Suggested Citation: Centers for Disease Control and Prevention. *Promoting quitting among adults and young people: outcome indicators for comprehensive tobacco control programs*—2015. Atlanta, GA: Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health; 2015.

Preface

Purpose

Cigarette smoking is the leading cause of preventable illness and death in the United States and has been causally linked to diseases of nearly all organs of the body.[1,2] More than 20 million Americans have died as a result of smoking since the first Surgeon General's report on smoking and health was released in 1964.[1] The earlier in life an individual successfully quits using tobacco products, the lower the person's likelihood of suffering tobacco-related disease.[2] Promoting cessation is a core component of state tobacco control programs' efforts to reduce tobacco use.[3,4] Encouraging and helping tobacco users to quit is the quickest approach to reducing tobacco-related disease, death, and health care costs.[3,5]

To sustain comprehensive tobacco control programs, it is important to demonstrate that these efforts continue to have the intended public health impact. To produce such evidence, it is critical that state tobacco control programs continue to evaluate their efforts. Selecting appropriate outcome indicators is a key step in designing a rigorous evaluation. That is where this guide can help.

This publication is the second in a series of updates to the guide released in 2005 by the Centers for Disease Control and Prevention's (CDC's) Office on Smoking and Health (OSH), *Key Outcome Indicators for Evaluating Comprehensive Tobacco Control Programs*,[6] hereafter referred to as KOI 2005. As a companion to the 2001 publication, *Introduction to Program Evaluation for Comprehensive Tobacco Control Programs*,[7] KOI 2005 was designed to provide information on selecting indicators and linking them to outcome objectives. This update provides a revised logic model and set of outcome indicators for Goal Area 3 of the National Tobacco Control Program, which addresses promoting quitting among adults and young people. Although this update focuses on tobacco cessation, comprehensive tobacco control programs that simultaneously address initiation, the elimination of secondhand smoke, and cessation are more effective than programs that address these issues in isolation. Therefore, until final updates are available, this resource should be used in combination with outcome indicators from KOI 2005 that address eliminating nonsmokers' exposure to secondhand smoke. This update supports application of CDC's *Framework for Program Evaluation in Public Health Practice*,[8] which consists of the following six steps of good evaluation:

1. Engage stakeholders.
2. Describe the program.
3. Focus the evaluation.
4. Gather credible evidence.
5. Justify your conclusions.
6. Ensure that evaluation findings are used, and share lessons learned.

This publication provides new and updated indicators and supporting information relevant to recent changes in the landscape of comprehensive tobacco control efforts to promote cessation. The Affordable Care Act requires new private health plans and state Medicaid programs to expand coverage of evidence-based tobacco use cessation treatments.[9] Additionally, the passage of the 2009 Family Smoking Prevention and Tobacco Control Act [10] expanded federal, state, and local governments' opportunities to regulate tobacco. Given these changes in the regulatory environment, OSH recognized the importance of revisiting and updating the outcome indicators.

A primary purpose of this guide is to help advance state-specific and national evaluation and surveillance efforts by encouraging managers and evaluators to focus on evidence-based outcome indicators and to measure and report these using protocols and operational definitions drawn from widely available state or national data collection systems. In this publication, we provide examples of data sources, survey questions, and protocols that evaluators can use to measure each outcome indicator. Special care was taken to choose example data sources and survey questions; most are drawn from common state and national surveys and surveillance systems, and using them may allow managers and evaluators to compare their findings with data collected across states and nationally.

To help users make informed choices about which indicators are most suitable for each program and context, a panel of tobacco control science and practice experts rated each indicator on relevant criteria, including overall quality, resources needed, strength of evaluation evidence, utility, face validity to policy makers, uniqueness, and accepted practice. The ratings will help the reader decide, for example, which indicators can be measured within budget or which indicators are likely to carry the most informative for key decision makers. In essence, this

publication is a consumer's guide to tobacco control outcome indicators for program managers, evaluators, epidemiologists, researchers and others.

Tobacco control program staff can use the information in this guide to focus their evaluations (step 3 of CDC's *Framework for Program Evaluation*). The guide will inform the selection of indicators and enable linkage of indicators to outcomes. The guide also assists in gathering credible evidence (step 4 of the *Framework for Program Evaluation*) and establishes the value of each indicator for measuring the progress of state tobacco control program efforts by providing a summary of scientific evidence, example questions, and data sources for each indicator.

Applying rigorous surveillance methods and evaluation designs will enable state tobacco control program staff to assess progress toward expected outcomes and refine program activities as needed.To the extent that state programs use comparable indicators, measures, and methods (such as those described in this guide), those who are engaged in tobacco control planning and evaluation can be better equipped to assess the state-specific and national impact of these efforts.

Technical Assistance

This guide may be used in coordination with CDC's workbook, *Developing an Effective Evaluation Plan: Setting the Course for Effective Program Evaluation,*[1] as well as other OSH surveillance and evaluation resources, which can be accessed at http://www.cdc.gov/tobacco/tobacco_control_programs/surveillance_evaluation/index.htm.

CDC helps state and territorial health departments plan, implement, and evaluate tobacco control programs. To contact CDC's OSH, please call (800) 232-4636 or e-mail at tobaccoinfo@cdc.gov.

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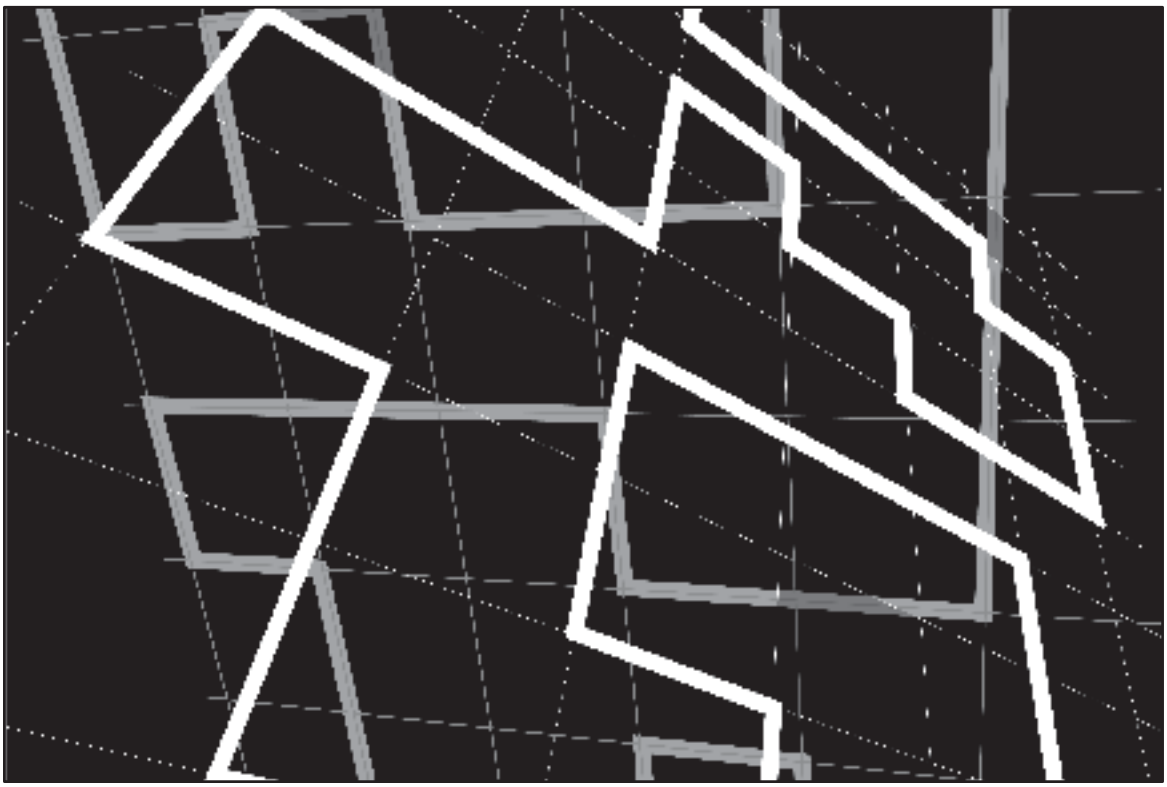
CHAPTER 1

Introduction



CHAPTER 1

Introduction

Purpose

The Centers for Disease Control and Prevention's (CDC's) Office on Smoking and Health (OSH) developed this publication to help state and territorial health departments plan and evaluate state tobacco control programs. This publication provides an updated logic model linking activities to outcomes for Goal Area 3—Promoting Quitting Among Adults and Young People—of the National Tobacco Control Program (NTCP). It contains in-depth information on indicators to measure progress toward outcomes, including *Consumer Reports*®–type ratings to allow for tailored selection of indicators at local, state, and territorial levels. Finally, it highlights how to use indicators to integrate program and evaluation planning. This guide may be used in coordination with CDC's workbook, *Developing an Effective Evaluation Plan: Setting the Course for Effective Program Evaluation*,[1] as well as other OSH surveillance and evaluation resources, which can be accessed at http://www.cdc.gov/tobacco/tobacco_control_programs/surveillance_evaluation/index.htm.

Audience

The primary audiences for this publication consist of planners, managers, and evaluators of state tobacco control programs.

The National Tobacco Control Program

The goal of CDC's NTCP is to reduce tobacco-related disease, disability, and death. The NTCP seeks to achieve this goal by working in four goal areas:

- Preventing initiation among youth and young people.
- Eliminating exposure to secondhand smoke.
- Promoting quitting among adults and young people.
- Identifying and eliminating tobacco-related disparities among population groups.

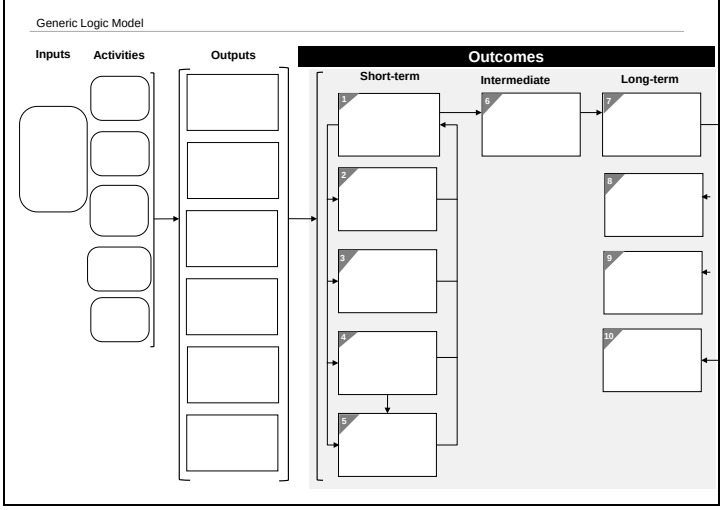
For more information on the NTCP, see Appendix A.

Logic Models

As explained in *Introduction to Program Evaluation for Comprehensive Tobacco Control Programs,* logic models depict the presumed causal pathways that

connect program inputs, activities, and outputs with short-term, intermediate, and long-term outcomes.[2] An example of a basic logic model is presented in Figure 1.

Figure 1: Example of Logic Model



To help tobacco control programs with planning and evaluation, we numbered each outcome in the logic model to allow for easy reference in discussing the links between logic model components.

The NTCP logic models can be used in several ways:

- To see the links between program activities; outputs; and short-term, intermediate, and long-term outcomes.
- To identify relevant short-term, intermediate, and long-term outcomes.
- To assist in selecting indicators to measure outcomes.

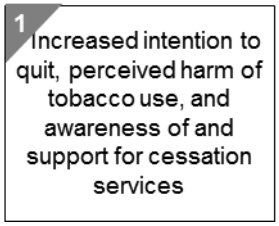
Outcome Components

The outcome components in the NTCP logic models are categorized as short-term, intermediate, or long-term to indicate a presumed causal sequence.

For each outcome box, we summarize the scientific evidence that supports assumptions about the links between program activities, outputs, and short-term or intermediate outcomes, which affect long-term outcomes (last four boxes in the example model). Using the model in Figure 1, for example, a program may select box 5 as a primary intermediate outcome. Program activities designed to achieve changes in short-term Outcomes 1 through 5 (linked vertically on the logic model) should lead to changes in Outcome 6. Indeed, not only will changes to Outcomes 1 through 5 affect Outcome 6, but they will also affect long-term Outcomes 7 through 10.

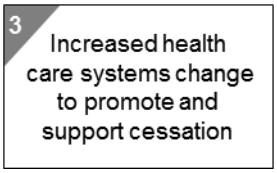
The revised Goal Area 3 logic model includes the following changes to outcomes from the original 2005 *Key Outcome Indicators for Evaluating Comprehensive Tobacco Control Programs* (KOI 2005 hereafter):

- Changed the outcome "Increased awareness, knowledge, intention to quit, and support for policies that support cessation" to "Increased intention to quit, perceived harm of tobacco use, and awareness of and support for cessation services" and moved the outcome box to the top of the short-term outcomes column. These modifications were intended to better reflect the recent science in this area and account for the fact that tobacco users can quit successfully without using cessation services.

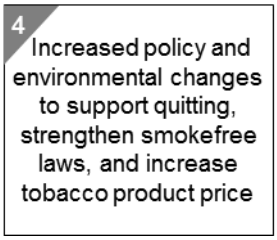


- Changed the outcome "Increased insurance coverage for cessation services" to "Increased availability and expanded coverage of comprehensive cessation services." This modification was intended to broaden the scope of the outcome and reflect opportunities for expanded coverage under the Affordable Care Act.

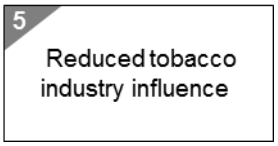
- Changed the outcome "Increase in the number of health care providers and health care systems following Public Health Service (PHS) guidelines" to "Increased health care systems change to promote and support cessation." This modification was intended to better reflect the breadth of health care systems changes to promote and support cessation.



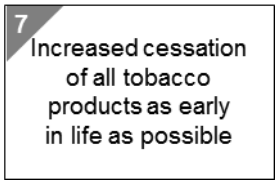
- Changed the outcome "Increased price of tobacco products" to "Increased policy and environmental changes to support quitting, strengthen smokefree laws, and increase tobacco product price." This modification was intended to broaden the scope of the outcome beyond price and better reflect the implied logic and order of effects.



- Added the outcome "Reduced tobacco industry influence" to reflect the science showing the impact of tobacco industry actions in sustaining the tobacco epidemic.[3]



- Changed the outcome "Increased cessation among adults and young people" to "Increased cessation of all tobacco products as early in life as possible." This modification was intended to emphasize the importance of achieving permanent cessation early in life to avoid most of the risk of dying from a smoking- related disease[4]and to clarify the importance of eliminating use of all tobacco products.



Indicators

Outcome indicators are specific, observable, and measurable characteristics or changes that represent achievement of an outcome.[5] For example, if your program is trying to "Increase policy and environmental changes to support quitting, strengthen smokefree laws, and increase tobacco product price" (Outcome 4) and you measured the "Proportion of tobacco users with smokefree home or vehicle rules " (Indicator 3.4.d), the result would indicate progress toward increasing policy and environmental changes to support quitting.

Although monitoring a single indicator can serve as a helpful guidepost, including indicators from across the short-term, intermediate, and long-term outcomes within a logic model is needed for a robust evaluation. By mapping a causal pathway across the logic model and measuring key indicators along this pathway, tobacco control programs can begin to see where efforts are making gains and where they are not. Much like an ordered row of dominoes, the sequence of indicators across short-term, intermediate, and long-term outcomes clarifies where progress is and is not being made. When a key indicator within the pathway fails to improve or begins declining, additional inquiry can determine whether the program itself is failing to achieve the intended effects or whether contextual factors along the causal pathway are responsible. In either case, understanding the roadblocks in achieving the intended public health goals provides important information to guide program improvement efforts. More information on using outcome indicators to develop an evaluation plan is provided in this section and in CDC's workbook, *Developing an Effective Evaluation Plan: Setting the Course for Effective Program Evaluation*,[1] which can be accessed at http://www.cdc.gov/tobacco/tobacco_control_programs/surveillance_evaluation/index.htm.

Tobacco Products Other than Cigarettes

Some of the indicators we discuss in this publication are particularly useful for measuring progress toward reducing *cigarette* use. In addition, given ongoing evidence that tobacco products *other than cigarettes* are being heavily marketed and new and alternative tobacco products are being developed by the tobacco industry,[3] we have explicitly attempted to update indicators so that they address a

wide breadth of tobacco products. We encourage programs to consider the tobacco use patterns of their community when making decisions regarding surveillance and evaluation activities in terms of measuring different forms of tobacco use.

Identifying and Eliminating Disparities

To reduce the overall health burden of tobacco use in the U.S., tobacco control programs should focus on identifying and eliminating tobacco-related disparities across all elements of the logic model. This involves designing and implementing initiatives that effectively reach and have an impact on populations at the greatest risk, ensuring culturally meaningful outputs, and collecting and analyzing data in a manner that allows for the identification of populations experiencing tobacco-related disparities and the monitoring of outcomes in these populations. In considering what outcomes to monitor, it is important to remember that no single factor determines patterns of tobacco use and the impact of tobacco use in a particular population, but rather, that tobacco use involves a complex interaction of multiple factors.[6] As with types of tobacco products, we encourage programs to consider their local context when making decisions regarding their need to capture information by population characteristics, such as race and ethnicity, age group, educational attainment, occupation, income, geographic location, co-occuring health conditions, sexual orientation and gender identity, and veteran and military status. Throughout this guide, we have highlighted population characteristics associated with particular indicators when the evidence is particularly strong in demonstrating associations. Programs should consistently assess indicators by state-specific priority population characteristics to better understand the reach and impacts of their activities and to build the evidence base needed for improved tobacco prevention and control.

Organization of Indicators

In this publication, indicators are organized by outcome component in the logic model. Indicators to measure distal outcomes (i.e., reduced tobacco-related morbidity, mortality, and disparities) are not included in this guide for two reasons. First, the research base establishing linkages between behavioral outcomes (e.g., reductions in tobacco consumption and tobacco use prevalence) and the distal outcomes is well established. Therefore, tobacco control programs could consider demonstrating an effect on behavioral outcomes, and they can then assume that these will lead to favorable health effects. Second, we determined that the greatest expressed needs of the states for evaluation assistance would be addressed best by identifying short-term and intermediate outcome indicators.

This does not mean that programs should not monitor their effect on the distal outcomes in the logic model. Some long-standing programs (e.g., California Tobacco Control Program[7]) have been able to show an effect on long-term outcomes, but most states have not had comprehensive, well-funded programs in place long enough to show such effects.[8-10] We also do not intend to imply that

measuring outcomes alone is sufficient for evaluating a tobacco control program. Equally important is process evaluation, which focuses on measuring program implementation. (See *Introduction to Process Evaluation in Tobacco Use Prevention and Control*[11] for information on process evaluation.)

Indicator Selection and Rating

To develop this guide, CDC proposed a set of outcome indicators (including some new indicators and some existing and revised indicators from KOI 2005) and engaged a panel of 13 experts (see Appendix B) in tobacco control practice, evaluation, and research to assess each indicator on the basis of the following criteria: overall quality, resources needed, strength of evaluation evidence, utility, face validity to policy makers, conformity with accepted practice, uniqueness, and how essential the indicator is for evaluating state tobacco control programs. In addition to rating the indicators that CDC proposed, the experts suggested other indicators and sources of data for those indicators.

CDC reviewed the experts' responses, comments, and suggestions and compiled the results into an individual rating across criteria for each indicator. A few indicators, however, have no ratings because they were added at the suggestion of the experts after the rating process was complete. These indicators have the symbol NR, which stands for "Not Rated," after their numbers. The "uniqueness" criterion was used only to narrow the indicator lists (see Appendix C). For detailed information on how CDC selected indicators, how the expert panelists conducted their tasks, and how the ratings were calculated, see Appendix C.

Indicator Rating Tables

For each outcome component of the logic model, we provide an indicator rating table. Each table lists all indicators associated with the outcome component and the ratings for each indicator by criterion. Using this table makes it easy to compare all of the indicators for one outcome. The number and name of each relevant indicator are provided in each table, as are graphic displays of the **criteria scores for each indicator.**

An example of an indicator rating and an explanation of how to read it are provided in Figure 2. The following are definitions of the criteria on which the ratings are based:

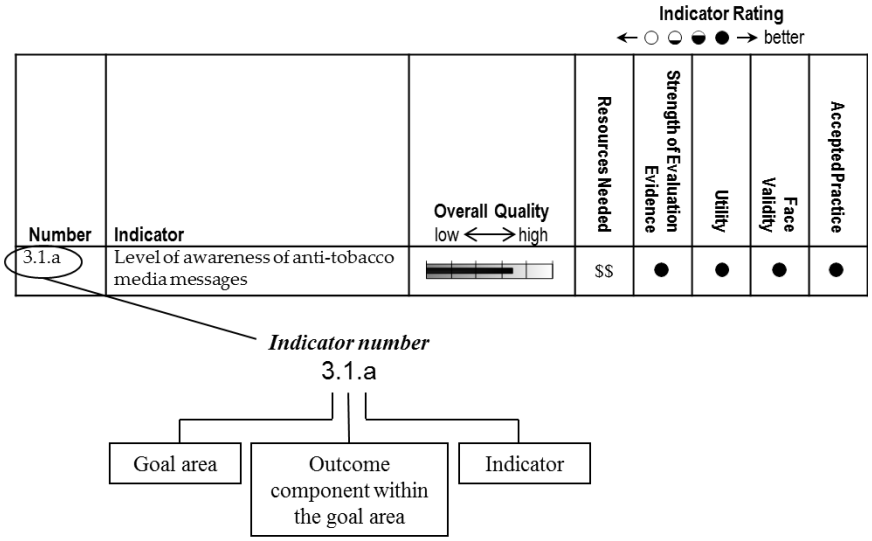
- **Overall quality.** A summary rating that reflects the overall quality of the indicator and its general worth in evaluating state tobacco control programs.
- **Resources needed.** Quantity of resources needed to collect reliable and precise measures and to appropriately analyze primary or secondary data on the indicator. Considerations affecting cost include availability of existing data (e.g., archival records or other secondary data) versus need for primary data collection, and methodological and sampling issues. Dollar signs show the amount of resources (funds, time, and effort) needed to collect and

analyze data on the indicator using the most commonly available data source: the more dollar signs (maximum four), the more resources needed. The dollar signs do not represent specific amounts because the actual cost of measuring and analyzing an indicator varies by the existing capacity of a state health department or organization to evaluate its programs.

Figure 2: Example of Rating Table

Outcome 1

Increased Intention to Quit, Perceived Harm of Tobacco Use, and Awareness of and Support for Cessation Services



- **Strength of evaluation evidence.** The degree to which scientific evidence supports the assumption that implementing interventions to effect change in a given indicator will lead to a subsequent favorable outcome. This includes the extent to which reviewers believed that the scientific literature supports use of the indicator for the evaluation of comprehensive, statewide tobacco control programs and considers conflicting evidence as well as concerns regarding the methodology of supporting studies. Indicators with the highest ratings have a strong demonstrated relationship between the indicator and a downstream logic model outcome. Indictors with moderate ratings demonstrate an association between the indicator and an outcome in the logic model. However, the extent of evidence and/or the study designs supporting this association may not be as strong. Indicators with low ratings may have substantial conflicting literature and/or weak methodological designs.
- **Utility.** The extent to which the indicator will help to answer important comprehensive tobacco control program evaluation questions.

- **Face validity.** The degree to which data on the indicator will appear valid to tobacco program stakeholders, such as policy and decision makers who may be users of tobacco control program evaluation results.
- **Accepted practice.** The degree to which use of the indicator is consistent with currently accepted, real-world tobacco control practice.

In addition, the following symbols are associated with some of the ratings:

- An asterisk (*) indicates low reviewer response. If fewer than 75% of reviewers provided a valid rating on a criterion for an indicator, the criterion is flagged as having low reviewer response. For the purposes of this assessment, invalid responses included "don't know," missing data, and rating errors (e.g., selection of two non-adjacent ratings). An example of a rating for which there was low reviewer response is the utility score for indicator 3.1.h: Level of support for community policies that promote cessation.
- A dagger (†) indicates a low level of agreement among reviewers. For the resources needed, strength of evaluation evidence, utility, face validity, and accepted practice criteria, a rating was considered to have a low level of agreement if fewer than 75% of valid reviewer responses were within ±1 point of the median. For the overall quality criterion, a rating was considered to have a low level of agreement if fewer than 75% of valid reviewer responses were within ±2 points of the median (denoted by a double dagger ††). An example of a rating with a low level of agreement is the overall quality score for 3.3.d: Proportion of tobacco users who have been assessed by a health care professional regarding their willingness to make a quit attempt. This low level of agreement represents a relatively high degree of variability in the raters' responses for the criterion.

Indicator Profiles

Each indicator listed in this publication is associated with one short-term, intermediate, or long-term outcome component of the NTCP Goal 3 logic model. The number of indicators for each logic model component varies considerably; some have three to four indicators, whereas others have many.

We provide a profile for each indicator. These profiles provide detailed information about each indicator, as follows:

- **Indicator number and name.** Each indicator is uniquely identified by two numbers and a letter. The first number represents the goal area, the second number represents the outcome component (box) within the goal area logic model, and the letter represents the indicator. For example, indicator 3.1.a is first on the list of indicators (designated by the "a") associated with outcome component 1 in the logic model for NTCP Goal Area 3.
- **Outcome box.** The title of the outcome component (i.e., logic model box) is provided in the logic model.

- **What to measure.** A description is included of what to measure in order to gather data on the indicator. Definitions of key terms are included in the "Glossary and Acronyms" section at the end of this guide.
- **Why this indicator is useful.** The rationale is provided for using the indicator as a measure of a specific outcome in the logic model.
- **Example data source(s).** Listed are some example surveys and other sources of data to measure the indicator, as well as the population from which the data could be collected (if not apparent from the title). Most data sources that we list are well known and widely used state or national surveys or surveillance systems.[12] We also list non-standardized, topic-specific data sources (e.g., media tracking, policy tracking, worksite surveys, environmental scans, and other tobacco-related state surveys) that may not be as widely used by state tobacco programs but can be useful for evaluation. If similar survey questions are included in multiple data sources, we list the data sources most commonly available to state tobacco control programs.
- **Population group(s).** The population group(s) includes the individuals from which data about this indicator are most commonly collected, if applicable.
- **Example survey question(s).** These are usually survey questions from state or national surveys or surveillance systems. Where appropriate, the range of possible responses to the survey questions is also given. If no state or national survey has an appropriate question, we created an example question when possible.
- **Comments.** Here we provide additional information we have on this indicator that may be useful for program planning and/or evaluation purposes. For example, we may suggest other uses for the indicator, the indicator's limitations (if any) as a measure of a program's progress, information that may help guide measurement, or sources of information on data collection methods. Additionally, we alert readers when collecting sociodemographic data, such as survey respondents' age, sex, race, ethnicity, city or county of residence, educational status, and income, may greatly enhance the utility of the indicator. For indicators with survey items specific to cigarettes, we speak to the issue of capturing information about broader groups or different types of tobacco products. Please note that changes to existing survey items should be made with caution. Sufficient cognitive testing should be used to ensure that the modified item captures the original intent of the question and still makes sense to the respondent.
- **Reviewers' ratings.** The rating tables include the criterion ratings given to the indicator by the panel of experts.

Using This Guide to Plan a State Tobacco Control Program Outcome Evaluation

Engaged data use is one of the five core components of infrastructure according to the evidence-based Component Model of Infrastructure.[13] Tobacco control program managers and evaluators need accurate and timely evaluation data to

engage stakeholders and decision makers. Evaluation is essential for state tobacco control program managers to demonstrate the effects of the program, account for funding, and improve programs. Effective tobacco control programs require careful planning, implementation, and evaluation. To develop a successful program and a useful evaluation, program staff and program evaluators must work collaboratively on program planning and evaluation planning. A strong evaluation will not salvage a weak program, and a strong program cannot be proven effective without a defensible evaluation.

Managers and evaluators can use this publication to help them focus their evaluations and guide the collection of credible evidence through the selection of appropriate program outcomes and indicators. Important evaluation implementation issues include: (1) ensuring timely evaluation planning and sufficient evaluation resources at the outset of intervention implementation, and (2) considering program evaluation needs versus research purposes when selecting indicators.[2]

Below are the six major steps involved in planning and evaluating a state tobacco control program outlined in CDC's *Framework for Program Evaluation in Public Health Practice*[14] and the workbook, *Developing an Effective Evaluation Plan: Setting the Course for Effective Program Evaluation*.[1] This book provides assistance for facilitating and developing a written evaluation plan and implementing additional steps of CDC's *Framework for Program Evaluation in Public Health Practice*.

Step 1. Engage stakeholders

Identify the purpose and users of the evaluation. The stated purpose of the evaluation will drive the expectations and set the boundaries for what the evaluation can and cannot deliver. Careful selection and ongoing, meaningful engagement of an Evaluation Stakeholder Workgroup (ESW) throughout the planning and implementation process will aid the program in determining and prioritizing key evaluation questions, facilitating data collection, implementing evaluation activities, increasing the credibility of analysis and interpretation of evaluation information, and ensuring that evaluation results are used.[1] This guide assists in clarifying the purpose of evaluation related to promoting quitting tobacco use and helps in engaging the ESW to clarify the scope of the evaluation and provide the basic information needed to complete step 2, describe the program.

Step 2. Describe the program

This guide assists in clarifying a comprehensive tobacco control program's efforts and expected outcomes related to the goal of promotiong quitting among adults and young people. An updated logic model is included that shows how activities lead to outcomes based on evidence from research and practice.

For program planning, it is often helpful to read logic models backward; that is, to begin with the long-term outcomes and trace a causal pathway back through immediate outcomes, to short-term outcomes, to program outputs and program activities. This critical exercise, done in coordination with the ESW, will help to clarify the scope of the evaluation and provide basic information needed to complete step 2, describe the program.

Program staff and stakeholders must agree upon the program description, including public health goals. Using this guide to help map a program's causal pathway(s) provides an opportunity for stakeholders to work through concerns and challenges regarding the goals and objectives of the work and to set the stage for identifying key evaluation questions, focusing the evaluation, and connecting program planning and evaluation.

To assist with this step, use the outcome overviews for the long-term outcome components to obtain information regarding the rationale and empirical support for the logic model pathway that links specific program activities with specific outcomes. If you need more information, read some of the related articles listed after the references for each outcome overview in the section titled "For Further Reading." Then, on the basis of this information, select one or more long-term outcomes and related short-term and intermediate outcomes, again keeping in mind your state and program's context, resources, and needs.

Step 3. Focus the evaluation

The scope and depth of any program evaluation is dependent on program and stakeholder priorities; available resources, including financial resources; staff and contractor availability, and amount of time committed to the evaluation. This guide can be used to select indicators of progress toward your selected short-term, intermediate, and long-term outcomes.

Examine the indicator rating tables relevant to the short-term, intermediate, and long-term outcomes you have selected. Compare ratings pertaining to the indicators' overall quality, resources needed, strength of evaluation evidence, utility, face validity, and accepted practice. Select candidate indicators and learn more about them by reading each indicator profile. On the basis of your reading and your program's circumstances, select indicators to measure and monitor progress toward your selected short-term, intermediate, and long-term outcomes.

Step 4. Planning for gathering credible evidence

Once the focus and scope of the evaluation and the key evaluation questions have been decided, it is necessary to select the appropriate data collection methods that best meet the needs of the evaluation. Use the example data source and survey questions included in the indicator profiles to help create a detailed plan for gathering evidence.

Step 5. Planning for conclusions

Justifying evaluation findings includes working with the ESW to analyze, interpret, and draw conclusions from the collected data in order to turn them into meaningful, useful, and accessible information. This guide summarizes evidence in the outcome summaries and indicator profiles and graphically displays connections across the logic model that may help stakeholders understand how indicator information is connected and, if gaps or shortcomings occur in intended effects of programmatic activities, where they may be occurring.

Step 6. Planning for dissemination and sharing of lessons learned

The final step in the evaluation process is the dissemination of results. It is important to plan for the use of evaluation results and identify how lessons learned may be best communicated from the beginning of the evaluation planning process. Planning for use is directly tied to the identified purposes of the evaluation and program and stakeholder priorities.

The Importance of Coordinating Program and Evaluation Planning Early and Often in the Planning Process

When a program is organized and planned on the basis of the goal area's logic model, managers and evaluators essentially have an outline of their outcome evaluation plan early in the program planning process. As the program evolves, managers and staff can make adjustments to program activities and, at the same time, the evaluation plan.

An additional step to coordinate program and evaluation planning is to carefully identify program objectives for ongoing monitoring. These objectives may be used to monitor state trends over time or potentially to compare with national data and with those of other states.

Good program objectives are SMART (i.e., they are specific, measurable, achievable, relevant, and time-bound). An example of a SMART objective is "increasing the proportion of tobacco users who intend to quit from 68% in January 2014 to 75% in January 2015." Indicator 3.1.d can be incorporated into a tobacco control program's evaluation to track progress on this SMART objective. For more information on creating SMART objectives, see *Introduction to Program Evaluation for Comprehensive Tobacco Control Programs*.[2]

Planning an Evaluation of a State Tobacco Control Program: A Hypothetical Example

It is important to effectively evaluate the entire comprehensive tobacco control program including all NTCP goals. For the purpose and scope of this update, the following example focuses on cessation of tobacco use. In practice, evaluation efforts related to the other goal areas will be occurring concurrently, providing numerous synergies in terms of program and evaluation planning.

In this example, assume that recent data from a state tobacco survey show an increase in tobacco use prevalence among adults, and state legislators are concerned about this increase. The legislators announced that new funds may become available if the state tobacco control program can show that it is effective in reducing tobacco use prevalence by promoting quitting among adults.

On the basis of these factors, the state tobacco control program follows the evaluation planning steps previously described as follows:

Step 1: Engage stakeholders

The state tobacco control program clarifies the primary purpose of the evaluation plan as facilitating program development and improvement and reaches out to individuals who have a vested interest in the evaluation findings, such as clients, community groups, elected officials, and staff involved in running the tobacco control program. The program organizes an ESW of 10 members who will serve a consultative role on all phases of the evaluation.

Step 2. Describe the program.

The ESW considers the purpose of the initiative. The legislature is providing funds specifically to promote quitting. Therefore, the ESW chooses NTCP Goal Area 3: Promoting Quitting among Adults and Young People and reviews the logic model. The group then selects long-term Outcome 7 (Increased cessation of all tobacco products as early in life as possible) to focus on. To learn more about Outcome 7, program staff review the outcome component overview (page 141), cited references, and materials recommended for further reading and present the information to the ESW to help select short-term and intermediate outcomes for the program.

Following our recommendations, the ESW read the logic model for NTCP Goal Area 3 backward (starting at the long-term outcome) to select intermediate and short-term outcomes that are linked to the long-term outcome. They select one intermediate outcome: Outcome 6. Increased quit attempts and attempts using evidence-based cessation services.

This intermediate outcome (Outcome 6) serves as a funnel between the long-term outcome and short-term outcomes in the NTCP Goal Area 3 logic model. The ESW select two short-term outcomes for the program:

- Outcome 1: Increased intention to quit, perceived harm of tobacco use, and awareness of and support for cessation services

- Outcome 3: Increased health care systems change to promote and support cessation

The ESW understands that, based on the evidence, achieving one or more of these short-term and intermediate outcomes should lead to achieving the selected long-

term outcome, as well as the distal outcomes of reducing tobacco-related morbidity and mortality and decreasing tobacco-related disparities. Again, to learn more about the outcomes identified in their backward review of the logic model, the ESW members review outcome component overviews, cited references, and materials recommended for further reading.

Step 3. Focus the evaluation

As part of focusing the evaluation, the ESW develops evaluation questions and selects indicators of progress toward selected short-term, intermediate, and long-term outcomes. To do this, they first identify a set of indicator selection criteria (e.g., overall quality, resources needed, strength of evaluation evidence, utility, face validity, and accepted practice) that are most important to the program given its stage of development.

Since the state legislature expressed an interest in this effort, the ESW wants to select indicators that have a high rating for face validity to key decision makers. Also, given budget constraints, the ESW wants to emphasize efficient use of resources during the selection of indicators.

The program staff take this information and begin to look at the list of indicators associated with each selected outcome component (1, 3, 6, and 7), beginning with Outcome 1. The staff examine the indicator rating table for Outcome 1 (page 31). By doing so, they can begin to assess which indicators meet the criteria selected by the ESW. In addition to reviewing the rating information, the program staff also read the information in the indicator profiles associated with outcome component 1 (pages 32–54).

To finalize indicator selection, the program staff present the summarized information to the ESW for consideration and decision making.

Step 4. Planning for gathering credible evidence

The ESW plans for gathering credible evidence by reflecting on the evaluation purpose, the logic model and program description, the stage of development of the program, and the evaluation questions. Given the limited resources available, the group considers the feasibility of the evaluation plan in the decision-making process.

The ESW realizes that design and implementation of a new survey for all of the indicators would be expensive. However, one indicator associated with outcome component 1 can be measured using an existing state survey that states conduct regularly:

3.1.d Proportion of tobacco users who intend to quit

The planners and evaluators use the same process to select indicators for each of the chosen outcome components (3, 6, and 7):

3.3.b Proportion of the population that has been asked by a health care professional about tobacco use
3.6.a Proportion of tobacco users who have made a quit attempt
3.7.b Proportion of tobacco users who have sustained abstinence from tobacco use

Step 5. Planning for conclusions

As part of their comprehensive tobacco control program, based on the goals and objectives of the initiative and the strength of the core components of the comprehensive program infrastructure, the program planners select and design evidence-based interventions, such as mobilizing partnerships with large health care systems to integrate tobacco dependence treatment into their clinical workflows.

The program staff implement the intervention activities and work with the ESW to continuously monitor: (1) whether the activities are being implemented as intended; and (2) the extent to which the program is reaching its target audiences.

To assist in coordinating program and evaluation planning, program staff and the ESW translate indicators into SMART program objectives.

As data are collected and shared with the program, the ESW is engaged once again to plan for analysis and interpretation. With an appreciation for the compressed project timeline, program staff and the ESW coordinate to develop a feasible plan that will best support program improvement. Additionally, during this phase, the ESW identifies key contextual information that will be needed to ensure that the evaluation results can be meaningfully interpreted. A date is set to reconvene with the purpose of reviewing interim data and assisting with the interpretation process needed to justify the evaluation conclusions.

Step 6. Planning for dissemination and sharing of lessons learned

To prepare for release of evaluation findings, program staff and the ESW carefully consider how, when, and with whom information will be shared. Given the focus on program development and improvement, information regarding performance and identified gaps will be shared throughout implementation with program staff, community partners, and clients. Reporting of this information will be tailored so that it is most useful to the target audience. Additionally, a plan is developed for creation of a final briefing document to engage state decision makers. This document is intended to be succinct and graphic and to highlight the program's impact on public health outcome indicators. The graphic Goal 3 logic model is used as a framing device to present information on selected indicators. Additionally, information is included to track change over time and compare data with those from similar states.

The timeframe for completing the six evaluation planning steps may vary based on state tobacco control needs. It may take weeks, months or even years to

complete all steps. Stringent deadlines to meet funding requirements or other deadlinesmay influence methods used for capturing, analyzing, and reporting evaluation conclusions. Tobacco control programs will benefit from planning early, ensuring that sufficient time and resources are available to engage the ESW throughout the six steps, and pursing a methodologically sound approach that address high priority evaluation needs.

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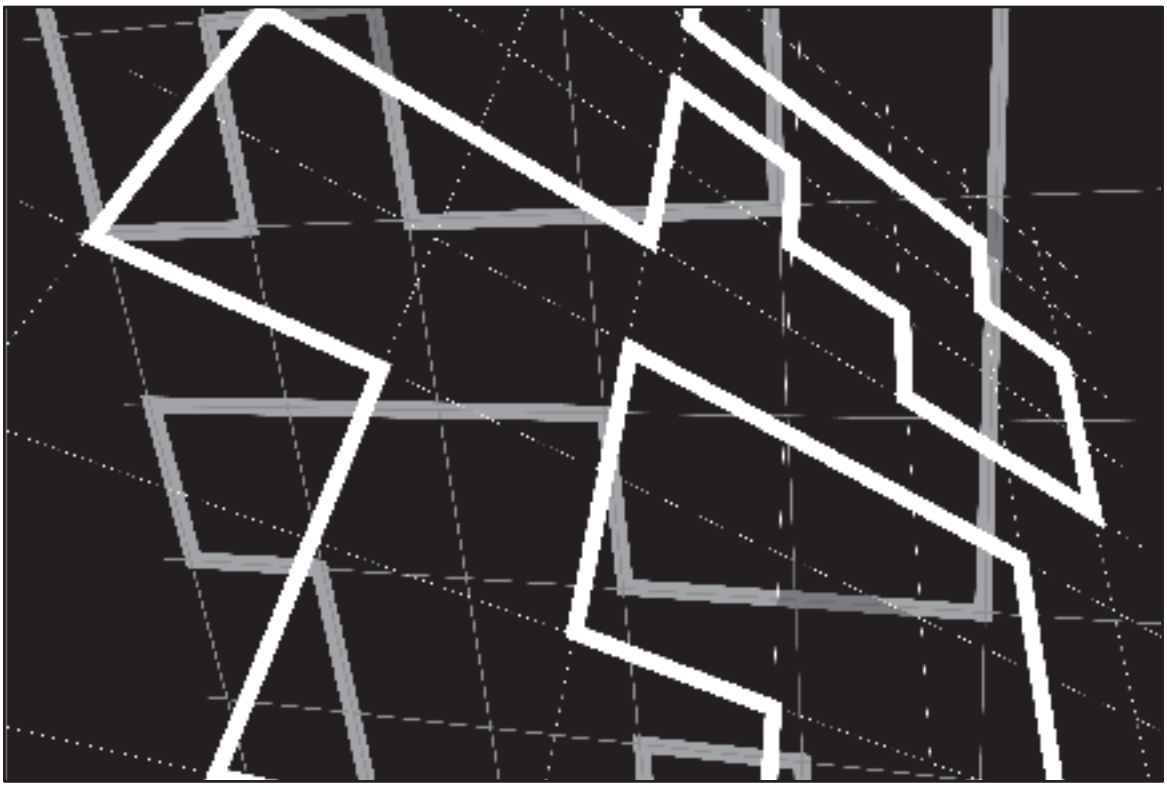
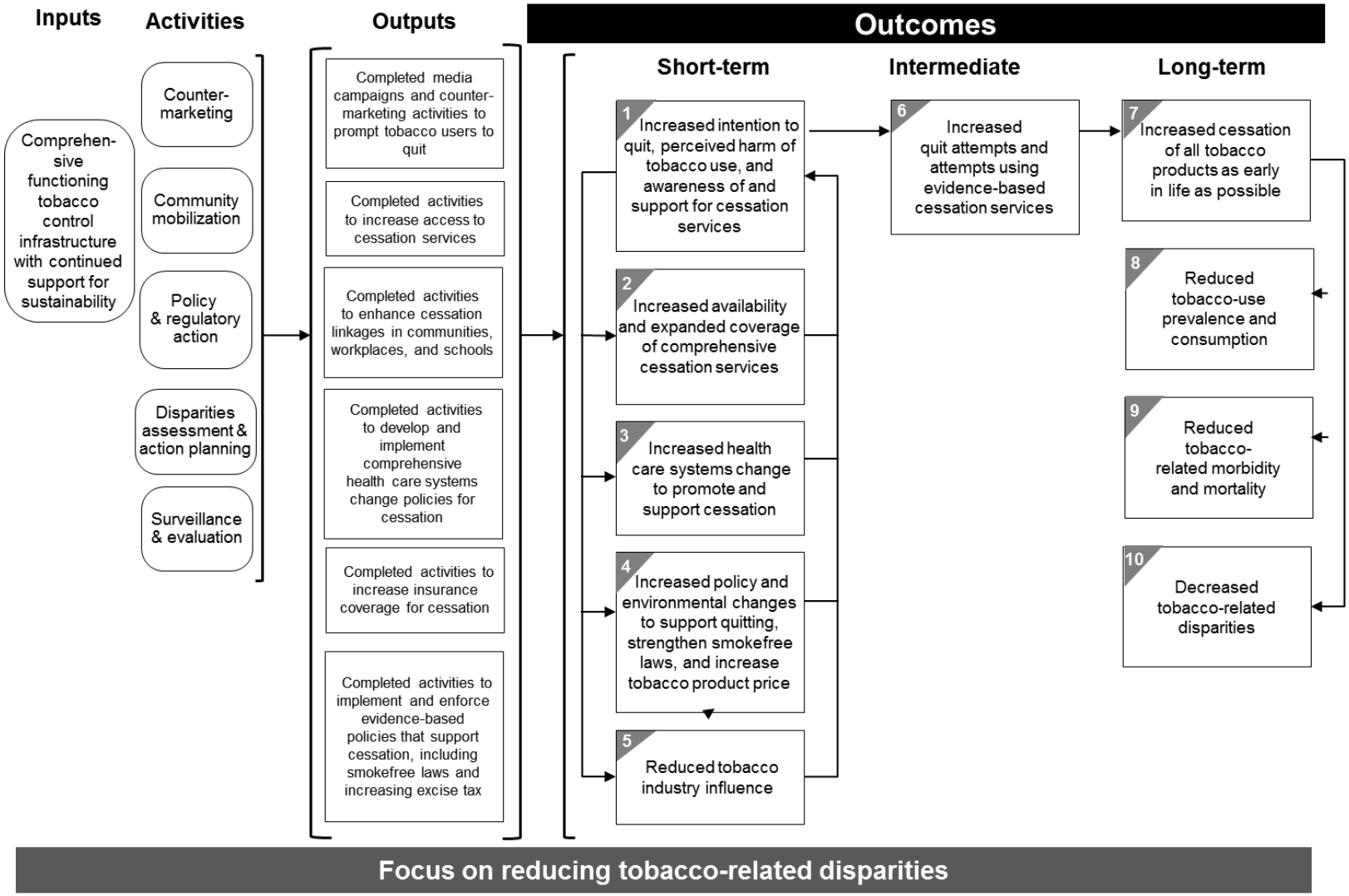
CHAPTER 2

Goal Area 3: Promoting Quitting Among Adults and Young People



Promoting Quitting Among Adults and Young People



Goal Area 3

Promoting Quitting Among Adults and Young People

Short-term Outcomes

- **Outcome 1: Increased intention to quit, perceived harm of tobacco use, and awareness of and support for cessation services**
  - **3.1.a** Level of awareness of anti-tobacco media messages
  - **3.1.b** Level of receptivity to anti-tobacco media messages
  - **3.1.c** Level of perceived risk of tobacco products among tobacco users
  - **3.1.d** Proportion of tobacco users who intend to quit
  - **3.1.e** Proportion of tobacco users who are aware of available cessation services
  - **3.1.f[NR]** Total call volume to telephone quitline
  - **3.1.g[NR]** Proportion of tobacco users who believe there are benefits to using evidence-based cessation services
  - **3.1.h** Level of support for community policies that promote cessation
  - **3.1.i** Level of support for policies within health care settings that promote cessation

- **Outcome 2: Increased availability and expanded coverage of comprehensive cessation services**
  - **3.2.a** Proportion of the insured population with access to comprehensive cessation services
  - **3.2.b** Proportion of the insured population without health insurance barriers to accessing evidence-based cessation treatments

- **Outcome 3: Increased health care systems change to promote and support cessation**
  - **3.3.a** Proportion of health care systems that have fully implemented current evidence-based cessation guidelines
  - **3.3.b** Proportion of the population that has been asked by a health care professional about tobacco use
  - **3.3.c** Proportion of tobacco users who have been advised to quit tobacco use by a health care professional
  - **3.3.d** Proportion of tobacco users who have been assessed by a health care professional regarding their willingness to make a quit attempt
  - **3.3.e** Proportion of tobacco users who have been assisted in quitting tobacco use by a health care professional
  - **3.3.f** Proportion of tobacco users for whom a health care provider has arranged for follow-up contact regarding a quit attempt
  - **3.3.g** Proportion of health care facilities with comprehensive tobacco-free campus policies

- **Outcome 4: Increased policy and environmental changes to support quitting, strengthen smokefree laws, and increase tobacco product price**
  - **3.4.a** Proportion of jurisdictions with policies that regulate tobacco retail sales and marketing
  - **3.4.b** Proportion of jurisdictions with policies that regulate the extent and type of consumer-focused tobacco promotions
  - **3.4.c** Proportion of jurisdictions with comprehensive public policies for tobacco-free workplaces and other places
  - **3.4.d** Proportion of tobacco users with smokefree home or vehicle rules
  - **3.4.e** Amount of tobacco product taxes and fees
  - **3.4.f** Tobacco product price

- **Outcome 5: Reduced tobacco industry influence**
  - **3.5.a** Extent and type of retail tobacco advertising
  - **3.5.b** Extent and type of consumer-focused industry promotions
  - **3.5.c** Extent and type of retailer-focused industry promotions
  - **3.5.d** Extent of tobacco imagery in movies and television
  - **3.5.e** Extent of pro-tobacco Internet presence
  - **3.5.f** Proportion of tobacco users reporting exposure to marketing and promotions for tobacco products (environmental cues)
  - **3.5.g** Proportion of tobacco users who report unplanned purchases of tobacco products
  - **3.5.h** Proportion of tobacco users who are aware of emerging tobacco products

Intermediate Outcomes

- **Outcome 6: Increased quit attempts and attempts using evidence-based cessation services**
  - **3.6.a** Proportion of tobacco users who have made a quit attempt
  - **3.6.b** Proportion of tobacco users who have made a quit attempt using evidence-based strategies
  - **3.6.c** Proportion of tobacco users who have used individual or group cessation counseling
  - **3.6.d** Number of callers to telephone quitlines receiving assistance quitting tobacco
  - **3.6.e^{NR}** Proportion of tobacco users who have used mobile telephone-based cessation services (other than quitline services)
  - **3.6.f** Proportion of tobacco users who have made a quit attempt by switching to a different tobacco product

Long-term Outcomes

- **Outcome 7: Increased cessation of all tobacco products as early in life as possible**
  - **3.7.a** Proportion of former tobacco users with recent cessation success
  - **3.7.b** Proportion of tobacco users who have sustained abstinence from tobacco use
  - **3.7.c** Average age at which tobacco users successfully quit
  - **3.7.d** Proportion of former tobacco users who re-initiate regular tobacco use

- **Outcome 8: Reduced tobacco-use prevalence and consumption**
  - **3.8.a** Tobacco use prevalence
  - **3.8.b** Prevalence of tobacco use during pregnancy
  - **3.8.c** Per capita consumption of tobacco products
  - **3.8.d** Tobacco product preferences of tobacco users

[NR] Denotes an indicator that is not rated (see Appendix C for an explanation).

The table below summarizes changes made to Goal 3 indicators since KOI 2005. As shown, we deleted 12 KOI 2005 indicators, revised the titles of 20 KOI 2005 indicators, and added 24 new indicators. Indicator deletions were based on new evidence or changes in policy that made the previous indicators obsolete or unwarranted. For example, the 2005 indicator 3.10.1 "Proportion of insurance purchasers and payers that reimburse for tobacco cessation services" was deleted because provisions of the 2010 Patient Protection and Affordable Care Act provides expanded coverage for recommended clinical preventive services, including evidence based smoking-cessation treatments, for many persons in the United States.[1] Indicator additions were included where new evidence demonstrated a gap in existing indicators. Title revisions were made to enhance the utility of indicators for state comprehensive tobacco control programs.

2014 Revised and 2005 KOI Goal 3 Indicators Crosswalk

Revised Indicator Number	Original KOI Number	Revised Title
Outcome 1		
3.1.a	3.8.1	✓
3.1.b	3.8.2	✓
3.1.c	**New**	
3.1.d	3.8.3	✓
Deleted	3.8.4	
3.1.e	3.8.6, 3.8.7	✓

(continued)

2014 Revised and 2005 KOI Goal 3 Indicators Crosswalk (continued)

Revised Indicator Number	Original KOI Number	Revised Title
3.1.f[NR]	**New**	
3.1.g[NR]	**New**	
3.1.h	3.8.5	✓
3.1.i	3.8.8	✓
Deleted	3.8.9[NR]	
Outcome 2		
3.2.a	**New**	
Deleted	3.10.1	
3.2.b	**New**	
Outcome 3		
3.3.a	3.9.1	✓
3.3.b	3.9.2	✓
3.3.c	3.9.3	✓
3.3.d	3.9.4	✓
3.3.e	3.9.5	✓
3.3.f	3.9.6	✓
Deleted	3.9.7	
Deleted	3.9.8	
Deleted	3.7.5	
3.3.g	**New**	
Outcome 4		
3.4.a	**New**	
3.4.b	**New**	
3.4.c	**New**	
Deleted	3.7.6	
3.4.d	**New**	
3.4.e	3.12.1	✓
3.4.f	**New**	

(continued)

2014 Revised and 2005 KOI Goal 3 Indicators Crosswalk (continued)

Revised Indicator Number	Original KOI Number	Revised Title
Outcome 5		
3.5.a	**New**	
3.5.b	**New**	
3.5.c	**New**	
3.5.d	**New**	
3.5.e	**New**	
3.5.f	**New**	
3.5.g	**New**	
3.5.h	**New**	
Outcome 6		
3.6.a	3.11.1, 3.11.2	✓
3.6.b	3.11.3	✓
Deleted	3.7.2[NR]	
Deleted	3.7.3	
3.6.c	3.7.4	✓
Deleted	3.7.5	
Deleted	3.7.6	
3.6.d	3.7.1	✓
3.6.e[NR]	**New**	
3.6.f	**New**	
Outcome 7		
3.7.a	3.13.2[NR]	✓
3.7.b	3.13.1	✓
3.7.c	**New**	
3.7.d	**New**	

(continued)

2014 Revised and 2005 KOI Goal 3 Indicators Crosswalk (continued)

Revised Indicator Number	Original KOI Number	Revised Title
Outcome 8		
3.8.a	3.14.1	✓
3.8.b	3.14.2	
Deleted	3.14.3	
3.8.c	3.14.4	
3.8.d	**New**	

[NR] Denotes an indicator that is not rated (see Appendix C for an explanation).

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Outcome 1

Increased Intention to Quit, Perceived Harm of Tobacco Use, and Awareness of and Support for Cessation Services

Two factors determine population quit rates: (1) the number of quit attempts (both the number of tobacco users who try to quit and the number of times they make a quit attempt), and (2) the odds that tobacco users who try to quit will succeed.[1] Increasing awareness of and support for cessation services aids in both of these factors.[2] Population-wide interventions, such as hard-hitting media campaigns, comprehensive smokefree policies, and increases in the unit price of tobacco products, work to change environments and social norms related to tobacco use and subsequently increase tobacco cessation.[2-7]

Hard hitting media campaigns increase negative feelings about tobacco use, increase perceived benefits of quitting, increase the desire to quit among tobacco users, increase intention to quit, and can increase calls to quitlines.[8-12] Evidence shows that intention to quit using tobacco is a predictor of actual quit attempts and their success.[13-20] Similarly, tobacco users who are aware of available evidence-based cessation services and perceive them to be effective are more likely to use them, which improves the odds of successfully quitting.[13,21-27]

The following indicators are associated with this outcome:

- **3.1.a** Level of awareness of anti-tobacco media messages
- **3.1.b** Level of receptivity to anti-tobacco media messages
- **3.1.c** Level of perceived risk of tobacco products among tobacco users
- **3.1.d** Proportion of tobacco users who intend to quit
- **3.1.e** Proportion of tobacco users who are aware of available cessation services
- **3.1.f**^{NR} Total call volume to telephone quitline
- **3.1.g**^{NR} Proportion of tobacco users who believe there are benefits to using evidence-based cessation services
- **3.1.h** Level of support for community policies that promote cessation
- **3.1.i** Level of support for policies within health care settings that promote cessation

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Outcome 1

Increased Intention to Quit, Perceived Harm of Tobacco Use, and Awareness of and Support for Cessation Services

Indicator Rating
← ○ ◒ ◓ ● → better

Number	Indicator	Overall Quality low ⟷ high	Resources Needed	Strength of Evaluation Evidence	Utility	Face Validity	Accepted Practice
3.1.a	Level of awareness of anti-tobacco media messages		$$	●	●	●	●
3.1.b	Level of receptivity to anti-tobacco media messages		$$	◒	◒	◒	●
3.1.c	Level of perceived risk of tobacco products among tobacco users		$$	◒	◒	◒	◒
3.1.d	Proportion of tobacco users who intend to quit		$	●	●	●	●
3.1.e	Proportion of tobacco users who are aware of available cessation services		$	◒	◒	◒	●
3.1.f[NR]	Total call volume to telephone quitline	⊘	⊘	⊘	⊘	⊘	⊘
3.1.g[NR]	Proportion of tobacco users who believe there are benefits to using evidence-based cessation services	⊘	⊘	⊘	⊘	⊘	⊘
3.1.h	Level of support for community policies that promote cessation		$	◒	◒*	◒	●
3.1.i	Level of support for policies within health care settings that promote cessation		$$$	◒	◒	◒	◒

$ Dollar signs denote a qualitative rating of the resources (funds, time, and effort) needed to collect and analyze data using the most commonly available data source. The more dollar signs (maximum four), the more resources needed. Dollar signs do not represent a specific amount or range of costs but are instead a relative measure of expert reviewers' ratings regarding resources required to collect and analyze data to measure the indicator.

⊘ Denotes no rating information.

NR Denotes an indicator that is not rated (see Appendix C for an explanation).

* Denotes low reviewer response, defined as fewer than 75% of valid ratings on a criterion for an indicator.

Indicator 3.1.a

Level of Awareness of Anti-Tobacco Media Messages

KOI 2005	3.8.1
Goal area 3	Promoting Quitting Among Adults and Young People
Outcome 1	Increased intention to quit, perceived harm of tobacco use, and awareness of and support for cessation services
What to measure	Level of unaided, aided, and/or confirmed awareness of media messages among the target population
Why this indicator is useful	Evaluating awareness of messages is critical to understanding the behavioral effects of anti-tobacco advertising on target populations and should be used to guide health communication planning.[1] Evidence shows that mass-reach health communication campaigns are effective in increasing tobacco-use cessation.[1-5]
Example data source(s)	Centers for Disease Control and Prevention (CDC) 2014 *Tips From Former Smokers* (*Tips*) Campaign, Pilot Campaign Survey New York Adult Tobacco Survey National Quitline Data Warehouse (NQDW) Intake Questionnaire, 2012
Population group(s)	General population
Example survey question(s)	***Tips* Pilot Campaign Survey** *Unaided Awareness:* In the past month, do you remember seeing, hearing, or reading any TV, radio, newspaper, or online advertising about a [campaign describing the dangers of tobacco]? • Yes • No • DON'T KNOW/NOT SURE • REFUSED What can you tell me about this/these [advertisements]? Please describe for me anything specific you saw, heard, or read in the [advertisements]. What [were] the [advertisements] about? What was the name of the program mentioned in the [advertisements]? Is there anything else you can awareness? Have you recently seen any antitobacco or antismoking ads on television [or other relevant medium of interest]? What happened in the ad(s)?[6,7] *Aided Awareness:* **From CDC *Tips*: (Online survey)** "Now, we would like you to view a series of television advertisements that have been shown in the U.S. When you are ready, please click on the link below to view the first advertisement. There are a total of XX ads to view. After you view each ad, there will be a few questions that ask about your opinions of the ad." Have you seen this ad on television in the past 3 months that is, since [DATE]? 1. Yes 2. No

If yes*:*

In the past 3 months, how frequently have you seen this ad on television? (Rarely, Sometimes, Often, Very Often)

Confirmed Awareness:

From New York Adult Tobacco Survey (telephone survey):

"Have you recently seen an anti-smoking ad on TV that shows [insert ad description here]?"

"What happens in this ad?"

2012 NQDW Intake Questionnaire

In the past three months, did you hear about 1-800-QUIT-NOW from any advertisements with smokers telling personal stories and tips about living with health problems?

1. Yes
2. No
3. Unsure

Comments

There are three ways to measure individual-level awareness and recognition of advertisements: *unaided awareness*, *aided awareness*, and *confirmed awareness*. *Aided awareness* is also referred to as recognition or encoded exposure in the health communication research literature. *Unaided awareness* items provide little or no cues about the content of an advertisement and require the respondent to describe the details of an ad from memory. *Aided awareness* items consist of an interviewer providing respondents with a verbal description of an ad's content in phone interviews, or respondents watching or listening to all or part of an advertisement during in-person or online interviews. The respondent then is asked if they recognize the ad. *Confirmed awareness* items provide a brief description of an ad (or show stills of an ad if the survey is conducted online) and then ask the respondent to provide additional details about the message.

Aided awareness helps determine specific campaign and ad awareness,[8] whereas *unaided awareness* allows for tracking which campaign messages are most prominent in the minds of the target population. For *aided awareness* items, evaluators may choose to include decoy responses to determine "yea-saying" bias. Research has questioned the marginal utility of *confirmed awareness* items compared to aided awareness measures, and given the extra respondent and interviewer burden open-ended *confirmed awareness* items confer, aided awareness measures may be preferable.[9] The mode of survey administration is also important to consider when choosing awareness items. Online administration of surveys allows advertisements and other materials (e.g., Web site banner ads, television ads) to be shown directly to survey participants, rather than relying on crude interviewer descriptions of advertisements as in phone interviews. Examples of each type of measure are included in "Example Survey Question(s)" above.

Programs may want to evaluate *confirmed awareness* of an advertisement by respondent smoking status (current, former, or never) and addiction level (e.g., light, moderate, or heavy) demographic and tobacco use characteristics because awareness levels may differ significantly among groups with different levels of addiction. In addition, frequency of exposure should be measured to allow greater variation in responses as well as provide for dose-response analyses.

Evaluators should work closely with media campaign managers to

(1) develop a separate series of questions for each main media message and

(2) coordinate data collection with the timing of the media campaign.[10]

Rating	Overall quality low ⟷ high	Resources needed	Strength of evaluation evidence	Utility	Face validity	Accepted practice
		$$	●	●	●	●
			← ○ ◒ ◒ ● → better			

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Indicator 3.1.b

Level of Receptivity to Anti-Tobacco Media Messages

KOI 2005	3.8.2
Goal area 3	Promoting Quitting Among Adults and Young People
Outcome 1	Increased intention to quit, perceived harm of tobacco use, and awareness of and support for cessation services
What to measure	Level of receptivity to media messages by the intended audience. Receptivity is generally defined as the extent to which people are willing to listen to a persuasive message. In tobacco control evaluation, however, the definition is narrower; receptivity is the extent to which people believe that the message was convincing, made them think about their behavior, and stimulated discussion with others.[1] See "Comments" below for more information.
Why this indicator is useful	Message awareness is necessary but not sufficient to change knowledge, attitudes, and behavioral intentions. Media messages are effective only if they reach and resonate with the intended audience.[2,3] Well-received messages help ensure campaign effectiveness.[4-7] Measures to gauge the perceived persuasiveness of messages, perceptions of the salience of the messages, and other general impressions about the campaign can be employed. A growing literature has established that measures of media message receptivity predict changes in attitudes, including negative feelings about smoking; increased perceived benefits of quitting; increased desire to quit; and increased intentions to quit.[6-8]
Example data source(s)	Centers for Disease Control and Prevention (CDC) 2012 *Tips From Former Smokers* (*Tips*) Campaign, Smoker Follow-up Questionnaire
Population group(s)	General population
Example survey question(s)	**From CDC 2012 *Tips* Campaign, Smoker Follow-up Questionnaire** *Perceived ad effectiveness:* These ads are worth remembering • Strongly disagree • Disagree • Neither agree nor disagree • Agree • Strongly agree These ads grabbed my attention • Strongly disagree • Disagree • Neither agree nor disagree • Agree • Strongly agree These ads are powerful • Strongly disagree • Disagree • Neither agree nor disagree • Agree • Strongly agree

These ads are informative

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

These ads are meaningful

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Negative emotional reaction:

"On a scale of 1 to 5, where 1 means 'not at all' and 5 means 'very,' please indicate how much these ads made you feel. . ."

- Depressed
- Afraid
- Ashamed

Motivational reaction:

"On a scale of 1 to 5, where 1 means 'not at all' and 5 means 'very,' please indicate how much these ads made you feel. . ."

- Motivated
- Hopeful
- Understood

Comments

Note that perceived effectiveness is a critical element of receptivity. Perceived effectiveness has been standardized and shown to be predictive of outcomes.[6] Other receptivity measures, such as negative emotion and motivational reaction, tend to be more content-specific and may be useful depending on the specific content of an advertisement.

Evaluators may want to assess media message receptivity by communication medium (e.g., television, Internet, social media, billboard, print).

Evaluators should work closely with countermarketing campaign managers to

(1) develop a separate series of questions for each main media message,

(2) formatively test media messages, and

(3) coordinate data collection with the timing of the media campaign.[9]

Rating

Overall quality low ⟷ high	Resources needed	Strength of evaluation evidence	Utility	Face validity	Accepted practice
	$$	◒	◒	◒	●
			← ○ ◔ ◒ ● → better		

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Indicator 3.1.c

Level of Perceived Risk of Tobacco Products Among Tobacco Users

KOI 2005	New
Goal area 3	Promoting Quitting Among Adults and Young People
Outcome 1	Increased intention to quit, perceived harm of tobacco use, and awareness of and support for cessation services
What to measure	Tobacco users' perceived direct and comparative risks of tobacco products
Why this indicator is useful	The tobacco industry continually introduces new tobacco products, including smokeless products, such as snus and dissolvable tobacco, and electronic nicotine delivery devices, including e-cigarettes;[1,2] these products are often perceived as less harmful by some current smokers and may be seen as an alternative to smoking cessation.[3] One international study found that use of new tobacco products is most strongly associated with beliefs about the reduced harm of these products.[4] Monitoring perceptions of risk from different product types can help illuminate the impact of these new products on cessation.
Example data source(s)	National Adult Tobacco Survey (NATS), 2013–2014 Information available at: http://www.cdc.gov/tobacco/data_statistics/surveys/nats/ Minnesota Adult Tobacco Survey (MATS), 2007 Information available at: http://www.mntobacco.nonprofitoffice.com/ Population Assessment of Tobacco and Health (PATH) Study, Adult Extended Interview, 2012 Information available at: https://pathstudyinfo.nih.gov/UI/FAQsResMobile.aspx
Population group(s)	General population
Example survey question(s)	**From NATS** How much do you think your risk of developing a smoking-related disease would decrease if you cut the amount that you smoke in half? Would you say… • Not at all • A little • Somewhat • A lot • DON'T KNOW/NOT SURE • REFUSED How harmful do you think cigar smoking is to a person's health? • Not at all harmful • Moderately harmful • Very harmful • DON'T KNOW/NOT SURE • REFUSED How harmful do you think using smokeless tobacco is to a person's health? • Not at all harmful • Moderately harmful • Very harmful • DON'T KNOW/NOT SURE • REFUSED

How harmful do you think using dissolvable tobacco is to a person's health?

- Not at all harmful
- Moderately harmful
- Very harmful
- DON'T KNOW/NOT SURE
- REFUSED

From MATS

In your opinion, are any of the following products less harmful, more harmful, or just as harmful as smoking cigarettes? Smokeless tobacco such as snuff and chewing tobacco?

- Less harmful
- More harmful
- Just as harmful
- REFUSED
- DON'T KNOW

In your opinion, are any of the following products less harmful, more harmful, or just as harmful as smoking cigarettes? Electronic cigarettes?

- Less harmful
- More harmful
- Just as harmful
- REFUSED
- DON'T KNOW

From PATH

I am going to read you a list of diseases that may or may not be caused by smoking cigarettes. Based on what you know or believe, does smoking cause…

- Stroke in smokers?
- Lung cancer in smokers?
- Heart disease in smokers?
- Blindness in smokers?
- Peripheral vascular disease (poor circulation) in smokers?
- Bladder cancer in smokers?
- Mouth cancer in smokers?
- Lung disease such as emphysema in smokers?
- Lung disease in nonsmokers, from secondhand smoke?
- Heart attack in nonsmokers from secondhand smoke?
- Harm to fetuses (or unborn children) during pregnancy from secondhand smoke?
  - Yes
  - No
  - DON'T KNOW
  - REFUSED

To what extent do you believe the nicotine in cigarettes to be the chemical that causes most of the cancer caused by smoking?

- Not at all
- A little
- Somewhat

- Very much
- DON'T KNOW
- REFUSED

Is using [other tobacco product] less harmful, about the same, or more harmful than smoking cigarettes?

- Less harmful
- About the same
- More harmful
- DON'T KNOW
- REFUSED

Comments

Measuring perceived risk among tobacco users is complicated by a number of factors, including type of risk assessed (e.g., personalized risk of harm from using a given tobacco product, relative risk of harm compared to other tobacco users and/or non-tobacco users, comparative risks of using one type of product instead of another), length of time and intensity of tobacco use, cultural beliefs, and survey methods. Evaluators should carefully consider the purpose for collecting information and select the appropriate measure(s) to best inform decision making. For example, little is known about the perceived risk of different types of tobacco products, especially as new products emerge. Capturing this information over time may help inform program planning, especially if these risks can be linked to quit intentions, quit attempts, product preferences, and dual use.

Rating

Overall quality low ⟷ high	Resources needed	Strength of evaluation evidence	Utility	Face validity	Accepted practice
	$$	◒	◒	◒	◒
		← ○ ◒ ◒ ● → better			

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Indicator 3.1.d

Proportion of Tobacco Users Who Intend to Quit

KOI 2005	3.8.3
Goal area 3	Promoting Quitting Among Adults and Young People
Outcome 1	Increased intention to quit, perceived harm of tobacco use, and awareness of and support for cessation services
What to measure	Proportion of tobacco users who are considering stopping use of tobacco products
Why this indicator is useful	Evidence shows that intention to quit using tobacco is a predictor of actual quit attempts and successful quitting.[1-7]
Example data source(s)	National Youth Tobacco Survey (NYTS): 2012 Information available at: http://www.cdc.gov/tobacco/data_statistics/surveys/nyts/ National Adult Tobacco Survey (NATS), 2013–2014 Information available at: http://www.cdc.gov/tobacco/data_statistics/surveys/nats/ Tobacco Use Supplement to the Current Population Survey (TUS-CPS), 2006–2007 Information available at: http://riskfactor.cancer.gov/studies/tus-cps/
Population group(s)	All tobacco users
Example survey question(s)	**From NYTS** Are you seriously considering quitting cigarettes? • I do not smoke cigarettes • Yes, within the next 30 days • Yes, within the next 6 months • Yes, within the year • Yes, but not within the year • No, I am not thinking about quitting cigarettes Are you seriously considering quitting all tobacco products? • I do not use tobacco products • Yes, within the next 30 days • Yes, within the next 6 months • Yes, within the year • Yes, but not within the year • No, I am not thinking about quitting the use of all tobacco products **From NATS** Are you thinking about quitting cigarettes for good? • Yes • No • DON'T KNOW/NOT SURE • REFUSED How soon are you likely to quit smoking? Would you say… • Within the next 30 days • Within the next 6 months • Within the year • Longer than a year

- DON'T KNOW/NOT SURE
- REFUSED

From TUS-CPS

Are you seriously considering quitting smoking within the next 6 months?

- Yes
- No
- DON'T KNOW
- REFUSED
- NO RESPONSE

Are you planning to quit within the next 30 days?

- Yes
- No
- DON'T KNOW
- REFUSED
- NO RESPONSE

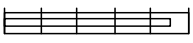
Overall, on a scale from 1 to 10 where 1 is NOT AT ALL interested and 10 is EXTREMELY interested, how interested are you in quitting smoking?

- 1:10 Number
- DON'T KNOW
- REFUSED
- NO RESPONSE

Comments

For dual/poly tobacco users, it is important to measure quitting intentions for all products used because intentions may vary across products. Tobacco users may quit one product but continue to use others.

Rating

Overall quality low ⟷ high	Resources needed	Strength of evaluation evidence	Utility	Face validity	Accepted practice
	$	●	●	●	●
		← ○ ◒ ◓ ● → better			

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Indicator 3.1.e

Proportion of Tobacco Users Who Are Aware of Available Cessation Services

KOI 2005	3.8.6, 3.8.7
Goal area 3	Promoting Quitting Among Adults and Young People
Outcome 1	Increased intention to quit, perceived harm of tobacco use, and awareness of and support for cessation services
What to measure	Proportion of tobacco users who are aware of available evidence-based cessation services and whether the services are covered under their health insurance. Evidence-based services include individual counseling, group counseling, telephone counseling, mobile text-based cessation interventions, and Food and Drug Administration (FDA)-approved pharmacotherapies.[1,2]
Why this indicator is useful	The existence and increased availability of evidence-based cessation services have a limited effect if tobacco users are not aware of these services.[1,3–8] One study found that Medicaid enrollees who knew that their state program covered proven behavioral and pharmacologic treatments had higher likelihood of using these aids in their quit attempts.[3] This issue will become increasingly important given expanded insurance coverage for cessation treatment under the Affordable Care Act.[4]
Example data source(s)	National Adult Tobacco Survey (NATS), 2009-2010 Information available at: http://www.cdc.gov/tobacco/data_statistics/surveys/nats/
Population group(s)	All tobacco users
Example survey question(s)	**From NATS** Are you aware of any telephone quitline services that are available to help you quit using tobacco? • Yes • No • DON'T KNOW/NOT SURE • REFUSED Are you aware of any individual or group counseling services, other than quitlines, that are available to help you quit smoking cigarettes? • Yes • No • DON'T KNOW/NOT SURE • REFUSED Now I am going to ask some questions about health insurance and quitting tobacco. Do you have any kind of health insurance, including prepaid plans such as HMOs or government plans such as Medicare or Medicaid? • Yes • No • DON'T KNOW/NOT SURE • REFUSED Does your health insurance help pay for counseling or medications to help people stop smoking cigarettes? • Yes

- No
- DON'T KNOW/NOT SURE
- REFUSED

Does your health insurance help pay for counseling or medications to help people stop using tobacco products other than cigarettes?

- Yes
- No
- DON'T KNOW/NOT SURE
- REFUSED

Comments

Similar questions could be asked of nonsmokers to gauge their awareness of evidence-based cessation services that could be used by family members and friends who are tobacco users.

Rating

Overall quality low ⟷ high	Resources needed	Strength of evaluation evidence	Utility	Face validity	Accepted practice
	$	◒	◒	◒	●
			← ○ ◒ ◒ ● → better		

References

1. Fiore MC, Jaén CR, Baker TB, Bailey WC, Benowitz NL, Curry SJ, et al. *Treating tobacco use and dependence: 2008 update*. Clinical Practice Guideline. Rockville, MD: U.S. Department of Health and Human Services, Public Health Service; May 2008.
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Indicator 3.1.f[NR]

Total Call Volume to Telephone Quitline

KOI 2005	New
Goal area 3	Promoting Quitting Among Adults and Young People
Outcome 1	Increased intention to quit, perceived harm of tobacco use, and awareness of and support for cessation services
What to measure	Total number of calls to the quitline (not number of callers or unique individuals)
Why this indicator is useful	Mass-reach health communication interventions can be powerful tools for promoting and facilitating cessation, including promoting quitlines.[1] Total call volume to telephone quitlines increases during emotionally evocative tobacco education media campaigns.[2,3] Additionally, these increases in call volume have been shown to include priority populations, including African Americans; persons who predominantly speak Asian languages; and low-income smokers.[4-7]
Example data source(s)	CDC State Tobacco Activities Tracking and Evaluation (STATE) system—Quitline-Service Utilization Information available at: http://www.cdc.gov/statesystem/ National Quitline Data Warehouse (NQDW), Quitline Services Survey, 2012
Population group(s)	Quitline service providers
Example survey question(s)	**From NQDW** How many total direct calls came in to the quitline? *Note: Direct calls are your quitline's total incoming calls, not referrals that generate an outbound call from the quitline. Please report on number of calls, not number of callers/unique individuals. This should include proxy callers, wrong numbers, prank calls, and other calls to the quitline that are not accounted for in these categories.*

Type of Call	Number of Calls
a. Calls answered live	
b. Calls went to voicemail	
c. Calls hung up or abandoned	
d. Other calls (e.g., listening to taped messages)	
e. Total direct calls (a+b+c+d)	

Comments	To enhance utility of information for program improvement, evaluators may choose to analyze these data in total and by calls answered live by quitline staff, calls that went to voicemail, and all other calls.

Rating

Overall quality low ⟷ high	Resources needed	Strength of evaluation evidence	Utility	Face validity	Accepted practice
⦸	⦸	⦸	⦸	⦸	⦸

← ○ ◒ ◓ ● → better

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1. Centers for Disease Control and Prevention. *Best practices for comprehensive tobacco control programs—2014*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health; 2014.
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Indicator 3.1.g[NR]

Proportion of Tobacco Users Who Believe There Are Benefits to Using Evidence-Based Cessation Services

KOI 2005	New
Goal area 3	Promoting Quitting Among Adults and Young People
Outcome 1	Increased intention to quit, perceived harm of tobacco use, and awareness of and support for cessation services
What to measure	Proportion of tobacco users who believe evidence-based counseling and medications will help them successfully quit tobacco products
Why this indicator is useful	Although tobacco users improve their odds of successfully quitting when they use evidence-based cessation counseling and medications, the use of these treatments remains low.[1-3] Approximately two-thirds to three-quarters of smokers who try to quit do not use any evidence-based cessation services.[1] The use of these treatments among subpopulations varies according to personal beliefs, views toward doctors and other health care professionals, and knowledge of tobacco treatments.[4] For example, one study found that hospitalized patients severely underestimate the effectiveness of medications and comprehensive cessation programs including counseling and medications.[5] Increasing tobacco users' perceived effectiveness of evidence-based cessation services increases use of these services.[6,7]
Example data source(s)	No commonly used data sources were found.
Population group(s)	All tobacco users
Example survey question(s)	Modified from Juliano and Brandon[8] to address a broader range of evidence-based cessation services: [Specific type of evidence-based cessation service] Increases my chances of quitting smoking • Completely unlikely • Moderately unlikely • Somewhat likely • Moderately likely • Completely likely [Specific type of evidence-based cessation service] Makes quitting smoking easier • Completely unlikely • Moderately unlikely • Somewhat likely • Moderately likely • Completely likely [Specific type of evidence-based cessation service] Reduces withdrawal • Completely unlikely • Moderately unlikely • Somewhat likely • Moderately likely • Completely likely

Comments	None					
Rating	**Overall quality** low ⟷ high	Resources needed	Strength of evaluation evidence	Utility	Face validity	Accepted practice
	⊘	⊘	⊘	⊘	⊘	⊘
				← ○ ◒ ◓ ● → better		

References

1. Centers for Disease Control and Prevention. *Best practices for comprehensive tobacco control programs—2014*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health; 2014.
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Indicator 3.1.h

Level of Support for Community Policies that Promote Cessation

KOI 2005	3.8.5
Goal area 3	Promoting Quitting Among Adults and Young People
Outcome 1	Increased intention to quit, perceived harm of tobacco use, and awareness of and support for cessation services
What to measure	Proportion of the population that supports community policies that promote cessation, such as restrictions on the use of tobacco products in public settings and restrictions on the sale and availability of tobacco products
Why this indicator is useful	Assessing public support for evidence-based practices, such as restrictions on the use of tobacco products in public settings and restrictions on the sale and availability of tobacco products, helps to clarify public awareness of environmental influences on tobacco use, monitor social norms, and determine whether efforts to combat pro-tobacco messaging are effective.[1-7] Recent evidence also suggests that support for smokefree laws among smokers predicts future quitting.[8]
Example data source(s)	National Adult Tobacco Survey (NATS), 2009-2010 Information available at: http://www.cdc.gov/tobacco/data_statistics/surveys/nats/ International Tobacco Control (ITC) Survey, 2012 Information available at: http://www.itcproject.org/surveys HealthStyles, 2013 Information available at: http://www.orau.gov/cdcynergy/soc2web/Content/activeinformation/resources/Healthstyles.pdf
Population group(s)	General population
Example survey question(s)	**From NATS** Should smoking indoors in restaurants…? • Always be allowed • Be allowed only at some times or in some places • Never be allowed • DON'T KNOW/NOT SURE • REFUSED Should smoking indoors in bars, casinos, or clubs…? • Always be allowed • Be allowed only at some times or in some places • Never be allowed • DON'T KNOW/NOT SURE • REFUSED Should tobacco use be completely banned on school grounds, including fields and parking lots, and at all school events, even for teachers and other adults? • Yes • No • DON'T KNOW/NOT SURE • REFUSED

From ITC

The following measures have been suggested to reduce smoking levels. Please tell me how you feel about each suggestion. Would you support or oppose a law that restricted the number of places where cigarettes could be purchased?

- DON'T KNOW
- NOT APPLICABLE
- REFUSED
- Oppose
- Support
- Strongly support
- Strongly oppose

From HealthStyles

Do you think e-cigarettes should be allowed to be used in public areas where tobacco smoking is prohibited?

- Yes
- No
- DON'T KNOW/NOT SURE

Comments

Evaluators may want to analyze the level of support for policies according to the tobacco use status of the respondent.

The example questions represent a sample of policies that promote cessation, not an exhaustive list. Similar questions could be asked of decision makers, opinion leaders, or the public about conventional cigarettes as well as alternative products.

Rating

Overall quality low ⟷ high	Resources needed	Strength of evaluation evidence	Utility	Face validity	Accepted practice
	$	◒	◒	◒	●
		← ○ ◒ ◒ ● → better			

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1. National Cancer Institute. *The role of the media in promoting and reducing tobacco use*. Tobacco Control Monograph No. 19. NIH Publication No. 07-6242. Bethesda, MD: U.S. Department of Health and Human Services, National Institutes of Health, National Cancer Institute; June 2008.
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Indicator 3.1.i

Level of Support for Policies within Health Care Settings that Promote Cessation

KOI 2005	3.8.8
Goal area 3	Promoting Quitting Among Adults and Young People
Outcome 1	Increased intention to quit, perceived harm of tobacco use, and awareness of and support for cessation services
What to measure	Proportion of decision makers, including health administrators, insurers and purchasers, who support policies promoting cessation within health care settings (e.g., providing comprehensive coverage for proven behavioral and pharmacologic treatments to help people stop using tobacco products; implementing referral programs that link health care organizations, providers, and patients with tobacco quitlines)
Why this indicator is useful	Measuring decision-maker support for policies that promote tobacco cessation may help to integrate cessation into the delivery of health care.[1] Widespread implementation of health care systems-level policies that promote cessation has been shown to increase the number of successful quit attempts and decrease tobacco prevalence rates.[1-4]
Example data source(s)	Decision Maker or Opinion Leader Survey
Population group(s)	Decision makers
Example survey question(s)	Proven therapies for treatment of tobacco dependence, such as nicotine replacement therapy, telephone counseling, face-to-face counseling, and/or cessation group counseling, should be fully covered by health insurance plans. Do you… • Strongly agree • Agree • Disagree • Strongly disagree
Comments	The authors created this example question. It is not in any commonly used survey or other data source. The example questions could be asked of decision makers, opinion leaders, or the public.

Rating

Overall quality low ⟷ high	Resources needed	Strength of evaluation evidence	Utility	Face validity	Accepted practice
	$$$	◒	◒	◒	◒
			← ○ ◒ ◒ ● → better		

References

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Outcome 2

Increased Availability and Expanded Coverage of Comprehensive Cessation Services

Expanding cessation insurance coverage reduces cost and administrative barriers to cessation counseling and medications and increases the number of smokers who attempt to quit, who use evidence-based treatments, and who successfully quit tobacco use.[1-5] The U.S. Public Health Service calls for all insurance plans to include comprehensive cessation coverage.[3] Comprehensive cessation coverage minimizes cost sharing and other barriers and includes all evidence-based cessation treatment—including individual, group, and telephone counseling—and all Food and Drug Administration (FDA)-approved cessation medications.[1,5] Barriers to using evidence-based cessation services for patients trying to quit tobacco include requiring co-payments, requiring prior authorization to access treatment, and limiting how long a patient can be treated or how many times per year a patient can access treatment.[2,5-8] Expanding cessation insurance coverage has the potential to reduce tobacco-related population disparities.[2-5]

The following indicators are associated with this outcome:

- **3.2.a** Proportion of the insured population with access to comprehensive cessation services
- **3.2.b** Proportion of the insured population without health insurance barriers to accessing evidence-based cessation treatments

References

1. Centers for Disease Control and Prevention. *Best practices for comprehensive tobacco control programs—2014*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health; 2014.

2. The Guide to Community Preventive Services. *Reducing tobacco use and secondhand smoke exposure*. Available at: http://www.thecommunityguide.org/tobacco/index.html. Last updated: June 12, 2014.

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Outcome 2

Increased Availability and Expanded Coverage of Comprehensive Cessation Services

Indicator Rating
← ○ ◒ ◓ ● → better

Number	Indicator	Overall Quality low ⟷ high	Resources Needed	Strength of Evaluation Evidence	Utility	Face Validity	Accepted Practice
3.2.a	Proportion of the insured population with access to comprehensive cessation services	 †	$	◒	●	●	●
3.2.b	Proportion of the insured population without health insurance barriers to accessing evidence-based cessation treatments		$	●	◒	◒	●

$ Dollar signs denote a qualitative rating of the resources (funds, time, and effort) needed to collect and analyze data using the most commonly available data source. The more dollar signs (maximum four), the more resources needed. Dollar signs do not represent a specific amount or range of costs but are instead a relative measure of expert reviewers' ratings regarding resources required to collect and analyze data to measure the indicator.

† Denotes low agreement among reviewers, defined as less than 75% of valid ratings within ±1 point of the median for this indicator-specific criterion.

Indicator 3.2.a

Proportion of the Insured Population with Access to Comprehensive Cessation Services

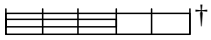
KOI 2005	New
Goal area 3	Promoting Quitting Among Adults and Young People
Outcome 2	Increased availability and expanded coverage of comprehensive cessation services
What to measure	Proportion of insured population whose public and/or private insurance covers all recommended evidence-based cessation treatments. See "Comments" for clarification of "comprehensive cessation services."
Why this indicator is useful	Health insurance coverage of evidence-based treatments including medications and counseling increases the use of effective treatments and successful quit attempts.[1-7] Evidence-based treatments have been shown to be both clinically effective and cost-effective.[1,2]
Example data source(s)	American Lung Association (ALA), Tobacco Cessation Coverage 2012, Survey of State Medicaid, Department of Health and Quitline staff Information available at: http://www.lung.org/assets/documents/tobacco/helping-smokers-quit-2012.pdf
Population group(s)	Health care administrators, insurers, and purchasers
Example survey question(s)	Of the 10 evidence-based recommended treatments, how many does your state Medicaid plan/state regulatory standard/state employee health plan/Essential Health Benefit cover? A. NRT gum B. NRT patch C. NRT nasal spray D. NRT lozenge E. NRT inhaler F. Varenicline (Chantix) G. Bupropion (Zyban) H. Group counseling I. Individual counseling J. Phone counseling Response categories: • Coverage only for pregnant women • Coverage varies by health plan • Coverage provided only under certain conditions • Data not reported
Comments	Comprehensive cessation services are currently defined as coverage of all evidence-based treatments recommended by the U.S. Public Health Service.[1] Currently, these treatments include; Nicotine replacement therapy (NRT) gum, NRT patch, NRT nasal spray, NRT lozenge, NRT inhaler, Varencicline, Bupropion, group counseling, individual counseling, and telephone counseling. This definition may change over time as new treatments are developed. Capturing information regarding the scope and degree of coverage for target populations will help to identify gaps and assess where interventions are having the greatest impact.

For example, comprehensive cessation service coverage can be assessed for persons with private insurance or subpopulations of those covered by large employers in the state, the state Medicaid population, and/or persons covered under the state employee health plan.

ALA systematically reviews public health insurance plans and state health insurance mandates, and summarizes which cessation treatments are covered. This information, combined with the denominator of insured population, can be used to calculate this indicator.

Related Healthy People 2020 Objectives*: TU-8 Increase comprehensive Medicaid insurance coverage of evidence-based treatment for nicotine dependency in states and the District of Columbia.*
Information available at: http://www.healthypeople.gov/2020/default.aspx

Rating

Overall quality low ⟷ high	Resources needed	Strength of evaluation evidence	Utility	Face validity	Accepted practice
 †	$	◒	●	●	●
			← ○ ◒ ◒ ● → better		

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1. Fiore MC, Jaén CR, Baker TB, Bailey WC, Benowitz NL, Curry SJ, et al. *Treating tobacco use and dependence: 2008 update*. Clinical Practice Guideline. Rockville, MD: U.S. Department of Health and Human Services, Public Health Service; May 2008.
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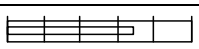
Indicator 3.2.b

Proportion of the Insured Population Without Health Insurance Barriers to Accessing Evidence-Based Cessation Treatments

KOI 2005	New
Goal area 3	Promoting Quitting Among Adults and Young People
Outcome 1	Increased availability and expanded coverage of comprehensive cessation services
What to measure	Proportion of the insured population without health insurance-related barriers to accessing evidence-based cessation services. See "Comments" for clarification of "health insurance-related barriers."
Why this indicator is useful	Barriers to cessation treatment can exist even when insurance coverage is in place. Barriers for patients trying to quit tobacco include requiring co-payments, requiring prior authorization to access treatment or stepped care therapy, and limiting how long a patient can be treated or how many times per year a patient can access treatment.[1-6] Evidence demonstrates that removing these barriers to cessation treatment among Medicaid enrollees is associated with increased quit rates.[7]
Example data source(s)	American Lung Association (ALA), State Tobacco Cessation Coverage Database Information available at: http://www.lungusa2.org/cessation2/
Population group(s)	Health care administrators, insurers, and purchasers
Example survey question(s)	Barriers to Cessation Coverage in the States: Yes/No to the following: • Lifetime limit on quit attempts • Annual limit on quit attempts • Prior authorization required • Stepped care therapy • Counseling required for medications • Limits on duration • Co-payments required
Comments	Health insurance-related barriers include provisions in coverage that pose barriers to accessing cessation treatments, such as co-payments, requirements for prior authorization, and limitations on the number and duration of treatments, which may reduce use of these treatments and therefore reduce cessation.[8] Determining which employers and/or health insurance organizations provide coverage for the state's population is important to obtaining meaningful data regarding barriers to tobacco cessation services. Having this information at the individual health insurance plan level and by priority population, including specifically for tobacco users, could best aid in program and evaluation planning. However, systematically collecting this information is very difficult without existing partnerships with health care insurers and purchasers. States may choose to begin with the largest health plans, defined as those providing health insurance coverage to the largest proportion of individuals within a state.

Rating

Overall quality low ⟷ high	Resources needed	Strength of evaluation evidence	Utility	Face validity	Accepted practice
	$	●	◒	◒	●
		← ○ ◒ ◒ ● → better			

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Outcome 3

Increased Health Care Systems Change to Promote and Support Cessation

Integrated cessation interventions and systems-level strategies that incorporate tobacco dependence treatment into the delivery of health care lead to increasing rates of tobacco dependence treatment, quit attempts, and effective smoking cessation.[1-3] Approximately 80% of smokers visit a physician each year,[4] but tobacco screening and assessment in the health care setting varies by smoker race/ethnicity, age, and insurance type.[5] Full integration of tobacco dependence treatment into the clinical workflow increases the likelihood that health care providers will consistently screen patients for tobacco use and intervene with patients who use tobacco, thereby increasing rates of cessation.[1,3,6,7]

Current clinical practice guidelines recommend that clinicians and health care delivery systems consistently identify and document tobacco use status for each patient using the **5 A's** model: (1) ask about tobacco use, (2) advise tobacco users to quit, (3) assess willingness to make a quit attempt, (4) assist in quit attempt, and (5) arrange for follow-up.[1] Facilitating the **5A's** model through a provider reminder system can serve to institutionalize tobacco use and screening.[1,2,8,9] Finally, enacting tobacco-free policies on hospital and health care facility campuses can support cessation, especially among vulnerable populations, such as those at mental health facilities and substance abuse treatment centers.[10]

The following indicators are associated with this outcome:

- **3.3.a** Proportion of health care systems that have fully implemented current evidence-based cessation guidelines
- **3.3.b** Proportion of the population that has been asked by a health care professional about tobacco use
- **3.3.c** Proportion of tobacco users who have been advised to quit tobacco use by a health care professional
- **3.3.d** Proportion of tobacco users who have been assessed regarding their willingness to make a quit attempt by a health care professional
- **3.3.e** Proportion of tobacco users who have been assisted in quitting tobacco use by a health care professional
- **3.3.f** Proportion of tobacco users for whom a health care provider has arranged for follow-up contact regarding a quit attempt
- **3.3.g** Proportion of health care facilities with comprehensive tobacco-free campus policies

References

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2. The Guide to Community Preventive Services. *Reducing tobacco use and secondhand smoke exposure: provider reminders when used alone (inactive)*. Available at: http://www.thecommunityguide.org/tobacco/providerreminders_inactive.html. Last updated: July 22, 2014.

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Outcome 3

Increased Health Care Systems Change to Promote and Support Cessation

Indicator Rating
← ○ ◒ ◒ ● → better

Number	Indicator	Overall Quality low ⟷ high	Resources Needed	Strength of Evaluation Evidence	Utility	Face Validity	Accepted Practice
3.3.a	Proportion of health care systems that have fully implemented current evidence-based cessation guidelines		$$	●	●	●	●
3.3.b	Proportion of the population that has been asked by a health care professional about tobacco use		$	●	●	●	●
3.3.c	Proportion of tobacco users who have been advised to quit tobacco use by a health care professional		$	●	●	●	●
3.3.d	Proportion of tobacco users who have been assessed regarding their willingness to make a quit attempt by a health care professional	 †	$	◒	◒	◒	●
3.3.e	Proportion of tobacco users who have been assisted in quitting tobacco use by a health care professional		$	●	●	●	●
3.3.f	Proportion of tobacco users for whom a health care provider has arranged for follow-up contact regarding a quit attempt		$	◒	◒	◒	●
3.3.g	Proportion of health care facilities with comprehensive tobacco-free campus policies		$$$	●	●	●	●

$ Dollar signs denote a qualitative rating of the resources (funds, time, and effort) needed to collect and analyze data using the most commonly available data source. The more dollar signs (maximum four), the more resources needed. Dollar signs do not represent a specific amount or range of costs but are instead a relative measure of expert reviewers' ratings regarding resources required to collect and analyze data to measure the indicator.

† Denotes low agreement among reviewers, defined as less than 75% of valid ratings within ±1 point of the median for this indicator-specific criterion.

††

Indicator 3.3.a

Proportion of Health Care Systems that Have Fully Implemented Current Evidence-Based Cessation Guidelines

KOI 2005	3.9.1
Goal area 3	Promoting Quitting Among Adults and Young People
Outcome 3	Increased health care systems change to promote and support cessation
What to measure	Proportion of health care systems, which may include inpatient and outpatient hospitals and clinics, insurers, purchasers, and solo or groups of practitioners that have fully implemented Public Health Service Clinical Practice Guidelines.[1] For a list of the guidelines, see "Comments" below.
Why this indicator is useful	Efforts by clinicians, health care systems, insurers, and purchasers of health insurance to integrate cessation interventions and systems-level strategies into the delivery of health care lead to increasing rates of tobacco dependence treatments delivered, quit attempts, and effective smoking cessation.[1-6] System changes that remove barriers, such as the inclusion of electronic health record prompts and electronic referrals to follow-up quitline services, can help improve quality of care.[7]
Example data source(s)	Addressing Tobacco in Managed Care (ATMC), Survey of Health Plans, 1997–2002 National Ambulatory Medical Care Survey (NAMCS), Electronic Health Records Survey, 2013 Information available at: http://www.cdc.gov/nchs/ahcd.htm National Hospital Ambulatory Medical Care Survey (NHAMCS), 2013 Lookback Module Information available at: http://www.cdc.gov/nchs/ahcd/about_ahcd.htm National Survey of Substance Abuse Treatment Services (N-SSATS), 2012 Questionnaire Information available at: http://www.icpsr.umich.edu/icpsrweb/ICPSR/series/58
Population group(s)	Health care administrators, insurers, and purchasers
Example survey question(s)	**From ATMC** With regard to the Agency for Healthcare Research and Quality (AHRQ) guidelines, has your plan implemented them: • Fully • Partially • The plan has not implemented the guidelines *Mark all that apply* Has your plan implemented systems for any of the following? • Documentation of patient smoking status in an administrative computer database • Documentation of patient smoking status in the medical record • Computerized clinic reminders to encourage providers to advise patients to quit • Provider training in effective smoking cessation interventions • Routine cessation advice/brief provider counseling of patients • Provider incentives that promote tobacco cessation assessment and intervention • Patient incentives for use of/adherence to recommended cessation treatment

Are the providers in your plan required to carry out any of the following activities?

- Ask new patients about their smoking status
- Include smoking status as a vital sign (i.e., ask about and document smoking status at every visit)
- Document smoking status in the patient's medical record
- Strongly advise all patients who smoke to quit
- Assess willingness of patient to make a quit attempt
- Refer the patient who smokes to intensive treatment when the physician considers it appropriate or the patient prefers it
- Arrange for follow-up with patients who are trying to quit smoking
- Ensure that support staff are trained to counsel patients about smoking cessation
- Have literature about smoking cessation and the health risks of smoking readily available in waiting rooms and exam rooms
- Encourage parents who smoke to provide a smoke-free environment for their children at home and in day care
- Other (please specify)_____

From NAMCS

Please indicate whether the ambulatory reporting location has each of the computerized capabilities listed below and how often these capabilities are used.

Recording patient smoking status?

- Yes, used routinely
- Yes, but not used routinely
- Yes, but turned off or not used
- No
- Unknown

From NHAMCS (Lookback Module—Chart abstraction instrument)

Smoke cigarettes?

- Not current
- Current
- Unknown

Health education/Counseling –

Enter all health education or counseling ORDERED or PROVIDED at this visit. Mark (X) all that apply.

- None
- Smoking cessation

Assessment and plan—Referral

Mark (X) all that apply.

- None
- Smoking-cessation program

From N-SSATS

Which of the following services are provided by this facility at this location, that is, the location listed on the front cover?

- Assessment and Pre-Treatment Services
  - Screening for tobacco use

- Pharmacotherapies
  - Nicotine replacement
  - Non-nicotine smoking/tobacco cessation medications (for example, Bupropion, Varenicline)

Comments

The Public Health Service Systems Strategies[1] include the following:

1. Implement a tobacco user identification system in every clinic.
2. Provide education, resources, and feedback to promote provider intervention.
3. Dedicate staff to provide tobacco dependence treatment, and assess the delivery of this treatment in staff performance evaluations.
4. Promote hospital policies that support and provide tobacco dependence services.
5. Include tobacco dependence treatments (both counseling and medication) identified as effective in this Guideline as paid or covered services for all subscribers or members of health insurance packages.

Evaluators could conduct separate assessments for individual providers or groups that may not be nested within a larger health care system. Evaluators may want to assess implementation of cessation guidelines in different types of health care settings, such as hospitals, outpatient clinics, community health centers, and provider networks. Clarifying the scope of the assessment will be an important step in operationalizing the indicator.

Provisions of the initial stages of the Centers for Medicare & Medicaid Services "Meaningful Use" initiative require electronic health records to capture identification of and intervention with patients who use tobacco, and require providers to report on these measures to receive financial rewards.[8] These data can be leveraged for surveillance and evaluation of the implementation and outcomes of health systems change cessation interventions.

Related Healthy People 2020 Objectives*: TU-9 Increase tobacco screening in health care settings and TU-10 Increase tobacco cessation counseling in health care settings Information available at*: http://www.healthypeople.gov/2020/default.aspx

Rating

Overall quality low ⟷ high	Resources needed	Strength of evaluation evidence	Utility	Face validity	Accepted practice
	$$	●	●	●	●
		← ○ ◒ ◓ ● → better			

References

1. Fiore MC, Jaén CR, Baker TB, Bailey WC, Benowitz NL, Curry SJ, et al. *Treating tobacco use and dependence: 2008 update*. Clinical Practice Guideline. Rockville, MD: U.S. Department of Health and Human Services, Public Health Service; May 2008.
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Indicator 3.3.b

Proportion of the Population that Has Been Asked by a Health Care Professional about Tobacco Use

KOI 2005	3.9.2
Goal area 3	Promoting Quitting Among Adults and Young People
Outcome 3	Increased health care systems change to promote and support cessation
What to measure	Proportion of the population that has been asked about their smoking status by a health care professional during the previous 12 months
Why this indicator is important	All patients should be asked if they use tobacco and should have their tobacco use status documented at every clinic visit.[1] An estimated 80% of smokers visit a physician each year.[2] Evidence shows that when patients are asked about their tobacco use by a health care professional and when that response is documented, both the rates and success of clinician interventions increase.[1-8] Recent studies demonstrate that the rate of tobacco screening varies by patient race/ethnicity and insurance type.[3]
Example data source(s)	National Adult Tobacco Survey (NATS), 2009-2010 Information available at: http://www.cdc.gov/tobacco/data_statistics/surveys/nats/ National Health Interview Survey (NHIS), 2014 Information available at: http://www.cdc.gov/nchs/nhis/quest_data_related_1997_forward.htm#2013_NHIS Pregnancy Risk Assessment Monitoring System (PRAMS), 2009 Information available at: http://www.cdc.gov/prams/AboutPRAMS.htm National Youth Tobacco Survey (NYTS), 2011 Information available at: http://www.cdc.gov/tobacco/data_statistics/surveys/nyts/ National Ambulatory Medical Care Survey (NAMCS), Patient Record Form, 2011 Information available at: http://www.cdc.gov/nchs/ahcd.htm
Population group(s)	General population
Example survey question(s)	**From NATS** In the past 12 months, that is, since [DATE FILL], have you seen a doctor, dentist, nurse, or other health professional? • Yes • No • DON'T KNOW/NOT SURE • REFUSED In the past 12 months, that is, since [DATE FILL], did any doctor, dentist, nurse, or other health professional ask if you smoke cigarettes or use any other tobacco products? • Yes • No • DON'T KNOW/NOT SURE • REFUSED **From NHIS** DURING THE PAST 12 MONTHS, has a doctor or other health professional talked to you about your smoking? • Yes • No

- REFUSED
- DON'T KNOW

From PRAMS

During any of your prenatal care visits, did a doctor, nurse, or other health care worker ask if you were smoking cigarettes?

- No
- Yes

From NYTS

During the past 12 months, did any doctor, dentist, or nurse ask you if you use tobacco of any kind?

- I did not see a doctor, dentist, or nurse during the past 12 months
- Yes
- No

From NAMCS (Patient Record Form)

Health Education: Mark all ordered or provided at THIS visit:

- Tobacco use/exposure

Comments

Indicator data can be collected and analyzed for subpopulations. For example, PRAMS includes items that assess tobacco use screening among pregnant women.

In addition to population survey data, these data could be collected as part of clinical assessments,[7] using patient visits as the denominator to measure the proportion of visits in which a health care professional asked the patient about tobacco use.

***Related Healthy People 2020 Objectives**: TU-9 Increase tobacco screening in health care settings.*
Information available at: http://www.healthypeople.gov/2020/default.aspx

Rating

Overall quality: low ⟷ high	Resources needed	Strength of evaluation evidence	Utility	Face validity	Accepted practice
	$	●	●	●	●
		← ○ ◒ ◒ ● → better			

References

1. Fiore MC, Jaén CR, Baker TB, Bailey WC, Benowitz NL, Curry SJ, et al. *Treating tobacco use and dependence: 2008 update*. Clinical Practice Guideline. Rockville, MD: U.S. Department of Health and Human Services, Public Health Service; May 2008.
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Indicator 3.3.c

Proportion of Tobacco Users Who Have Been Advised to Quit Tobacco Use by a Health Care Professional

KOI 2005	3.9.3
Goal area 3	Promoting Quitting Among Adults and Young People
Outcome 3	Increased health care systems change to promote and support cessation
What to measure	Proportion of tobacco users who have been advised to quit tobacco use by a health care professional during the previous 12 months
Why this indicator is useful	Evidence shows that quit attempts and tobacco cessation rates increase when health care professionals advise their patients to stop using tobacco.[1-6] Some populations, such as young adult smokers, are less likely to receive tobacco use counseling to quit from a health care provider.[7]
Example data source(s)	National Adult Tobacco Survey (NATS), 2009-2010 Information available at: http://www.cdc.gov/tobacco/data_statistics/surveys/nats/ Pregnancy Risk Assessment Monitoring System (PRAMS), 2009 Information available at: http://www.cdc.gov/prams/AboutPRAMS.htm National Youth Tobacco Survey (NYTS), 2011 Information available at: http://www.cdc.gov/tobacco/data_statistics/surveys/nyts/ National Health Interview Survey (NHIS), Adult Cancer Supplement, 2010 Information available at: http://www.cdc.gov/nchs/nhis/quest_data_related_1997_forward.htm#2013_NHIS National Ambulatory Medical Care Survey (NAMCS), Lookback Module, 2013 Information available at: http://www.cdc.gov/nchs/ahcd/about_ahcd.htm National Hospital Ambulatory Medical Care Survey (NHAMCS), 2013 Lookback Module Information available at: http://www.cdc.gov/nchs/ahcd/about_ahcd.htm
Population group(s)	Current tobacco users and past-year smokers
Example survey question(s)	**From NATS** In the past 12 months, that is, since [DATE FILL], did any doctor, dentist, nurse, or other health professional advise you to quit smoking cigarettes or using any other tobacco products? • Yes • No • DON'T KNOW/NOT SURE • REFUSED **From PRAMS** During any of your prenatal care visits, did a doctor, nurse, or other health care worker advise you to stop smoking? • Yes • No • I had quit smoking before my first prenatal visit

From NYTS

During the past 12 months, did any doctor, dentist, or nurse advise you not to use tobacco of any kind?

- I did not see a doctor, dentist, or nurse during the past 12 months
- Yes
- No

From NHIS

In the PAST 12 MONTHS, has a medical doctor, dentist, or other health professional ADVISED you to quit smoking, or quit using other kinds of tobacco?

- Yes
- No
- DON'T KNOW
- REFUSED

From NAMCS and NHAMCS

Health education/Counseling –

Enter all health education or counseling ORDERED or PROVIDED at this visit. Mark (X) all that apply.

- None
- Smoking cessation

Comments

Advising vulnerable subpopulations (e.g., pregnant women) to quit using tobacco is especially important.

In addition to population survey data, these data could be collected as part of clinical assessments,[8] using patient visits as the denominator to measure the proportion of visits in which a health care professional advised the patient to quit tobacco.

Rating

Overall quality low ⟷ high	Resources needed	Strength of evaluation evidence	Utility	Face validity	Accepted practice
	$	●	●	●	●

← ○ ◒ ◓ ● → better

References

1. Fiore MC, Jaén CR, Baker TB, Bailey WC, Benowitz NL, Curry SJ, et al. *Treating tobacco use and dependence: 2008 update*. Clinical Practice Guideline. Rockville, MD: U.S. Department of Health and Human Services, Public Health Service; May 2008.
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Indicator 3.3.d

Proportion of Tobacco Users Who Have Been Assessed by a Health Care Professional Regarding Their Willingness to Make a Quit Attempt

KOI 2005	3.9.4
Goal area 3	Promoting Quitting Among Adults and Young People
Outcome 3	Increased health care systems change to promote and support cessation
What to measure	Proportion of tobacco users who have been evaluated by a health care professional regarding their willingness to quit tobacco use during the previous 12 months
Why this indicator is useful	Evidence suggests that once a tobacco-using patient is advised to quit, assessing that patient's willingness to quit helps clinicians tailor the cessation counseling to the patient.[1-4]
Example data source(s)	National Adult Tobacco Survey (NATS), 2009-2010 Information available at: http://www.cdc.gov/tobacco/data_statistics/surveys/nats/
Population group(s)	All tobacco users
Example survey question(s)	**From NATS** The last time a health professional advised you to quit using tobacco, did they also ask if you wanted to try to quit? • Yes • No • DON'T KNOW/NOT SURE • REFUSED
Comments	The example question could also be asked of young tobacco users. Evaluators might also wish to evaluate whether the physician inquired about the patient's willingness to use assistance in quitting (e.g., calling a quitline, joining a group cessation program, using Food and Drug Administration [FDA]-approved pharmacotherapies). Assessment for vulnerable subpopulations, such as pregnant women, is especially important.

Rating

Overall quality low ⟷ high	Resources needed	Strength of evaluation evidence	Utility	Face validity	Accepted practice
 †	$	◒	◒	◒	●
		← ○ ◒ ◒ ● → better			

References

1. Fiore MC, Jaén CR, Baker TB, Bailey WC, Benowitz NL, Curry SJ, et al. *Treating tobacco use and dependence: 2008 update*. Clinical Practice Guideline. Rockville, MD: U.S. Department of Health and Human Services, Public Health Service; May 2008.
2. The Guide to Community Preventive Services. *Reducing tobacco use and secondhand smoke exposure: provider reminders when used alone (inactive)*. Available at: http://www.thecommunityguide.org/tobacco/providerreminders_inactive.html. Last updated: July 22, 2014.
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Indicator 3.3.e

Proportion of Tobacco Users Who Have Been Assisted in Quitting Tobacco Use by a Health Care Professional

KOI 2005	3.9.5
Goal area 3	Promoting Quitting Among Adults and Young People
Outcome 3	Increased health care systems change to promote and support cessation
What to measure	Proportion of tobacco users who have had a health care professional actively assist them in an attempt to quit tobacco use in the previous 12 months. Examples of assistance include prescribing Food and Drug Administration (FDA)-approved cessation medications, providing educational material, providing counseling or a counseling referral, and establishing a firm quit date.
Why this indicator is useful	There is strong evidence that clinician assistance in cessation leads to improved quit rates.[1-4]
Example data source(s)	National Adult Tobacco Survey (NATS), 2009-2010 Information available at: http://www.cdc.gov/tobacco/data_statistics/surveys/nats/ Pregnancy Risk Assessment Monitoring System (PRAMS), 2009 Information available at: http://www.cdc.gov/prams/AboutPRAMS.htm National Ambulatory Medical Care Survey (NAMCS), 2013 Lookback Module Information available at: http://www.cdc.gov/nchs/ahcd/ahcd_survey_instruments.htm National Hospital Ambulatory Medical Care Survey (NHAMCS), 2013 Lookback Module Information available at: http://www.cdc.gov/nchs/ahcd/about_ahcd.htm Survey of Dental Practice, 2010 Information available at: http://www.healthindicators.gov/Resources/DataSources/SDP_229/Profile
Population group(s)	All tobacco users
Example survey question(s)	**From NATS** The last time a health professional advised you to quit using tobacco, did they also offer any assistance, information, or additional advice to help you quit? • Yes • No • DON'T KNOW/NOT SURE • REFUSED The last time a health professional advised you to quit using tobacco, did they provide you with booklets, videos, website addresses, or other information to help you quit? • Yes • No • DON'T KNOW/NOT SURE • REFUSED The last time a health professional advised you to quit using tobacco, did they put you in contact with, or tell you how to contact, a telephone quitline, a class or program, or one-on-one counseling? • Yes • No

- DON'T KNOW/NOT SURE
- REFUSED

The last time a health professional advised you to quit using tobacco, did they help you set a specific date to quit using tobacco products?

- Yes
- No
- DON'T KNOW/NOT SURE
- REFUSED

The last time a health professional advised you to quit using tobacco, did they recommend or prescribe nicotine patch, nicotine gum, lozenges, nasal spray, an inhaler, or pills such as Wellbutrin®, Zyban®, bupropion, Chantix®, or varenicline?

- Yes
- No
- DON'T KNOW/NOT SURE
- REFUSED

From PRAMS

During any of your prenatal care visits, did a doctor, nurse, or other health care worker—

- Spend time with you discussing how to quit smoking
- Suggest that you set a specific date to stop smoking
- Suggest you attend a class or program to stop smoking
- Provide you with booklets, videos, or other materials to help you quit smoking on your own
- Refer you to counseling for help with quitting
- Ask if a family member or friend would support your decision to quit
- Refer you to a national or state quit line
- Recommend using nicotine gum
- Recommend using a nicotine patch
- Prescribe a nicotine nasal spray or nicotine inhaler
- Prescribe a pill like Zyban® (also known as Wellbutrin® or bupropion) or Chantix® (also known as varenicline) to help you quit

From NAMCS

Health education/Counseling—Enter all health education or counseling ORDERED or PROVIDED at this visit. Mark (X) all that apply.

- Smoking cessation

Medications and Immunizations—Enter drugs that were ordered, supplied, administered or continued during this visit. Include prescription and over-the-counter drugs, immunizations, allergy shots, oxygen, anesthetics, chemotherapy, and dietary supplement.

From NHAMCS

Assessment and plan—Referral

Mark (X) all that apply.

- Nurse management
- Nutritionist
- Smoking-cessation program
- Weight loss program

- Other physician, including primary care provider

From Survey of Dental Practice

Please use the following rating scale to answer the following question: 1 = Always, 2 = Usually, 3 = Sometimes, 4 = Rarely, 5 = Never. During the past week, how often did you or your dental team personally counsel patients who use tobacco on tobacco cessation?

Comments

The example survey questions could be asked of priority populations such as young tobacco users and pregnant women.

In addition to population survey data, these data could be collected as part of clinical assessments,[5] using patient visits as the denominator to measure the proportion of visits in which a health care professional assisted the patient in quitting tobacco (for example, by modifying the question from the American Dental Association Survey of Dental Practice available at; http://www.ada.org/~/media/ADA/Science%20and%20Research/HPI/Files/10_sdpi.ashx). Also, using electronic health record-based eReferrals for telephone quitline services can help to monitor the reach and effectiveness of health care system interventions to increase cessation. When capturing related information, evaluators may want to consider whether capturing all **5 A's** (ask, advise, assess, assist, and arrange) is necessary to answer key evaluation questions.

Related Healthy People 2020 Objectives*: TU-10 Increase tobacco cessation counseling in health care settings*
Information available at: http://www.healthypeople.gov/2020/default.aspx

Rating

Overall quality low ⟷ high	Resources needed	Strength of evaluation evidence	Utility	Face validity	Accepted practice
	$	●	●	●	●

← ○ ◒ ◒ ● → better

References

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Indicator 3.3.f

Proportion of Tobacco Users for Whom a Health Care Provider Has Arranged for Follow-Up Contact Regarding a Quit Attempt

KOI 2005	3.9.6
Goal area 3	Promoting Quitting Among Adults and Young People
Outcome 3	Increased health care systems change to promote and support cessation
What to measure	Proportion of tobacco users who have had a health care professional schedule follow-up contact to help them quit tobacco use during the past 12 months
Why this indicator is useful	Brief interventions may not be sufficient to help every patient quit successfully. Arranging for follow-up contact ensures continued cessation assistance and can increase the likelihood of a successful quit attempt.[1,2]
Example data source(s)	National Adult Tobacco Survey (NATS), 2009-2010 Information available at: http://www.cdc.gov/tobacco/data_statistics/surveys/nats/
Population group(s)	All tobacco users
Example survey question(s)	**From NATS** (The last time a health professional advised you to quit using tobacco,) did they schedule any follow-up contacts, either in person or by phone, or arrange for someone else to call you to see how your quit attempt was going? • Yes • No • DON'T KNOW/NOT SURE • REFUSED
Comments	The example survey question could be asked of priority populations, such as young tobacco users and pregnant women. When capturing related information, evaluators may want to consider whether capturing all five "A's" (ask, advise, assess, assist, and arrange) is necessary to answer key evaluation questions.

Rating

Overall quality (low ⟷ high)	Resources needed	Strength of evaluation evidence	Utility	Face validity	Accepted practice
	$	◒	◒	◒	●
		← ○ ◒ ◒ ● → better			

References

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Indicator 3.3.g

Proportion of Health Care Facilities with Comprehensive Tobacco-Free Campus Policies

KOI 2005	New
Goal area 3	Promoting Quitting Among Adults and Young People
Outcome 3	Increased health care systems change to promote and support cessation
What to measure	Proportion of health care facilities that implement 100% tobacco-free policies that (a) prohibit anyone from using any type of tobacco product at all times in all buildings and on health care facility grounds; (b) ban all tobacco industry marketing, sponsorship, and sale of products on health care facility grounds; and (c) provide cessation services/resources for health care facility patients and staff
Why this indicator is useful	Smoking restrictions decrease cigarette consumption and increase smoking cessation.[1] Efforts to prohibit tobacco product use in hospitals and health care facilities have been shown to protect patient health and reduce smoking among hospital employees.[2-4] Tobacco-free hospitals are also more likely to provide smoking cessation counseling to patients.[6] Given that adults with some form of mental illness have a smoking rate 70% higher than adults with no mental illness,[6] and quit rates among those with psychiatric diagnoses are markedly lower than rates among those without a diagnosis,[7] ensuring tobacco-free campus policies at mental health facilities and substance abuse treatment centers and providing assistance to remain tobacco-free after discharge is an important step to decreasing tobacco-related morbidity and mortality among this vulnerable population.[1]
Example data source(s)	Policy tracking system Americans for Nonsmokers' Rights (ANR) Information available at: http://no-smoke.org/ National Survey of Substance Abuse Treatment Services (N-SSATS), 2011 Information available at: http://www.icpsr.umich.edu/icpsrweb/ICPSR/series/58
Population group(s)	Administrators of health care facilities
Example survey question(s)	**From N-SSATS** Which statement below BEST describes this facility's smoking policy? MARK ONE ONLY. • Smoking is not permitted on the property or within any building • Smoking is permitted only outdoors • Smoking is permitted outdoors and in designated indoor area(s) • Smoking is permitted anywhere without restriction • Other (Specify:_____)
Comments	Health care facilities include hospitals, clinics, nursing homes, mental health facilities, prenatal clinics, and substance abuse treatment centers, among others.

Rating

Overall quality low ⟷ high	Resources needed	Strength of evaluation evidence	Utility	Face validity	Accepted practice
	$$$	●	●	●	●
		← ○ ◒ ◓ ● → better			

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For Further Reading

Outcome 4

Increased Policy and Environmental Changes to Support Quitting, Strengthen Smokefree Laws, and Increase Tobacco Product Price

Policy, systems, and environmental changes, such as increases in the purchase price of tobacco products and comprehensive smokefree laws, are the most efficient, effective ways to increase tobacco cessation.[1-4] There is a strong, inverse relationship between cigarette price and consumption, particularly among price-sensitive populations, such as adolescents, young adults, and low-income smokers.[5-9] Higher tobacco prices increase the probability that a current user will make a quit attempt.[9] Although substantial progress has been made in the adoption of comprehensive smokefree laws that prohibit smoking in all indoor areas of workplaces and public places, millions of Americans are not protected by such policies.[10] A growing evidence base demonstrates that smokefree workplaces decrease the prevalence of adult smoking.[11,12] Retail tobacco sales and marketing increase unplanned cigarette purchases and the probability of smoking and may make it harder for smokers to quit.[13-19] The 2009 Family Smoking Prevention and Tobacco Control Act expands the ability of state and local governments to adopt policies regulating the time, place, and manner of retail tobacco sales and marketing.[20]

The following indicators are associated with this outcome:

- **3.4.a** Proportion of jurisdictions with policies that regulate tobacco retail sales and marketing
- **3.4.b** Proportion of jurisdictions with policies that regulate the extent and type of consumer-focused tobacco promotions
- **3.4.c** Proportion of jurisdictions with comprehensive public policies for tobacco-free workplaces and other places
- **3.4.d** Proportion of tobacco users with smokefree home or vehicle rules
- **3.4.e** Amount of tobacco product taxes and fees
- **3.4.f** Tobacco product price

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Outcome 4

Increased Policy and Environmental Changes to Support Quitting, Strengthen Smokefree Laws, and Increase Tobacco Product Price

Indicator Rating
← ○ ◒ ◓ ● → better

Number	Indicator	Overall Quality low ⟷ high	Resources Needed	Strength of Evaluation Evidence	Utility	Face Validity	Accepted Practice
3.4.a	Proportion of jurisdictions with policies that regulate tobacco retail sales and marketing		$$$	●	◓	●	●
3.4.b	Proportion of jurisdictions with policies that regulate the extent and type of consumer-focused tobacco promotions		$$$$	◓	●	●	●
3.4.c	Proportion of jurisdictions with comprehensive public policies for tobacco-free workplaces and other places		$$$$	●	●	●	●
3.4.d	Proportion of tobacco users with smokefree home or vehicle rules		$	●	●	●	●
3.4.e	Amount of tobacco product taxes and fees		$$	●	●	●	●
3.4.f	Tobacco product price		$	●	●	●	●

$ Dollar signs denote a qualitative rating of the resources (funds, time, and effort) needed to collect and analyze data using the most commonly available data source. The more dollar signs (maximum four), the more resources needed. Dollar signs do not represent a specific amount or range of costs but are instead a relative measure of expert reviewers' ratings regarding resources required to collect and analyze data to measure the indicator.

Indicator 3.4.a

Proportion of Jurisdictions with Policies that Regulate Tobacco Retail Sales and Marketing

KOI 2005	New
Goal area 3	Promoting Quitting Among Adults and Young People
Outcome 4	Policy and environmental changes to support quitting, strengthen smokefree laws, and increase tobacco product price
What to measure	Proportion of local jurisdictions with public policies that regulate time, place, and/or manner of retail tobacco sales and marketing
Why this indicator is useful	Tobacco advertising in stores, including large cigarette pack displays, increases unplanned cigarette purchases, increases the probability of smoking, and may make it harder for smokers to quit smoking.[1-7] Studies have shown that the volume of in-store advertisements and the proportion of stores with sales promotions have increased more rapidly in neighborhoods with a higher proportion of African Americans than in other communities.[8] Limiting tobacco retailer proximity to residential areas through licensing and/or local code restrictions may also aid cessation.[9]
Example data source(s)	Policy tracking system Americans for Nonsmokers' Rights (ANR) Information available at: http://www.no-smoke.org CDC State Tobacco Activities Tracking and Evaluation (STATE) system—Legislation-Advertising and Licensure Information available at: http://www.cdc.gov/statesystem/
Population group(s)	Not applicable. This indicator is best measured by tracking and monitoring pertinent local tobacco laws, ordinances, or regulations.
Example survey question(s)	Not applicable
Comments	The 2009 Family Smoking Prevention and Tobacco Control Act gave the Food and Drug Administration the authority to regulate the manufacturing, marketing, and sale of tobacco products and allows states and localities to restrict or regulate the time, place, and manner (but not the content) of cigarette advertising and promotion (Pub. L. No. 111-31, §203). Evaluators should determine the scope of the policy standards before evaluating the presence/absence and reach of such policies. See the Center for Public Health Law and Tobacco Policy for an example Model Tobacco Product Display Ban Ordinance: http://publichealthlawcenter.org/sites/default/files/resources/nycenter-syn-tobproductdisplaybans-2010.pdf Evaluators may also choose to gather data on the size and demographics of the population protected by the relevant laws or ordinances. In this way, the proportion of the population covered by such laws could be calculated. It may also be useful to gather details regarding any time, location, and medium restrictions included in the policies.

Rating

Overall quality low ⟷ high	Resources needed	Strength of evaluation evidence	Utility	Face validity	Accepted practice
	$$$	●	◒	●	●
		← ○ ◒ ◒ ● → better			

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For Further Reading

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Indicator 3.4.b

Proportion of Jurisdictions with Policies that Regulate the Extent and Type of Consumer-Focused Tobacco Promotions

KOI 2005	New
Goal area 3	Promoting Quitting Among Adults and Young People
Outcome 4	Policy and environmental changes to support quitting, strengthen smokefree laws, and increase tobacco product price
What to measure	Proportion of local jurisdictions with public policies that regulate consumer-focused promotions, such as discounts, rebates, coupons, and buy-one-get-one-free offers
Why this indicator is useful	There is a causal relationship between tobacco promotion and increased tobacco use.[1,2] In 2011, almost $9.2 billion was spent on cigarette advertising and promotion expenditures, with approximately 85.1% of these expenditures directed at price promotions in the retail setting.[3] A substantial increase in the percentage of stores offering price promotions for cigarettes has been documented over the past decade.[4] Recent studies show that price-related promotions are accelerating disproportionately among retailers in neighborhoods with lower socioeconomic status and higher proportions of racial and ethnic populations experiencing health disparities.[5,6] Greater availability of cigarette promotions and lower cigarette prices are associated with decreased quit attempts among current smokers.[7,8]
Example data source(s)	Policy tracking system American Lung Association's State Legislated Actions on Tobacco Issues (SLATI) Information available at: http://lungusa2.org/slati/about.php
Population group(s)	Not applicable. This indicator is best measured by tracking and monitoring pertinent local tobacco laws, ordinances, or regulations.
Example survey question(s)	Not applicable
Comments	Evaluators should determine the scope of policy standards before evaluating the presence/absence and reach of such policies. Strong policies that regulate the extent and type of consumer-focused tobacco promotions may include those that restrict the distribution or redemption of discount coupons for tobacco products, limit discounts and incentive programs offered by tobacco manufacturers to retailers, and prohibit buy-one-get-one-free and other value-added promotional discounts. See the Tobacco Control Legal Consortium's report, *Policy approaches to restricting tobacco product coupons and retail value-added promotions*, for more information: http://publichealthlawcenter.org/sites/default/files/resources/tclc-guide-policy-approaches-pricing-cppw-2013.pdf. Evaluators may also choose to gather data on the size and demographics of the population protected by the relevant laws or ordinances. In this way, the proportion of the population covered by such laws could be calculated.

Rating

Overall quality low ⟷ high	Resources needed	Strength of evaluation evidence	Utility	Face validity	Accepted practice
	$$$$	◒	●	●	●
		← ○ ◒ ◒ ● → better			

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For Further Reading

Indicator 3.4.c

Proportion of Jurisdictions with Comprehensive Public Policies for Tobacco-Free Workplaces and Other Places

KOI 2005	New
Goal area 3	Promoting Quitting Among Adults and Young People
Outcome 4	Policy and environmental changes to support quitting, strengthen smokefree laws, and increase tobacco product price
What to measure	Proportion of local jurisdictions that have public policies requiring tobacco-free workplaces, including restaurants, bars, and other indoor public places[1]
Why this indicator is useful	Tobacco-free policies help establish nonsmoking environments as a social norm.[2,3] A growing evidence base demonstrates that smokefree workplaces decrease the prevalence of adult smoking.[4,5] One study comparing the cost-effectiveness of free nicotine replacement therapy (NRT) with a statewide smokefree workplace policy found the smokefree workplace policy to be approximately nine times more cost-effective.[6]
Example data source(s)	Policy tracking system Americans for Nonsmokers' Rights Information available at: http://www.no-smoke.org
Population group(s)	Not applicable. This indicator is best measured by tracking and monitoring pertinent local tobacco laws, ordinances, or regulations.
Example survey question(s)	Not applicable
Comments	Evaluators should determine the scope of the policy standards before evaluating the presence/absence and reach of such policies. "Strong" comprehensive tobacco-free policies include those that apply to all public and private workplaces, restaurants, and bars at all times and do not include preemptions, opt-out provisions, or exemptions. See the Americans for Nonsmokers' Rights Web site for additional information: http://www.no-smoke.org/ Evaluators may also choose to gather data on the size and demographics of the population protected by the relevant laws or ordinances. In this way, the proportion of the population covered by such laws could be calculated. ***Related Healthy People 2020 Objectives****: TU-12 Increase the proportion of persons covered by indoor worksite policies that prohibit smoking* *Information available at: http://www.healthypeople.gov/2020/default.aspx*

Rating

Overall quality: low ⟷ high	Resources needed	Strength of evaluation evidence	Utility	Face validity	Accepted practice
	$$$$	●	●	●	●
		← ○ ◒ ◒ ● → better			

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Indicator 3.4.d

Proportion of Tobacco Users with Smokefree Home or Vehicle Rules

KOI 2005	New
Goal area 3	Promoting Quitting Among Adults and Young People
Outcome 4	Policy and environmental changes to support quitting, strengthen smokefree laws, and increase tobacco product price
What to measure	Proportion of tobacco users who report having voluntary smokefree policy in their home or vehicles
Why this indicator is useful	Smokers who have implemented smokefree home rules are significantly more likely to make a quit attempt, be abstinent, and smoke fewer cigarettes per day.[1-7] Although lower-income smokers[4] and those with lower education levels[5] are less likely to report smokefree home or vehicle rules, one study found that among those who report having them, successful quit rates are similar to smokers with higher incomes.[4]
Example data source(s)	National Adult Tobacco Survey (NATS), 2013–2014 Information available at: http://www.cdc.gov/tobacco/data_statistics/surveys/nats/ National Youth Tobacco Survey (NYTS), 2011 Information available at: http://www.cdc.gov/tobacco/data_statistics/surveys/nyts/ Tobacco Use Supplement to the Current Population Survey (TUS-CPS), 2006–2007 Information available at: http://riskfactor.cancer.gov/studies/tus-cps/
Population group(s)	All tobacco users
Example survey question(s)	**From NATS** Not counting decks, porches, or garages, inside your home, is smoking… • Always allowed • Allowed only at some times or in some places • Never allowed • DON'T KNOW/NOT SURE • REFUSED Not counting motorcycles, in the vehicles that you or family members who live with you own or lease, is smoking… • Always allowed • Sometimes allowed in at least one vehicle • Never allowed in any vehicle • Respondent's family does not own or lease a vehicle • DON'T KNOW/NOT SURE • REFUSED **From NYTS** Inside your home (not counting decks, garages, or porches), is smoking… • Always allowed • Allowed only at some times or in some places • Never allowed

	In the vehicles that you and family members who live with you own or lease, is smoking… • Always allowed • Sometimes allowed • Never allowed **From TUS-CPS** Which statement best describes the rules about smoking in YOUR HOME? • No one is allowed to smoke anywhere • Smoking is allowed in some places or at some times • Smoking is permitted anywhere
Comments	Note that current evidence is specific to smokefree homes. As the use of noncombustible tobacco and nicotine-containing products increases, it will be important to examine the effects of broader home and vehicle tobacco-use rules. Evaluators could modify the example question to address tobacco-free policies inside vehicles. ***Related Healthy People 2020 Objectives****: TU-14 Increase the proportion of smoke-free homes* *Information available at*: http://www.healthypeople.gov/2020/default.aspx

Rating

Overall quality low ↔ high	Resources needed	Strength of evaluation evidence	Utility	Face validity	Accepted practice
	$	●	●	●	●
		← ○ ◒ ◒ ● → better			

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Indicator 3.4.e

Amount of Tobacco Product Taxes and Fees

KOI 2005	3.12.1
Goal area 3	Promoting Quitting Among Adults and Young People
Outcome 4	Policy and environmental changes to support quitting, strengthen smokefree laws, and increase tobacco product price
What to measure	Per applicable individual unit of tobacco product that is sold, measure (1) excise tax, (2) sales tax, (3) applicable local fees, and (4) percentage of the total price attributable to taxes and fees
Why this indicator is useful	The level of excise tax on tobacco products is a reliable indicator of the success of a tobacco control program.[1] Increasing tax on tobacco products increases the price of tobacco products, and higher tobacco prices are associated with overall reductions in tobacco use prevalence and tobacco consumption.[2] These outcomes are, in part, achieved by promoting cessation and lowering consumption among tobacco users, especially price-sensitive populations (e.g., young people, ethnic or racial disparate populations).[3-10]
Example data source(s)	CDC State Tobacco Activities Tracking and Evaluation (STATE) system Information available at: http://www.cdc.gov/statesystem/ Campaign For Tobacco-Free Kids (CTFK) Information available at: http://www.tobaccofreekids.org/research/factsheets/pdf/0097.pdf State departments of revenue
Population group(s)	Not applicable. This indicator is best measured by tracking and monitoring state and local excise tax on tobacco products.
Example survey question(s)	Not applicable
Comments	To understand the full impact of tobacco cost on consumer behavior, it is important to collect and analyze data on all tobacco products, including cigarettes, cigars, hookahs, snus, smokeless tobacco, loose tobacco (pipe and roll-your-own), bidis, kreteks, dissolvable tobacco, and electronic nicotine delivery devices. States and localities can independently track the price of tobacco products by collecting retail scanner data (data obtained from product bar codes), which provide information on product price, brand, and promotions. However, this type of data collection can be cost-prohibitive and does not capture data on all taxes and fees or costs associated with tax avoidance or tax evasion. Evaluators may also consider tax treaties between state governments and Native American Tribes where applicable. As the overall tax increases, tax avoidance via the purchase of reduced tax/tax-free products on tribal lands has been shown to increase.[11] Note: Indicator 3.4.e allows evaluators to understand the underlying contributors to the total price of tobacco products, whereas 3.4.f measures the actual price paid for tobacco products. ***Related Healthy People 2020 Objectives****: TU-17 Increase the Federal and State tax on tobacco products.* *Information available at: http://www.healthypeople.gov/2020/default.aspx*

Rating	Overall quality low ⟷ high	Resources needed	Strength of evaluation evidence	Utility	Face validity	Accepted practice
		$$	●	●	●	●
			← ○ ◒ ◓ ● → better			

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Indicator 3.4.f

Tobacco Product Price

KOI 2005	New
Goal area 3	Promoting Quitting Among Adults and Young People
Outcome 4	Policy and environmental changes to support quitting, strengthen smoke freelaws, and increase tobacco product price
What to measure	Full price paid for a unit of tobacco product, including discounts and applicable taxes and fees
Why this indicator is useful	There is a strong, inverse relationship between cigarette price and consumption, particularly among price-sensitive populations (e.g., low socioeconomic status, young people).[1-9] High tobacco prices increase the probability that a current user will make a quit attempt.[9]
Example data source(s)	National Adult Tobacco Survey (NATS), 2013-2014 Information available at: http://www.cdc.gov/tobacco/data_statistics/surveys/nats/ Scanner data Retail observation or purchase survey
Population group(s)	All tobacco users
Example survey question(s)	**From NATS** What price did you pay for the last carton of cigarettes you bought? ____. Amount paid for last carton of cigarettes • DON'T KNOW/NOT SURE • REFUSED What price did you pay for the last pack of cigarettes you bought? ____. Amount paid for last pack of cigarettes • DON'T KNOW/NOT SURE • REFUSED In the past 30 days, did you use coupons, rebates, buy 1 get 1 free, 2 for 1, or any other special promotions when you bought cigarettes? • Yes • No • DON'T KNOW/NOT SURE • REFUSED
Comments	The tobacco industry uses price promotions (e.g., discount coupons for money off, buy one get one offers, promotional allowances paid directly to cigarette retailers or wholesalers) to mitigate the influence of taxes on price. Asking the public how much they paid for tobacco products can illuminate differences between advertised prices and actual price paid due to price promotions. States can track the price of tobacco products using retail scanner data that provide information on volume, price, brand, product type, package type, and promotions; however, scanner data are generally only available for a sample of stores in designated market areas that may not correspond with state borders. Additionally, scanner data are proprietary, costly to obtain, complex to analyze, and do not fully capture all taxes and fees or costs associated with tax avoidance or tax evasion.

States may use retail observation to capture price information with the benefits of flexibility in obtaining unique price data (e.g., advertised prices, tax stamps); specific price-promotional strategies; and compliance with certain policies, such as minimum price law. Additionally, evaluators may adjust the sampling frame and link observational data to census tract or other ecological data depending on study needs; however, it can be costly to collect observational data, difficult to ensure high inter-rater reliability, and challenging to develop and test new valid and reliable measures.

Tracking the price of multiple types of tobacco products, including cigarettes, cigars, hookahs, snus, smokeless tobacco, loose tobacco (pipe and roll-your-own), bidis, kreteks, dissolvable tobacco, and electronic nicotine delivery systems, may help to provide important information for program planning and evaluation.

Note: Indicator 3.4.e allows evaluators to understand the underlying contributors to the total price of tobacco products, whereas 3.4.f measures the actual price paid for tobacco products.

Rating

Overall quality low ⟷ high	Resources needed	Strength of evaluation evidence	Utility	Face validity	Accepted practice
	$	●	●	●	●
		← ○ ◒ ◒ ● → better			

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Outcome 5

Reduced Tobacco Industry Influence

The tobacco epidemic was initiated and has been sustained by the aggressive strategies of the tobacco industry.[1] In her final opinion on United States v. Philip Morris, U.S. District Judge Gladys Kessler concluded that the major tobacco companies are adjudicated racketeers that had "mounted a coordinated, well-financed, sophisticated public relations campaign to attack and distort the scientific evidence demonstrating the relationship between smoking and disease" (p. 33-331).[2]

Each day in the United States, the tobacco industry spends over $25 million to advertise and promote cigarettes, mostly at the point of sale.[3] Although the Master Settlement Agreement (MSA) of 1998 (an arrangement in which the Attorneys General of 46 states, the District of Columbia, and five U.S. territories settled state lawsuits with the largest tobacco companies in the United States) helped restrict some types of cigarette and smokeless tobacco advertising, marketing, and promotion directed at youth, the tobacco industry continues to market its products aggressively.[4,5] The tobacco industry uses a "360-degree" strategy that encompasses multiple forms of media to market its products.[5] Consumer-generated content on social media and tobacco sale Web sites have the potential to promote tobacco use.[6-8] Moreover, a growing evidence base demonstrates that greater point of sale exposure to tobacco products and promotions is associated with decreased quit attempts among current smokers.[9-15]Exposure to smoking in the movies and on television increases the urge to smoke among adult tobacco users.[16,17] The introduction of new tobacco products to the market might encourage continued nicotine dependence rather than cessation, distracting from cessation efforts.[18-20]

The following indicators are associated with this outcome:

- **3.5.a** Extent and type of retail tobacco advertising
- **3.5.b** Extent and type of consumer-focused industry promotions
- **3.5.c** Extent and type of retailer-focused industry promotions
- **3.5.d** Extent of tobacco imagery in movies and television
- **3.5.e** Extent of pro-tobacco Internet presence
- **3.5.f** Proportion of tobacco users reporting exposure to marketing and promotions for tobacco products (environmental cues)
- **3.5.g** Proportion of tobacco users who report unplanned purchases of tobacco products
- **3.5.h** Proportion of tobacco users who are aware of emerging tobacco products

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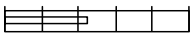
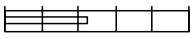
Outcome 5

Reduced Tobacco Industry Influence

Indicator Rating
← ○ ◒ ◓ ● → better

Number	Indicator	Overall Quality low ⟷ high	Resources Needed	Strength of Evaluation Evidence	Utility	Face Validity	Accepted Practice
3.5.a	Extent and type of retail tobacco advertising		$$$	◓	◓	●	◓
3.5.b	Extent and type of consumer-focused industry promotions	 †	$$$	◓	◓	●	●
3.5.c	Extent and type of retailer-focused industry promotions		$$$	◒	◒	◓	◓
3.5.d	Extent of tobacco imagery in movies and television	 †	$$	◓	◒	◓	◓
3.5.e	Extent of pro-tobacco Internet presence	 †	$$$$	◒	◒	◓	◓
3.5.f	Proportion of tobacco users reporting exposure to marketing and promotions for tobacco products (environmental cues)	 †	$	◓	◓	◓	●
3.5.g	Proportion of tobacco users who report unplanned purchases of tobacco products	 †	$$$	◓	◒	◓	◓
3.5.h	Proportion of tobacco users who are aware of emerging tobacco products	 †	$	◓	◓	◓	◓

$ Dollar signs denote a qualitative rating of the resources (funds, time, and effort) needed to collect and analyze data using the most commonly available data source. The more dollar signs (maximum four), the more resources needed. Dollar signs do not represent a specific amount or range of costs but are instead a relative measure of expert reviewers' ratings regarding resources required to collect and analyze data to measure the indicator.

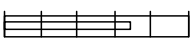
† Denotes low agreement among reviewers, defined as less than 75% of valid ratings within ±1 point of the median for this indicator-specific criterion.

Indicator 3.5.a

Extent and Type of Retail Tobacco Advertising

KOI 2005	New
Goal area 3	Promoting Quitting Among Adults and Young People
Outcome 5	Reduced tobacco industry influence
What to measure	Amount and type of tobacco advertising in and around retail outlets, including proximity of tobacco advertising to cessation products
Why this indicator is useful	Research demonstrates a causal relationship between exposure to retail tobacco advertising and tobacco initiation.[1-4] Less is known about the impact of retail tobacco advertising on tobacco cessation, although one study suggests that residential proximity to tobacco retailers is associated with decreased long-term abstinence from tobacco products.[5] Given that tobacco retailer concentration (and the accompanying tobacco advertising) is higher in lower socioeconomic neighborhoods and in neighborhoods with a higher proportion of African Americans,[6,7] it will be important to consider whether lower rates of quitting success among these groups are associated with increased exposure to retail tobacco advertising.
Example data source(s)	Observation of tobacco advertising in retail outlets:[8] Standardized Tobacco Assessment for Retail Settings (STARS) Information available at: http://www.sctcresearch.org New York State's Retail Advertising Tobacco Survey (RATS) Information available at: http://www.health.ny.gov/prevention/tobacco_control/docs/tobacco_marketing_exposure_rpt.pdf CounterTobacco http://www.countertobacco.org
Population group(s)	Not applicable. This indicator is best measured by observation.
Example survey question(s)	Not applicable
Comments	The 2009 Family Smoking Prevention and Tobacco Control Act (Tobacco Control Act) gave the Food and Drug Administration the authority to regulate the manufacturing, marketing, and sale of tobacco products and allow states and localities to restrict or regulate the time, place, and manner (but not the content) of cigarette advertising or promotions. Findings from this data have utility for monitoring compliance with existing laws or informing new policy; therefore, evaluators may choose to gather and report findings by type of retailer (e.g., grocery store, convenience store, gas station), by neighborhood characteristics (e.g., population density, median household income), and by affected population demographics. State-specific lists of licensed tobacco retailers will inform sampling strategies.[9]

Rating

Overall quality (low ⟷ high)	Resources needed	Strength of evaluation evidence	Utility	Face validity	Accepted practice
	$$$	◒	◒	●	◒

← ○ ◒ ◒ ● → better

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Indicator 3.5.b

Extent and Type of Consumer-Focused Industry Promotions

KOI 2005	New
Goal area 3	Promoting Quitting Among Adults and Young People
Outcome 5	Reduced tobacco industry influence
What to measure	Level and type of consumer-focused tobacco industry promotions, such as discounts, rebates, coupons, and buy-one-get-one-free offers
Why this indicator is useful	Greater exposure to cigarette promotions and lower tobacco prices are associated with decreased quit attempts among current smokers.[1-4]
Example data source(s)	Observation of tobacco advertising in retail outlets: Standardized Tobacco Assessment for Retail Settings (STARS) Information available at: http://www.sctcresearch.org New York State's Retail Advertising Tobacco Survey (RATS) Information available at: http://www.health.ny.gov/prevention/tobacco_control/docs/tobacco_marketing_exposure_rpt.pdf Scanner data
Population group(s)	Not applicable. This indicator is best measured by observation.
Example survey question(s)	Not applicable
Comments	Retail scanner data are generally only available for designated market areas that may not correspond with state borders. Additionally, scanner data can be costly to obtain and complex to analyze. States may also use retail observation to capture price information with the benefits of flexibility in obtaining unique promotional data (e.g., advertised discounts); specific price-promotional strategies; and compliance with certain policies, such as minimum price law. Additionally, evaluators may adjust the sampling frame and link observational data to census tract or other ecological data depending on study needs; however, it can be costly to collect observational data, difficult to ensure validity and reliability, and challenging to develop and test new valid and reliable measures. Suggested variables for retail observation include • tobacco product promotions (discounts, rebates, coupons, buy one get one free, bundles, gifts with purchase), • average number of tobacco promotions, and • percentage of tobacco retailers with promotions.

Rating

Overall quality low ⟷ high	Resources needed	Strength of evaluation evidence	Utility	Face validity	Accepted practice
 †	$$$	◒	◒	●	●
			← ○ ◒ ◒ ● → better		

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Indicator 3.5.c

Extent and Type of Retailer-Focused Industry Promotions

KOI 2005	New
Goal area 3	Promoting Quitting Among Adults and Young People
Outcome 5	Reduced tobacco industry influence
What to measure	Level and type of retailer-focused tobacco industry promotions. These promotions include those where tobacco manufacturers provide retail and/or wholesale discounts on tobacco products or payments in return for prime advertising space. Retailer-focused promotions may include allowances paid to retailers, slotting fees, price discounts, and buy-downs paid to retailers rather than directly to consumers.
Why this indicator is useful	Since the 1998 Master Settlement Agreement, tobacco manufacturers have increasingly focused marketing resources on price promotions.[1] In 2011, $9.2 billion was spent on cigarette advertising and promotions, with approximately $7.8 billion of these expenditures directed at price discounts paid to cigarette retailers or wholesalers to reduce the price of cigarettes.[2] The tobacco industry uses merchant-directed industry promotions to counteract the impact of advertising restrictions.[3] Retailers that participate in tobacco company incentive programs have more prominent placement of cigarettes and advertising.[4] These price promotions may be contributing to tobacco-related disparities as research shows that price-related promotions are accelerating disproportionately among retailers in neighborhoods with lower socioeconomic status and higher proportions of racial and ethnic populations experiencing health disparities.[5] Studies demonstrate that point of sale exposure to products in the retail setting undermines quit attempts.[6-9]
Example data source(s)	Tobacco industry document reviews (e.g., Legacy Tobacco Documents Library) Information available at: http://legacy.library.ucsf.edu/ Retail observation Interviews with retailers
Population group(s)	Tobacco retailers
Example survey question(s)	Not applicable
Comments	There is little evidence linking retailer promotions to cessation or relapse. The majority of current evidence demonstrates that retailers with industry contracts for product placement have more consumer-focused promotions and tobacco displays, which has been shown to impact consumer behavior.

Rating

Overall quality low ⟷ high	Resources needed	Strength of evaluation evidence	Utility	Face validity	Accepted practice
	$$$	◒	◒	◓	◓
			← ○ ◒ ◓ ● → better		

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Indicator 3.5.d

Extent of Tobacco Imagery in Movies and Television

KOI 2005	New
Goal area 3	Promoting Quitting Among Adults and Young People
Outcome 5	Reduced tobacco industry influence
What to measure	Proportion of movies that show tobacco use and/or tobacco products
Why this indicator is useful	Smoking in movies is a form of indirect marketing that normalizes tobacco use.[1,2] Studies have shown that portrayal of smoking in the movies or on television can elicit cravings for tobacco.[3-7] Although the literature on the impact of smoking in movies and on television on cessation is more limited than evidence related to initiation, exposure to smoking cues has predicted increased craving and hindering the quitting process.[3-7] Although the Master Settlement Agreement (MSA) in 1998 prohibited paid placement of tobacco products in movies, the number of tobacco incidents in movies peaked in 2005.[2] By 2009, the number of incidents had been reduced by approximately half, the first time a decline of that magnitude and duration has been observed.[2]
Example data source(s)	Scene Smoking, "Thumbs Up! Thumbs Down!" sponsored by Breathe California of Sacramento-Emigrant Trails Information available at: http://www.scenesmoking.org/movie-search
Population group(s)	Not applicable. This indicator is best measured by observation.
Example survey question(s)	Not applicable
Comments	The extent of tobacco imagery in movies can be measured using a number of methods. The 2012 Surgeon General's report describes several possible methods, including using content analysis to capture the prevalence of smoking in movies. Multiple variables may be measured, including type of movie in which tobacco appears (i.e., youth-rated movies), tobacco portrayal (characters using products vs. tobacco imagery), positive or negative framing of tobacco, and number of appearances of tobacco.[8] Assessing exposure to tobacco in movies and on television is challenging.[9,10] Commonly used methods include using general self-reported exposure items, asking respondents to list their favorite actors and actresses and then linking this information with content analyses for pertinent movies, and asking respondents to identify movies that they have seen among a lengthy list of movies.[8] Each of these methods raises the potential for bias. Given the complexity and cost of assessing exposure to tobacco in movies and on television, evaluators should consider methods most appropriate for their needs.

Rating

Overall quality (low ⟷ high)	Resources needed	Strength of evaluation evidence	Utility	Face validity	Accepted practice
†	$$	◒	◒	◒	◒

← ○ ◒ ◒ ● → better

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Indicator 3.5.e

Extent of Pro-tobacco Internet Presence

KOI 2005	New
Goal area 3	Promoting Quitting Among Adults and Young People
Outcome 5	Reduced tobacco industry influence
What to measure	Amount and type of pro-tobacco presence online, including corporate and brand Web sites, advertising, and social media. Content could include industry- and non-industry–sponsored Web sites or advertisements, pro-tobacco user-generated content, and retail Web sites that sell cigarettes online.
Why this indicator is useful	The tobacco industry is using a "360-degree" strategy that encompasses multiple forms of media to market its products.[1] Although tobacco companies do not report expenditures for advertising their products online via banner advertisements or through social media marketing, these companies do maintain interactive Web sites.[2-4] In addition, consumer-generated content on social media and tobacco sales Web sites has the potential to promote tobacco use indirectly.[5-7] Understanding the extent of tobacco advertising in media will help to monitor the impact of regulations and provide additional information regarding the ways the tobacco industry targets populations at risk for health disparities.
Example data source(s)	Environmental scan of Internet search queries and social media Web sites for industry presence and pro-tobacco content; monitoring and content analysis of brand and corporate Web sites for messaging Internet search query and social media monitoring tools can be used for surveillance. To examine audience engagement with pro-tobacco content online, metrics for tobacco-related posts on social media sites—such as the number of "likes" on Facebook, amount and type of Internet search queries, video views on YouTube, and followers on Twitter—are publicly available. Social media monitoring software (e.g., Radian6, Attensity, Buzzmetrics) summarizes trends in social media conversations and online earned media (e.g., blog posts) using keywords to monitor product and Web site mentions.
Population group(s)	Not applicable. This indicator is best measured by observation.
Example survey question(s)	Not applicable
Comments	Although Internet search query surveillance tools are readily available,[1] social media monitoring programs are often proprietary and can be quite costly. The 2012 Surgeon General's report concludes that the sheer number of Web pages that mention tobacco makes it very difficult to track comprehensively, and verifying that a Web site has been established by tobacco companies is extremely difficult.[1] Given the complexity and cost of assessing the amount and type of pro-tobacco presence online, evaluators should consider if and how this information may best be collected to meet program planning and evaluation needs.

Rating

Overall quality: low ⟷ high	Resources needed	Strength of evaluation evidence	Utility	Face validity	Accepted practice
†	$$$$	◒	◒	◓	◓
			← ○ ◒ ◓ ● → better		

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Indicator 3.5.f

Proportion of Tobacco Users Reporting Exposure to Marketing and Promotions for Tobacco Products (Environmental Cues)

KOI 2005	New
Goal area 3	Promoting Quitting Among Adults and Young People
Outcome 5	Reduced tobacco industry influence
What to measure	Proportion of tobacco users who report seeing tobacco advertisements or other pro-tobacco content at the point of sale, in the media, in movies or on television, in e-mail, and on the Internet
Why this indicator is useful	The tobacco industry is using a "360-degree" strategy that encompasses multiple forms of media to market its products.[1] Reducing exposure to tobacco advertising, promotions, and sponsorship may help decrease tobacco cravings, decrease unplanned tobacco purchases, and increase successful quit attempts.[2-11]
Example data source(s)	International Tobacco Control Policy Evaluation Study (ITC), 2008 Information available at: http://www.itcproject.org/surveys National Youth Tobacco Survey (NYTS), 2011 Information available at: http://www.cdc.gov/tobacco/data_statistics/surveys/nyts/
Population group(s)	All tobacco users
Example survey question(s)	**From ITC** In the last 6 months, have you noticed … E-mail messages promoting cigarettes or tobacco products? • Yes • No • DON'T KNOW • NOT APPLICABLE • REFUSED • I never look at them In the last 6 months, have you noticed … Internet sites promoting cigarettes or tobacco products? • Yes • No • DON'T KNOW • NOT APPLICABLE • REFUSED • I never look at them **From NYTS** When you go to a convenience store, supermarket, or gas station, how often do you see ads or promotions for cigarettes and other tobacco products? • Never • Rarely • Sometimes • Most of the time • Always

- I never go to a convenience store, supermarket, or gas station

When you are using the Internet, how often do you see ads for tobacco products?

- Never
- Rarely
- Sometimes
- Most of the time
- Always
- I do not use the Internet

When you read newspapers or magazines, how often do you see ads or promotions for cigarettes and other tobacco products?

- Never
- Rarely
- Sometimes
- Most of the time
- Always
- I do not read newspapers or magazine

When you watch TV or go to the movies, how often do you see actors and actresses using cigarettes or other tobacco products?

- Never
- Rarely
- Sometimes
- Most of the time
- Always
- I do not watch TV or go to the movies

Comments

Evaluators may want to capture information from both current and former tobacco users. Additionally, experts have voiced concerns about self-report measures, in part, because individuals most receptive to tobacco marketing and promotions are most likely to report seeing them. Methods for decreasing this type of error would be to sample both tobacco and non-tobacco users and complement the information with more objective measures, such as retail observations.

Rating

Overall quality: low ⟷ high	Resources needed	Strength of evaluation evidence	Utility	Face validity	Accepted practice
†	$	◒	◒	◒	●
		← ○ ◒ ◒ ● → better			

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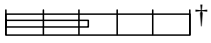
Indicator 3.5.g

Proportion of Tobacco Users Who Report Unplanned Purchases of Tobacco Products

KOI 2005	New
Goal area 3	Promoting Quitting Among Adults and Young People
Outcome 5	Reduced tobacco industry influence
What to measure	Proportion of tobacco users who report an unplanned purchase of a tobacco product in the retail setting
Why this indicator is useful	Retail tobacco advertising, including cigarette displays, elicits emotional and physical reactions in current and former tobacco users that increase unplanned tobacco purchases and make successfully quitting tobacco harder.[1-5]
Example data source(s)	Population Assessment of Tobacco and Health (PATH), Baseline—Adult extended Interview, 2012 Information available at: https://pathstudyinfo.nih.gov/UI/FAQsResMobile.aspx
Population group(s)	All tobacco users
Example survey question(s)	**From PATH** Since you quit using tobacco, has there been a time when seeing a tobacco product display or other signs that tobacco is sold there has given you an urge to buy tobacco? • Yes • No • DON'T KNOW • REFUSED **Modified from Clattenburg et al.[2]:** Before you arrived at the store, did you plan on purchasing cigarettes? • Yes • No What if anything in this store prompted you to buy cigarettes? • Lower price • Special promotion/coupon • Tobacco advertising or display at the store • Other
Comments	Evaluators may want to capture information on impulse purchases made by former tobacco users as well as purchases made outside of the retail setting, such as online purchases triggered by electronic marketing.

Rating

Overall quality low ⟷ high	Resources needed	Strength of evaluation evidence	Utility	Face validity	Accepted practice
 †	$$$	◒	◒	◒	◒
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Indicator 3.5.h

Proportion of Tobacco Users Who Are Aware of Emerging Tobacco Products

KOI 2005	New
Goal area 3	Promoting Quitting Among Adults and Young People
Outcome 5	Reduced tobacco industry influence
What to measure	Proportion of tobacco users who report being aware of emerging nicotine-containing products (e.g., dissolvable tobacco products, snus, electronic nicotine delivery systems such as e-cigarettes)
Why this indicator is useful	The tobacco industry examines and exploits consumer risk perceptions, responses to tobacco products, and product acceptability when marketing emerging tobacco products.[1] Implied or suggested health benefits increase use among consumers with a concern about personal health, thereby encouraging maintained nicotine dependence rather than cessation.[2,3] Awareness of emerging tobacco products is associated with increased use of these products among current smokers and should be monitored to track the impact of tobacco industry influence on cessation.[4-6]
Example data source(s)	International Tobacco Control Policy Evaluation Study (ITC), 2011 Information available at: http://www.itcproject.org/surveys National Adult Tobacco Survey (NATS), 2013–2014 Information available at: http://www.cdc.gov/tobacco/data_statistics/surveys/nats/0 National Youth Tobacco Survey (NYTS), 2013 Information available at: http://www.cdc.gov/tobacco/data_statistics/surveys/nyts/ HealthStyles Survey (2012) Information available at: http://www.cdc.gov/breastfeeding/data/healthstyles_survey/survey_2012.htm
Population group(s)	All tobacco users
Example survey question(s)	**From ITC** Have you ever heard of electronic cigarettes or e-cigarettes? • Yes • No • Not applicable • REFUSED • DON'T KNOW **From NATS** Have you ever heard of snus, such as Camel Snus or Marlboro Snus? Snus is a moist, smokeless tobacco usually sold in individual or pre-packaged small pouches that are placed under the lip against the gum. • Yes • No • DON'T KNOW • REFUSED Have you ever heard of a dissolvable tobacco product? Some examples of these product names are Ariva, Stonewall, Camel orbs, Camel sticks, or Camel strips. These products contain finely ground tobacco that are placed in the mouth or on the tongue and readily dissolve.

- Yes
- No
- DON'T KNOW
- REFUSED

Before today, had you ever heard of electronic cigarettes or e-cigarettes?

- Yes
- No
- DON'T KNOW
- REFUSED

From NYTS

Which of the following tobacco products have you ever heard of?

- Roll-your-own cigarettes
- Flavored cigarettes, such as Camel Crush
- Bidis (small brown cigarettes wrapped in a leaf)
- Clove cigars (kreteks)
- Flavored little cigars (such as mint, clove, spice, alcohol (wine, cognac), candy, fruit, chocolate, or other sweets)
- Smoking tobacco from a hookah or a waterpipe
- Snus, such as Camel or Marlboro Snus
- Dissolvable tobacco products, such as Ariva, Stonewall, Camel orbs, Camel sticks, or Camel strips
- Electronic Cigarettes or E-cigarettes, such as Ruyan or NJOY
- Some other new tobacco products not listed her
- I have never heard of any of the products listed above or any new tobacco product

From HealthStyles

Which, if any, of the following products have you heard of?

- Snus, such as Camel or Marlboro snus
- Dissolvable tobacco products like Ariva, Stonewall, Camel orbs, Camel sticks, or Camel strips
- Electronic cigarettes or E-cigarettes, such as Ruyan or NJOY
- Flavored little cigars
- Water pipes, also known as hookahs
- Flavored cigarettes like Camel Crush
- None of these

Comments

Emerging tobacco products are initially test marketed in specific geographic areas prior to broader distribution. The nonmenclature of emerging products changes rapidly. Evaluators may want to use information from rapid monitoring systems, such as the Tobacco Surveillance, Epidemiology and Evaluation (TSEEN) "New Product Watch," to inform development of survey items. Where possible, evaluators can ask about specific brands or products entering the market.

Rating	Overall quality low ⟷ high	Resources needed	Strength of evaluation evidence	Utility	Face validity	Accepted practice
	 †	$	◒	◒	◒	◒
				← ○ ◒ ◒ ● → better		

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Outcome 6

Increased Quit Attempts and Attempts Using Evidence-Based Cessation Services

Accelerating tobacco cessation rates has immediate population benefits, including decreased smoking-attributable deaths and increased health care savings.[1] Attempting to quit is an essential step in the process of becoming tobacco-free.[2] Stopping tobacco use entirely is often preceded by several quit attempts; increased numbers of quit attempts are associated with increased cessation and reduced overall smoking prevalence.[3-5]

Although some smokers can quit without help, the probability of a quit attempt leading to sustained abstinence is increased by using evidence-based behavioral and pharmaceutical interventions.[2] Two-thirds to three-quarters of smokers who try to quit do not use any evidence-based cessation counseling or medications, treatments that can substantially improve the odds of successfully quitting.[6,7] Utilization of these treatments is particularly low among young adults,[8] individuals with low socioeconomic/education status, and those from racial and ethnic minority groups.[2,7,9] Reducing barriers to accessing evidence-based cessation treatments, including language and cost barriers, could be expected to increase quit attempts using effective treatments, especially among populations with limited access to care.[10,11] As new tobacco products enter the market, it is important to monitor whether tobacco users are quitting altogether or substituting one type of product for another.

The following indicators are associated with this outcome:

- **3.6.a** Proportion of tobacco users who have made a quit attempt
- **3.6.b** Proportion of tobacco users who have made a quit attempt using evidence-based strategies
- **3.6.c** Proportion of tobacco users who have used individual or group cessation counseling
- **3.6.d** Number of callers to telephone quitlines receiving assistance quitting tobacco
- **3.6.e** Proportion of tobacco users who have used mobile telephone-based cessation services (other than quitline services)
- **3.6.f** Proportion of tobacco users who have made a quit attempt by switching to a different tobacco product

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Outcome 6

Increased Quit Attempts and Attempts Using Evidence-Based Cessation Services

Indicator Rating
← ○ ◒ ◓ ● → better

Number	Indicator	Overall Quality low ⟷ high	Resources Needed	Strength of Evaluation Evidence	Utility	Face Validity	Accepted Practice
3.6.a	Proportion of tobacco users who have made a quit attempt		$	●	●	●	●
3.6.b	Proportion of tobacco users who have made a quit attempt using evidence-based strategies		$	●	●	◒	●
3.6.c	Proportion of tobacco users who have used individual or group cessation counseling		$	◒	◒	◒	◒
3.6.d	Number of callers to telephone quitlines receiving assistance quitting tobacco		$	●	●	●	●
3.6.e NR	Proportion of tobacco users who have used mobile telephone-based cessation services (other than quitline services)	⊘	⊘	⊘	⊘	⊘	⊘
3.6.f	Proportion of tobacco users who have made a quit attempt by switching to a different tobacco product	 †	$	◒	◒	◒	◒

$ Dollar signs denote a qualitative rating of the resources (funds, time, and effort) needed to collect and analyze data using the most commonly available data source. The more dollar signs (maximum four), the more resources needed. Dollar signs do not represent a specific amount or range of costs but are instead a relative measure of expert reviewers' ratings regarding resources required to collect and analyze data to measure the indicator.

† Denotes low agreement among reviewers, defined as less than 75% of valid ratings within ±1 point of the median for this indicator-specific criterion.

⊘ Denotes no rating information.

NR Denotes an indicator that is not rated (see Appendix C for an explanation).

Indicator 3.6.a

Proportion of Tobacco Users Who Have Made a Quit Attempt

KOI 2005	3.11.1, 3.11.2
Goal area 3	Promoting Quitting Among Adults and Young People
Outcome 6	Increased quit attempts and attempts using evidence-based cessation services
What to measure	Proportion of tobacco users who have stopped using tobacco for more than 1 day during the previous 12 months in an attempt to quit
Why this indicator is useful	Attempting to quit is an essential step in the process of becoming tobacco-free.[1] Stopping tobacco use entirely is often preceded by several quit attempts, with recent attempts strongly predicting future attempts.[1-3] When considering population quit rates, it is necessary to understand both the number of quit attempts (includes the number of tobacco users who try to quit and the number of times they make a quit attempt) and the odds that tobacco users who try to quit will succeed in doing so.[4,5] Evidence demonstrates variation in quit attempt rates by age, race/ethnicity, education level, socioeconomic status, and level of nicotine addiction.[1-6]
Example data source(s)	National Adult Tobacco Survey (NATS), 2013–2014 Information available at: http://www.cdc.gov/tobacco/data_statistics/surveys/nats/ National Health Interview Survey (NHIS), 2014 Information available at: http://www.cdc.gov/nchs/nhis.htm National Youth Tobacco Survey (NYTS), 2014Information available at: http://www.cdc.gov/tobacco/data_statistics/surveys/nyts/
Population group(s)	Current tobacco users and past-year smokers
Example survey question(s)	**From NATS** During the past 12 months, did you stop using all kinds of tobacco products for more than one day because you were trying to quit using tobacco? • Yes • No • DON'T KNOW/NOT SURE • REFUSED **From NHIS** During the past 12 months, have you stopped using ALL KINDS of tobacco products for more than one day because you were trying to quit using tobacco? "All kinds" means trying to quit using tobacco completely, including smoking cigarettes, smoking products other than cigarettes, and using smokeless tobacco products. • Yes • No • REFUSED • DON'T KNOW **From NYTS** During the past 12 months, how many times did you stop smoking for one day or longer because you were trying to quit smoking cigarettes for good? • I did not smoke during the past 12 months • I did not try to quit during the past 12 months • 1 time

- 2 times
- 3 to 5 times
- 6 to 9 times
- 10 or more times

During the past 12 months, how many times have you stopped using all tobacco products for one day or longer because you were trying to quit all tobacco products for good?

- I did not use tobacco products during the past 12 months
- I did not try to quit during the past 12 months
- 1 time
- 2 times
- 3 to 5 times
- 6 to 9 times
- 10 or more times

Comments

Evaluators can ask about attempting to quit smoking cigarettes, attempting to quit other tobacco products, or attempting to quit all tobacco products.

Related Healthy People 2020 Objectives*: TU-4 Increase smoking cessation attempts by adult smokers and TU-7 Increase smoking cessation attempts by adolescent smokers. Information available at*: http://www.healthypeople.gov/2020/default.aspx

Rating

Overall quality low ⟷ high	Resources needed	Strength of evaluation evidence	Utility	Face validity	Accepted practice
	$	●	●	●	●
		← ○ ◒ ◓ ● → better			

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Indicator 3.6.b

Proportion of Tobacco Users Who Have Made a Quit Attempt Using Evidence-Based Strategies

KOI 2005	3.11.3
Goal area 3	Promoting Quitting Among Adults and Young People
Outcome 6	Increased quit attempts and attempts using evidence-based cessation services
What to measure	Proportion of tobacco users who have stopped using tobacco for more than 1 day during the previous 12 months and used an evidence-based method for their most recent quit attempt. Examples of evidence-based cessation strategies include Food and Drug Administration (FDA)-approved pharmacotherapies, in-person individual counseling, counseling from telephone quitlines, mobile telephone-based cessation services, and stop-smoking classes.
Why this indicator is useful	Tobacco dependence is a chronic disease.[1] Effective evidence-based treatments exist that significantly increase successful quit attempts and long-term abstinence rates across a broad range of populations.[1-3] Randomized controlled trials demonstrate that pharmacotherapy and behavioral treatments improve cessation rates.[4-7] Unfortunately, evidence-based tobacco cessation treatments are underused, especially among certain population groups, including young adults,[8] individuals with low socioeconomic/education status, and racial and ethnic minority groups.[1,4,8-11]
Example data source(s)	National Adult Tobacco Survey (NATS), 2009-2010 Information available at: http://www.cdc.gov/tobacco/data_statistics/surveys/nats/ National Youth Tobacco Survey (NYTS), 2013Information available at: http://www.cdc.gov/tobacco/data_statistics/surveys/nyts/ Tobacco Use Supplement to the Current Population Survey (TUS-CPS), 2010–2011 Information available at: http://appliedresearch.cancer.gov/tus-cps/info.html
Population group(s)	All tobacco users
Example survey question(s)	**From NATS** During the past 12 months, that is, since [DATE FILL], how many times have you stopped smoking for one day or longer because you were trying to quit smoking cigarettes for good? • Number of times • None • DON'T KNOW/NOT SURE • REFUSED [The last time you tried to quit smoking] Did you call a telephone quitline to help you quit? • Yes • No • DON'T KNOW/NOT SURE • REFUSED [The last time you tried to quit smoking] Did you use a class or program to help you quit? • Yes • No

- DON'T KNOW/NOT SURE
- REFUSED

[The last time you tried to quit smoking] Did you use one-on-one counseling from a health professional to help you quit?

- Yes
- No
- DON'T KNOW/NOT SURE
- REFUSED

Did you use **any** of the following medications: a nicotine patch, nicotine gum, nicotine lozenges, nicotine nasal spray, a nicotine inhaler, or pills such as Wellbutrin®, Zyban®, bupropion, Chantix®, or varenicline to help you quit?

- Yes
- No
- DON'T KNOW/NOT SURE
- REFUSED

From NYTS

During the **past 12 months**, did you do any of the following to help you quit using tobacco of any kind for good? (**You can CHOOSE ONE ANSWER or MORE THAN ONE ANSWER**)

- I did not use tobacco of any kind during the past 12 months
- I did not try to quit during the past 12 months
- Attended a program in my school
- Attended a program in the community
- Called a telephone help line or telephone quit line
- Used nicotine gum
- Used nicotine patch
- Used any medicine to help quit
- Visited an Internet quit site
- Used another method, such as hypnosis or acupuncture [not evidence-based]
- Tried to quit on my own or quit "cold turkey" [not evidence-based]

From TUS-CPS

Thinking back to the (LAST TIME/time) you tried to QUIT smoking in the past 12 months—Did you use ANY of the following PRODUCTS:

- A nicotine patch
- A nicotine gum or nicotine lozenge
- A nicotine nasal spray or nicotine inhaler

Thinking back to the (LAST TIME/time) you tried to QUIT smoking in the past 12 months—Did you use ANY of the following PRODUCTS:

- A prescription pill, called Chantix® or varenicline ?
- A prescription pill, called Zyban®, bupropion, or Wellbutrin®?
- Another prescription pill

Thinking back to the (LAST TIME/time) you tried to QUIT smoking in the past 12 months. Did you use ANY of the following:

- A telephone help line or quit line
- One-on-one counseling
- A stop smoking clinic, class, or support group

- Help or support from friends or family
- Internet or web-based program
- Books, pamphlets, videos, or other materials [not evidence-based]
- Acupuncture or hypnosis [non-evidence-based]

Comments

The majority of tobacco users who successfully quit do so unaided.[11] Although research on non-evidence-based strategies, such as acupuncture, hypnosis, and aversive smoking, have been mixed or inconclusive,[12-15] capturing information on their use may help inform the provision of future cessation services and messaging.

The proportion of tobacco users who have made a quit attempt and stopped using tobacco products for at least 1 day during the previous 12 months using a non-evidence-based cessation method, such as hypnosis, could be determined either by including non-evidence-based methods in the survey response options or by subtracting the number of smokers who said they used evidence-based methods from the total number of smokers who made quit attempts.

Rating

Overall quality low ⟷ high	Resources needed	Strength of evaluation evidence	Utility	Face validity	Accepted practice
	$	●	●	◒	●

← ○ ◒ ◒ ● → better

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Indicator 3.6.c

Proportion of Tobacco Users Who Have Used Individual or Group Cessation Counseling

KOI 2005	3.7.4
Goal area 3	Promoting Quitting Among Adults and Young People
Outcome 6	Increased quit attempts and attempts using evidence-based cessation services
What to measure	Proportion of tobacco users who have stopped using tobacco for more than 1 day during the previous 12 months and report using individual and/or group cessation counseling for their most recent quit attempt
Why this indicator is useful	Individual and group cessation counseling have been shown to increase tobacco abstinence rates across a broad range of populations.[1-3] Unfortunately, evidence-based tobacco cessation treatments are underused, especially among certain population groups, including young adults,[4] individuals with low socioeconomic/education status, and racial and ethnic minority groups.[1,4,5]
Example data source(s)	National Adult Tobacco Survey (NATS), 2009-2010 Information available at: http://www.cdc.gov/tobacco/data_statistics/surveys/nats/ The Tobacco Use Supplement to the Current Population Survey (TUS-CPS), 2010–2011 Information available at: http://appliedresearch.cancer.gov/tus-cps/info.html Pregnancy Risk Assessment Monitoring System (PRAMS), 2012, Standard QuestionsInformation available at: http://www.cdc.gov/prams/index.htm
Population group(s)	All tobacco users
Example survey question(s)	**From NATS** [The last time you tried to quit smoking] Did you use one-on-one counseling from a health professional to help you quit? • Yes • No • DON'T KNOW/NOT SURE • REFUSED **From TUS-CPS** Thinking back to the (LAST TIME/time) you tried to QUIT smoking in the past 12 months. Did you use ANY of the following: • One-on-one counseling • A stop smoking clinic, class, or support group **From PRAMS** During your most recent pregnancy, did you— • Attend a class or program to stop smoking • Go to counseling for help with quitting
Comments	Evaluators may want to analyze the use of individual and/or group counseling by current tobacco use status and by type and amount of individual and group counseling provided.

Rating	Overall quality low ⟷ high	Resources needed	Strength of evaluation evidence	Utility	Face validity	Accepted practice
		$	◒	◒	◒	◒
			← ○ ◒ ◒ ● → better			

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Indicator 3.6.d

Number of Callers to Telephone Quitlines Receiving Assistance Quitting Tobacco

KOI 2005	3.7.1
Goal area 3	Promoting Quitting Among Adults and Young People
Outcome 6	Increased quit attempts and attempts using evidence-based cessation services
What to measure	The number of unique callers, calling for themselves, who received a quitline service for the first time during a particular quarter. Services include (1) counseling, (2) medication, (3) counseling and medication, and (4) self-help materials only.
Why this indicator is useful	Telephone quitlines are an important tool for linking tobacco users with cessation services.[1,2] They have been shown to significantly increase both quitting and abstinence rates, with increasing number of calls leading to increased odds of quitting.[1,3]
Example data source(s)	National Quitline Data Warehouse (NQDW), Quitline Services Survey, 2011 Information available at: http://www.naquitline.org/?page=NatDataWarehouse CDC State Tobacco Activities Tracking and Evaluation (STATE) system—Quitline—Services received Information available at: http://www.cdc.gov/statesystem/
Population group(s)	Quitline service providers
Example survey question(s)	**From NQDW, Quitline Services Questionnaire** How many TOBACCO USERS who called or were referred to the quitline received the services listed below? • Self-help materials only with no counseling • Counseling provided (began at least one session) – Phone – Face-to-face, Individual/Group – Web – Other mechanism • Medication provided through the quitline
Comments	Evaluators may also want to collect information about the proportion of tobacco users in the state who have received counseling from the quitline. Multiple types of information (e.g., caller demographics and location, call variability by month and time of day, client satisfaction with quitline services) can be tracked through quitline monitoring. Coordinating multiple cessation services is an important way of increasing the use of these services.[4] Implementing referral linkages between health care providers and telephone quitlines via a fax referral system, for example, has been shown to be a feasible, cost-effective way to increase the provision of cessation assistance and increase success in quitting.[5-8]

Rating

Overall quality low ⟷ high	Resources needed	Strength of evaluation evidence	Utility	Face validity	Accepted practice
	$	●	●	●	●
		← ○ ◒ ◓ ● → better			

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Indicator 3.6.e

Proportion of Tobacco Users Who Have Used Mobile Telephone-Based Cessation Services (Other Than Quitline Services)

KOI 2005	New
Goal area 3	Promoting Quitting Among Adults and Young People
Outcome 6	Increased quit attempts and attempts using evidence-based cessation services
What to measure	Proportion of tobacco users who have stopped using tobacco for more than one day during the previous 12 months and report using mobile telephone-based cessation services that include interactive features to deliver evidence-based information, strategies, and behavioral support directly to tobacco users interested in quitting.
Why this indicator is useful	Mobile telephone-based cessation services have been shown to significantly increase tobacco abstinence rates.[1,2]
Example data source(s)	Modified Question from the Tobacco Use Supplement to the Current Population Survey (TUS-CPS), 2010–2011 Information available at: http://appliedresearch.cancer.gov/tus-cps/
Population group(s)	All tobacco users
Example survey question(s)	**From TUS-CPS** Thinking back to the (LAST TIME/time) you tried to QUIT smoking in the past 12 months: Did you use ANY of the following: (1) Yes (2) No • A telephone help line or quit line • One-on-one counseling • A stop smoking clinic, class, or support group • Help or support from friends or family • Internet or Web-based program • *Cell phone-based program* • Books, pamphlets, videos, or other materials • Acupuncture or hypnosis
Comments	Evaluators may want to analyze the use of mobile telephone-based cessation services by current tobacco use status and by type and amount of services received. For example, evaluators could capture whether message content was developed or adapted for specific populations and communities and/or whether the mobile telephone-based intervention was coordinated with additional interventions, such as Internet-based cessation services or provision of medications.

Rating

Overall quality low ⟷ high	Resources needed	Strength of evaluation evidence	Utility	Face validity	Accepted practice
⦸	⦸	⦸	⦸	⦸	⦸
		← ○ ◒ ◓ ● → better			

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Indicator 3.6.f

Proportion of Tobacco Users Who Have Made a Quit Attempt by Switching to a Different Tobacco Product

KOI 2005	New
Goal area 3	Promoting Quitting Among Adults and Young People
Outcome 6	Increased quit attempts and attempts using evidence-based cessation services
What to measure	Proportion of tobacco users who have stopped using their usual tobacco product for more than 1 day during the previous 12 months by switching to a different tobacco product. See "Comments" for additional clarification.
Why this indicator is useful	State actions such as increasing excise tax on certain tobacco products may prompt tobacco users to switch to other types of tobacco products.[1,2] Investigating the relationship between product switching and quitting, particularly as new products enter the market, is important for understanding potential barriers to cessation and informing tobacco control policy. Current evidence from U.S. studies demonstrates that using products perceived as "less harmful" is not an effective cessation strategy and may lead to ongoing or increased use of cigarettes and other nicotine containing products.[2-6]
Example data source(s)	Population Assessment of Tobacco and Health (PATH) Baseline—Adult Extended Interview Information available at: https://pathstudyinfo.nih.gov/UI/FAQsResMobile.aspx The Tobacco Use Supplement to the Current Population Survey (TUS-CPS), 2010–2011 Information available at: http://appliedresearch.cancer.gov/tus-cps/info.html
Population group(s)	All tobacco users
Example survey question(s)	**From PATH** Thinking back to the last time you tried to quit in the past 12 months, did you use: any different tobacco product, such as smokeless tobacco, snus, dissolvable tobacco, or e-cigarettes to help you quit? Choose all that apply. • Cigarettes • E-cigarettes • Traditional cigars • Cigarillos • Filtered cigars • Pipe tobacco • Hookah • Snus pouches • Smokeless tobacco, like dip, chew, or snuff • Dissolvable tobacco • DON'T KNOW • REFUSED

[Do | Did] you use [e-cigarettes, cigars, pipes, hookah, smokeless tobacco, dissolvable tobacco] as a way of cutting down on your cigarette smoking?

- Yes
- No
- DON'T KNOW
- REFUSED

[Do | Did] you use [e-cigarettes, cigars, pipes, hookah, smokeless tobacco, dissolvable tobacco] as an alternative to quitting tobacco altogether?

- Yes
- No
- DON'T KNOW
- REFUSED

From TUS-CPS

The (LAST TIME / time) you tried to QUIT smoking in the past 12 months: Did you do ANY of the following:

- Try to quit by GRADUALLY cutting back on cigarettes?
- Try to quit by SWITCHING to smokeless tobacco such as chewing tobacco, snuff, or snus?
- Try to quit by SWITCHING to regular cigars, cigarillos, little filtered cigars, or pipes filled with tobacco?
- Did you SWITCH to a "lighter" cigarette in order to TRY TO QUIT?
- Did you SWITCH to menthol cigarettes in order to TRY TO QUIT?
- Did you switch to non-menthol cigarettes in order to TRY TO QUIT?

Comments

Tobacco users may report switching to one or more different tobacco products in an attempt to quit. These different products may include emerging tobacco products, such as dissolvable tobacco products, snus, and electronic nicotine delivery systems such as e-cigarettes. Use of approved nicotine replacement therapies is not considered switching to a different tobacco product. Therefore, nicotine replacement therapies should not be included as a response option for survey questions measuring this indicator.

Rating

Overall quality low ⟷ high	Resources needed	Strength of evaluation evidence	Utility	Face validity	Accepted practice
 †	$	◒	◒	◒	◒
		← ○ ◒ ◒ ● → better			

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Outcome 7

Increased Cessation of All Tobacco Products as Early in Life as Possible

The risk and severity of tobacco-related morbidities are directly related to the duration and level of exposure to tobacco products.[1-3] The earlier in life an individual successfully quits using tobacco products, the lower their likelihood of suffering tobacco-related disease.[3] Although quitting smoking at any age is beneficial, smokers who quit by the time they are 35 to 44 years of age avoid most of the risk of dying from a smoking-related disease.[4]

The burden of death and disease from tobacco use in the United States is overwhelmingly caused by cigarettes and other combusted tobacco products.[5] Long-term use of non-combustible tobacco products, such as smokeless tobacco, is also associated with increased individual and population-level risks.[5, 6] These include direct health risks, such as increased oral, esophageal, and pancreatic cancers among smokeless tobacco users. Indirect risks from electronic nicotine delivery systems (e.g., electronic cigarettes, electronic hookah, and vape pens) also exist, such as the renormalization of public use of nicotine and sustained dual use of other tobacco products and cigarettes.[5] Overall public health is harmed when the use of other tobacco products delays cessation among persons who would otherwise quit using tobacco altogether.[2]

The following indicators are associated with this outcome:

- **3.7.a** Proportion of former tobacco users with recent cessation success
- **3.7.b** Proportion of tobacco users who have sustained abstinence from tobacco use
- **3.7.c** Average age at which tobacco users successfully quit
- **3.7.d** Proportion of former tobacco users who re-initiate regular tobacco use

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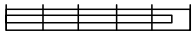
Outcome 7

Increased Cessation of All Tobacco Products as Early in Life as Possible

Indicator Rating
← ○ ◒ ◓ ● → better

Number	Indicator	Overall Quality low ⟷ high	Resources Needed	Strength of Evaluation Evidence	Utility	Face Validity	Accepted Practice
3.7.a	Proportion of former tobacco users with recent cessation success		$	●	●	●	●
3.7.b	Proportion of tobacco users who have sustained abstinence from tobacco use		$	●	●	●	●
3.7.c	Average age at which tobacco users successfully quit		$	●	◒	◒	●
3.7.d	Proportion of former tobacco users who re-initiate regular tobacco use		$	◒	◒	◒	●

$ Dollar signs denote a qualitative rating of the resources (funds, time, and effort) needed to collect and analyze data using the most commonly available data source. The more dollar signs (maximum four), the more resources needed. Dollar signs do not represent a specific amount or range of costs but are instead a relative measure of expert reviewers' ratings regarding resources required to collect and analyze data to measure the indicator.

Indicator 3.7.a

Proportion of Former Tobacco Users with Recent Cessation Success

KOI 2005	3.13.2
Goal area 3	Promoting Quitting Among Adults and Young People
Outcome 7	Increased cessation of all tobacco products as early in life as possible
What to measure	Proportion of former tobacco users who last used tobacco 6 months to 1 year ago
Why this indicator is useful	It is important to measure the proportion of recent successful quit attempts to document progress toward increased permanent tobacco cessation.[1] Many smokers make repeated quit attempts before achieving permanent cessation.[2]
Example data source(s)	Behavioral Risk Factor Surveillance System (BRFSS): Core Module, 2014Information available at: http://www.cdc.gov/brfss/ National Adult Tobacco Survey (NATS), 2013–2014 Information available at: http://www.cdc.gov/tobacco/data_statistics/surveys/nats/ National Youth Tobacco Survey (NYTS), 2011 Information available at: http://www.cdc.gov/tobacco/data_statistics/surveys/nyts/
Population group(s)	Former tobacco users
Example survey question(s)	**From BRFSS and NATS** Have you smoked at least 100 cigarettes in your entire life?[μ] • Yes • No • DON'T KNOW/NOT SURE • REFUSED Do you now smoke cigarettes every day, some days, or not at all? [μ] • Everyday • Some days • Not at all • REFUSED **From NATS** How long has it been since you completely stopped smoking cigarettes? • Day(s) • Week(s) • Month(s) • Year(s) • Date • Today • DON'T KNOW/NOT SURE • REFUSED Have you completely quit using all types of tobacco products, including cigarettes, smokeless tobacco, e-cigarettes, cigars, and pipes? • Yes • No • DON'T KNOW

- REFUSED

From NYTS

About how many cigarettes have you smoked in your **entire life**? [μ]

- I have never smoked cigarettes, not even one or two puffs
- 1 or more puffs but never a whole cigarette
- 1 cigarette
- 2 to 5 cigarettes
- 6 to 15 cigarettes (about 1/2 a pack total)
- 16 to 25 cigarettes (about 1 pack total)
- 26 to 99 cigarettes (more than 1 pack, but less than 5 packs)
- 100 or more cigarettes (5 or more packs)

When you last tried to quit for good, how long did you stay off cigarettes? (PLEASE CHOOSE THE FIRST ANSWER THAT FITS)

- I have never smoked cigarettes
- I have never tried to quit
- Less than a day
- 1 to 7 days
- More than 7 days but less than 30 days
- More than 6 months but less than 1 year
- 1 year or more

[μ] Items used to determine smoking status

Comments

Evaluators may also want to report the percentage of ever smokers that have quit. This percentage is calculated by dividing the number of former smokers by the number of ever smokers.

Related Healthy People 2020 Objective*: TU-5 Increase recent smoking cessation success by adult smokers*
Information available at: http://www.healthypeople.gov/2020/default.aspx

Rating

Overall quality: low ⟷ high	Resources needed	Strength of evaluation evidence	Utility	Face validity	Accepted practice
▭	$	●	●	●	●
		← ○ ◒ ◒ ● → better			

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Indicator 3.7.b

Proportion of Tobacco Users Who Have Sustained Abstinence from Tobacco Use

Indicator	3.7.b
Goal area 3	Promoting Quitting Among Adults and Young People
Outcome 7	Increased cessation of all tobacco products as early in life as possible
What to measure	Proportion of former tobacco users who have sustained abstinence from tobacco use for 6 months or longer
Why this indicator is useful	Estimates suggest that about 50% of current smokers have made a quit attempt in the past year.[1] However, only 5% sustain abstinence longer than a few weeks.[2] Increasing recent smoking cessation success by adult smokers is a Healthy People 2020 objective.[3] The longer a person has gone without using a tobacco product, the more likely they are to remain abstinent.[2]
Example data source(s)	Behavioral Risk Factor Surveillance System (BRFSS): Core Module, 2014 Information available at: http://www.cdc.gov/brfss/ National Health Interview Survey (NHIS): Adult Survey, 2014 Information available at: http://www.cdc.gov/nchs/nhis.htm National Adult Tobacco Survey (NATS), 2013–2014 Information available at: http://www.cdc.gov/tobacco/data_statistics/surveys/nats/ National Youth Tobacco Survey (NYTS), 2011 Information available at: http://www.cdc.gov/tobacco/data_statistics/surveys/nyts/
Population group(s)	Former tobacco users
Example survey question(s)	**From BRFSS** How long has it been since you last smoked a cigarette, even one or two puffs? • Within the past month (less than 1 month ago) • Within the past 3 months (1 month but less than 3 months ago) • Within the past 6 months (3 months but less than 6 months ago) • Within the past year (6 months but less than 1 year ago) • Within the past 5 years (1 year but less than 5 years ago) • Within the past 10 years (5 years but less than 10 years ago) • 10 years or more • DON'T KNOW/NOT SURE • REFUSED **From NHIS** Have you smoked at least 100 cigarettes in your ENTIRE LIFE? [μ] • Yes • No • REFUSED • DON'T KNOW Do you NOW smoke cigarettes every day, some days, or not at all? [μ] • Every day • Some days • Not at all

- REFUSED
- DON'T KNOW

How long has it been since you quit smoking cigarettes? _____

From NATS

How long has it been since you completely stopped smoking cigarettes?

- Day(s)
- Week(s)
- Month(s)
- Year(s)
- Date
- Today
- DON'T KNOW/NOT SURE
- REFUSED

Have you completely quit using all types of tobacco products, including cigarettes, smokeless tobacco, e-cigarettes, cigars, and pipes?

- Yes
- No
- DON'T KNOW
- REFUSED

From NYTS

When was the last time you smoked a cigarette, even one or two puffs? (PLEASE CHOOSE THE FIRST ANSWER THAT FITS)

- I have never smoked even one or two puffs
- Earlier today
- Not today but sometime during the past 7 days
- Not during the past 7 days but sometime during the past 30 days
- Not during the past 30 days but sometime during the past 6 months
- Not during the past 6 months but sometime during the past year
- 1 to 4 years ago
- 5 or more years ago

When you last tried to quit for good, how long did you stay off cigarettes? (PLEASE CHOOSE THE FIRST ANSWER THAT FITS)

- I have never smoked cigarettes
- I have never tried to quit
- Less than a day
- 1 to 7 days
- More than 7 days but less than 30 days
- More than 30 days but less than 6 months
- More than 6 months but less than 1 year
- 1 year or more

[μ] Items used to determine smoking status

Comments	Evaluators could modify the example questions to measure sustained abstinence from all tobacco products and ask current smokers about their last quit attempt or longest quit

attempt, since an increase in the duration of a quit attempt (even if the smoker begins smoking again) could indicate progress toward cessation.

"Former smokers" can be derived by combining the variable of lifetime smoking (≥ 100 cigarettes) and current cigarette smoking (smoked zero cigarettes during the past 30 days). See resources listed under "Further Reading" below for additional information regarding measurement.

***Related Healthy People 2020 Objective**: TU-5.1 Increase recent smoking cessation success by adult smokers.*
Information available at: http://www.healthypeople.gov/2020/default.aspx

Rating

Overall quality low ⟷ high	Resources needed	Strength of evaluation evidence	Utility	Face validity	Accepted practice
	$	●	●	●	●

← ○ ◒ ◓ ● → better

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For Further Reading

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Indicator 3.7.c

Average Age at Which Tobacco Users Successfully Quit

KOI 2005	New
Goal area 3	Promoting Quitting Among Adults and Young People
Outcome 7	Increased cessation of all tobacco products as early in life as possible
What to measure	Average age at which former tobacco users successfully quit using tobacco products. "Successfully quit" is defined as sustained abstinence from tobacco use for 6 months or longer.
Why this indicator is useful	The risk and severity of tobacco-related morbidities are directly related to the duration and level of exposure to tobacco products.[1-6] The earlier in life an individual successfully quits using tobacco products, the lower their likelihood of suffering a tobacco-related disease.[3-7]
Example data source(s)	National Adult Tobacco Survey (NATS), 2013–2014 Information available at: http://www.cdc.gov/tobacco/data_statistics/surveys/nats/ National Health Interview Survey (NHIS), 2014 Information available at: http://www.cdc.gov/nchs/nhis.htm Population Assessment of Tobacco and Health (PATH) Study, Individual Screener and Adult Extended Interview Information available at: https://pathstudyinfo.nih.gov/UI/FAQsResMobile.aspx
Population group(s)	Former tobacco users
Example survey question(s)	**From NATS** What is your age? ___ Age in years • DON'T KNOW/NOT SURE • REFUSED About how long has it been since you completely quit using tobacco? • Date: • Today: • DON'T KNOW/NOT SURE • REFUSED **From NHIS** How old are you? • Age in years • REFUSED • DON'T KNOW How long has it been since you quit smoking cigarettes? • Day(s) • Week(s) • Month(s) • Year(s) • REFUSED • DON'T KNOW **From PATH**

What is your date of birth?

- MM/DD/YYYY
- DON'T KNOW
- REFUSED

About how long has it been since you completely quit smoking cigarettes?

- I___I___I DAYS
- I___I___I MONTHS
- I___I___I YEARS
- DON'T KNOW
- REFUSED

About how long has it been since you last used [e-cigarette, cigar, pipe filled with tobacco, hookah, smokeless tobacco, dissolvable tobacco]?

- I___I___I DAYS
- I___I___I MONTHS
- I___I___I YEARS
- DON'T KNOW
- REFUSED

Comments

Evaluators could also modify the example questions to measure sustained abstinence from all tobacco products.

Please note that measurable change to this indicator could take significant time to achieve, making proximal measures more appropriate for short-term evaluation of programmatic efforts.

Rating

Overall quality: low ⟷ high	Resources needed	Strength of evaluation evidence	Utility	Face validity	Accepted practice
	$	●	◒	◒	●
		← ○ ◒ ◒ ● → better			

References

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Indicator 3.7.d

Proportion of Former Tobacco Users Who Re-Initiate Regular Tobacco Use

KOI 2005	New
Goal area 3	Promoting Quitting Among Adults and Young People
Outcome 7	Increased cessation of all tobacco products as early in life as possible
What to measure	Proportion of former tobacco users who re-initiate everyday or someday tobacco use after a sustained abstinence of 6 months or longer
Why this indicator is useful	The majority of tobacco users who make a quit attempt relapse within the first 8 days.[1] Estimates of sustained abstinence (longer than 6 months) vary by cessation intervention, product type, and level of use[2] but have been found to be approximately 3% to 5% for daily smokers who have made unaided quit attempts.[1,3] Capturing information about former tobacco users who re-initiate tobacco use is critical for guiding future cessation work.[4]
Example data source(s)	National Health Interview Survey (NHIS), 2012 Information available at: http://www.cdc.gov/nchs/nhis/tobacco/tobacco_questions.htm#questions Tobacco Use Supplement to the Current Population Survey (TUS-CPS), 2010–2011 Information available at: http://appliedresearch.cancer.gov/tus-cps/info.html Population Assessment of Tobacco and Health (PATH) Study, Individual Screener and Adult Extended Interview Information available at: https://pathstudyinfo.nih.gov/UI/FAQsResMobile.aspx
Population group(s)	Former tobacco users
Example survey question(s)	**From NHIS** How long has it been since you quit smoking cigarettes? Enter time period for time since quit smoking. • Day(s) • Week(s) • Month(s) • Year(s) • REFUSED • DON'T KNOW Do you NOW smoke cigarettes every day, some days, or not at all? • Every day • Some days • Not at all • REFUSED • DON'T KNOW Do you NOW smoke tobacco products other than cigarettes every day, some days, rarely, or not at all? • Every day • Some days • Rarely • Not at all

- REFUSED
- DON'T KNOW

Do you NOW use smokeless tobacco products every day, some days, rarely, or not at all?

- Every day
- Some days
- Rarely
- Not at all
- REFUSED
- DON'T KNOW

From TUS-CPS

During the PAST 12 MONTHS, what is the [LENGTH / LONGEST length: If D3 = 1, fill with "LENGTH;" ELSE fill with "LONGEST Length"] of time you stopped smoking because you were TRYING to quit smoking?

(Do/Does) (you/name) now smoke cigarettes every day, some days, or not at all?

During the past 12 MONTHS, what is the LONGEST length of time you stopped smoking//using [fill entry same as J4 fill— cigars/ pipes// smokeless tobacco] because you were TRYING to quit?

(Do you/Does [name]) NOW (smoke/use) [fill entry in J1a] every day, some days or not at all? [J1a1-4 entries: smoke regular cigars, or cigarillos or little filtered cigars…./ smoke a regular pipe filled with tobacco…/ use a water pipe or hookah pipe filled with tobacco…./use smokeless tobacco….]

- Every day
- Some days
- Not at all

From PATH

About how long has it been since you completely quit smoking cigarettes?

- I___I___I DAYS
- I___I___I MONTHS
- I___I___I YEARS
- DON'T KNOW
- REFUSED

About how long has it been since you last used [e-cigarette, cigar, pipe filled with tobacco, hookah, smokeless tobacco, dissolvable tobacco]?

- I___I___I DAYS
- I___I___I MONTHS
- I___I___I YEARS
- DON'T KNOW
- REFUSED

On how many of the past 30 days did you [smoke cigarettes, e-cigarette, cigar, pipe filled with tobacco, hookah, smokeless tobacco, dissolvable tobacco]?

- |__|__| Days
- DON'T KNOW
- REFUSED

Comments	In addition to asking survey respondents whether they have re-initiated the specific type of tobacco products they formerly used, evaluators may want to determine whether respondents used different types of tobacco products during relapse.

Rating

Overall quality low ⟷ high	Resources needed	Strength of evaluation evidence	Utility	Face validity	Accepted practice
	$	◒	◒	◒	●
			← ○ ◒ ◒ ● → better		

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Outcome 8

Reduced Tobacco-Use Prevalence and Consumption

Cigarette smoking is the leading cause of preventable illness and death in the United States and has been causally linked to diseases of nearly all organs of the body.[1,2] More than 20 million Americans have died as a result of smoking since the first Surgeon General's report on smoking and health was released in 1964.[2] Paralleling this enormous health and personal toll is the economic burden of tobacco use: the annual smoking-attributable economic costs in the United States estimated are approximately $300 billion.[2]

Patterns of tobacco use are changing, with more intermittent use of cigarettes and an increase in use of other tobacco products.[2] Although some smokers may attempt to use other tobacco products as an alternative to smoking cessation, research demonstrates that switching product types does not tend to lead to cessation but rather continued, concurrent use.[3,4] Rapidly eliminating the use of cigarettes and all other tobacco products will dramatically reduce preventable death and disease.[2]

The following indicators are associated with this outcome:

- **3.8.a** Tobacco use prevalence
- **3.8.b** Prevalence of tobacco use during pregnancy
- **3.8.c** Per capita consumption of tobacco products
- **3.8.d** Tobacco product preferences of tobacco users

References

1. U.S. Department of Health and Human Services. *The health consequences of smoking: a report of the Surgeon General*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health; 2004.

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Outcome 8

Reduced Tobacco-Use Prevalence and Consumption

Indicator Rating
← ○ ◒ ◓ ● → better

Number	Indicator	Overall Quality low ⟷ high	Resources Needed	Strength of Evaluation Evidence	Utility	Face Validity	Accepted Practice
3.8.a	Tobacco use prevalence		$	●	●	●	●
3.8.b	Prevalence of tobacco use during pregnancy		$	●	●	●	●
3.8.c	Per capita consumption of tobacco products		$$	●	●	●	●
3.8.d	Tobacco product preferences of tobacco users	 †	$	◒	◒	◒	●

$ Dollar signs denote a qualitative rating of the resources (funds, time, and effort) needed to collect and analyze data using the most commonly available data source. The more dollar signs (maximum four), the more resources needed. Dollar signs do not represent a specific amount or range of costs but are instead a relative measure of expert reviewers' ratings regarding resources required to collect and analyze data to measure the indicator.

† Denotes low agreement among reviewers, defined as less than 75% of valid ratings within ±1 point of the median for this indicator-specific criterion.

Indicator 3.8.a

Tobacco Use Prevalence

KOI 2005	3.14.1
Goal area 3	Promoting Quitting Among Adults and Young People
Outcome 8	Reduced tobacco-use prevalence and consumption
What to measure	For cigarettes: Proportion of adults aged 18 or older who have smoked at least 100 cigarettes in their lifetime and who now report smoking cigarettes every day or some days For other tobacco products: Proportion of adults who have ever used a given tobacco product in their lifetime and who now report using the product every day or some days
Why this indicator is useful	Tobacco use remains the leading cause of preventable morbidity and mortality in the United States, resulting in more than 480,000 deaths each year.[1] In 2013, an estimated 17.8% of U.S. adults were current cigarette smokers.[2] Of these, the majority, 78.4% (33million), smoked every day.[3] One-half of all long-term smokers, especially those who begin smoking in adolescence, will eventually die from their tobacco use.[3] Although availability of epidemiologic data on cigarette smoking has grown exponentially since release of the first U.S. Surgeon General's report on tobacco use.[4] Prevalence data on other tobacco products are available but limited,[1] and additional information is needed regarding concurrent use of multiple tobacco products across the life course.[6] Cross-sectional data show that usage patterns vary by age, gender, ethnicity/race, and socioeconomic status.[7,8] Preventing and eliminating the use of all forms of tobacco as early in life as possible is the best strategy for decreasing preventable disease and death in the United States.
Example data source(s)	Behavioral Risk Factor Surveillance System (BRFSS): Core Module, 2011 and 2013 Information available at: http://www.cdc.gov/brfss/ Youth Risk Behavior Surveillance System (YRBSS), 2015 Information available at: http://www.cdc.gov/healthyyouth/yrbs/index.htm National Adult Tobacco Survey (NATS), 2013–2014 Information available at: http://www.cdc.gov/tobacco/data_statistics/surveys/nats/ National Health Interview Survey (NHIS), 2014 Information available at: http://www.cdc.gov/nchs/nhis.htm National Youth Tobacco Survey (NYTS), 2011 Information available at: http://www.cdc.gov/tobacco/data_statistics/surveys/nyts/
Population group(s)	All tobacco users
Example survey question(s)	**From BRFSS and NATS:** Have you smoked at least 100 cigarettes in your entire life? • Yes • No • DON'T KNOW/NOT SURE • REFUSED Do you now smoke cigarettes every day, some days, or not at all? • Every day • Some days • Rarely • Not at all

- DON'T KNOW/NOT SURE
- REFUSED

Do you currently use chewing tobacco, snuff, or snus every day, some days, or not at all?

- Every day
- Some days
- Not at all
- DON'T KNOW/NOT SURE
- REFUSED

Do you now smoke cigars, cigarillos, or little filtered cigars every day, some days, rarely, or not at all?

- Every day
- Some days
- Rarely
- Not at all
- DON'T KNOW/NOT SURE
- REFUSED

Do you now smoke a regular pipe filled with tobacco every day, some days, rarely, or not at all?

- Every day
- Some days
- Rarely
- Not at all
- DON'T KNOW/NOT SURE
- REFUSED

Do you now use chewing tobacco, snuff, or dip every day, some days, rarely, or not at all?

- Every day
- Some days
- Rarely
- Not at all
- DON'T KNOW/NOT SURE
- REFUSED

Do you now use electronic cigarettes everyday, some days, rarely, or not at all?

- Every day
- Some days
- Rarely
- Not at all
- DON'T KNOW/NOT SURE
- REFUSED

From YRBSS

Have you ever tried cigarette smoking, even one or two puffs?

- Yes
- No

During the past 30 days, on how many days did you smoke cigarettes?

- 0 days
- 1 or 2 days
- 3 to 5 days
- 6 to 9 days
- 10 to 19 days
- 20 to 29 days
- All 30 days

Have you ever used an electronic vapor product?

- Yes
- No

During the past 30 days, on how many days did you use an electronic vapor product?

- 0 days
- 1 or 2 days
- 3 to 5 days
- 6 to 9 days
- 10 to 19 days
- 20 to 29 days
- All 30 days

From NHIS

Do you NOW smoke cigarettes every day, some days, or not at all?

- Every day
- Some days
- Not at all
- REFUSED
- DON'T KNOW

Do you NOW smoke tobacco products other than cigarettes every day, some days, rarely, or not at all?

- Every day
- Some days
- Rarely
- Not at all
- REFUSED
- DON'T KNOW

Do you NOW use smokeless tobacco products every day, some days, rarely, or not at all?

- Every day
- Some days
- Rarely
- Not at all
- REFUSED
- DON'T KNOW

Have you ever used an e-cigarette, even one time?

- Yes

- No
- REFUSED
- DON'T KNOW

Do you now use e-cigarettes every day, some days, or not at all?

- Every day
- Some days
- Not at all
- REFUSED
- DON'T KNOW

From NYTS

During the past 30 days, on how many days did you smoke cigarettes?

- 0 days
- 1 or 2 days
- 3 to 5 days
- 6 to 9 days
- 10 to 19 days
- 20 to 29 days
- All 30 days

During the past 30 days, on how many days did you smoke cigars, cigarillos, or little cigars?

- 0 days
- 1 or 2 days
- 3 to 5 days
- 6 to 9 days
- 10 to 19 days
- 20 to 29 days
- All 30 days

During the past 30 days, on how many days did you smoke tobacco in a pipe?

- 0 days
- 1 or 2 days
- 3 to 5 days
- 6 to 9 days
- 10 to 19 days
- 20 to 29 days
- All 30 days

During the past 30 days, on how many days did you use chewing tobacco, snuff, or dip?

- 0 days
- 1 or 2 days
- 3 to 5 days
- 6 to 9 days
- 10 to 19 days
- 20 to 29 days
- All 30 days

During the past 30 days, on how many days did you smoke cigarettes?

- 0 days
- 1 or 2 days
- 3 to 5 days
- 6 to 9 days
- 10 to 19 days
- 20 to 29 days
- All 30 days

During the past 30 days, which of the following products have you used at least one day?

- Roll-your-own cigarettes
- Bidis (small brown cigarettes wrapped in a leaf)
- Clove cigarettes (kreteks)
- Smoking tobacco from hookah or a waterpipe
- Snus, such as Camel or Marlboro Snus
- Dissolvable tobacco products, such as Ariva, Stonewall, Camel orbs, Camel sticks, Marlboro sticks, or Camel strips
- Electronic cigarettes or E-cigarettes, such as Ruyan or NJOY
- Some other new tobacco product not listed here
- I have not used any of the products listed above or any new tobacco product during the past 30 days

Comments

In addition to capturing tobacco prevalence, evaluators may also want to assess average number of tobacco products used per day to estimate tobacco use intensity. This information can be useful in considering population-attributable risk and guiding cessation-related strategies.

Related Healthy People 2020 Objective*: TU-1 Reduce tobacco use by adults and TU-2 Reduce tobacco use by adolescents.*
Information available at: http://www.healthypeople.gov/2020/default.aspx

Rating

Overall quality low ⟷ high	Resources needed	Strength of evaluation evidence	Utility	Face validity	Accepted practice
	$	●	●	●	●
		← ○ ◒ ◒ ● → better			

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Indicator 3.8.b

Prevalence of Tobacco Use During Pregnancy

KOI 205	3.14.2
Goal area 3	Promoting Quitting Among Adults and Young People
Outcome 8	Reduced tobacco-use prevalence and consumption
What to measure	Proportion of pregnant women who used tobacco during pregnancy or resume smoking within 6 months after giving birth
Why this indicator is useful	Smoking is associated with a variety of complications before, during, and after pregnancy, including infertility, ectopic pregnancy, placental complications, preterm delivery, stillbirth, neonatal and perinatal mortality, and low birth weight.[1-3] Evidence shows that health promotion efforts and referral to effective cessation interventions reduce maternal smoking prevalence during pregnancy.[4,5] Women who continue to smoke into their third trimester are more likely to have low socioeconomic status and to enter prenatal care late.[4] Studies suggest that use of other tobacco products, including smokeless tobacco and snuff, may adversely affect pregnancy outcomes as well,[6-11] likely due to specific actions of nicotine.[3]
Example data source(s)	Birth certificate data CDC Pregnancy Risk Assessment Monitoring System (PRAMS), Core Questions, 2009–2012 Information available at: http://www.cdc.gov/prams/Questionnaire.htm#p3 National Health Interview Survey (NHIS), Sample Adult Diet and Nutrition Supplement, 2010 Information available at: http://www.cdc.gov/nchs/nhis.htm
Population group(s)	Pregnant women
Example survey question(s)	Birth certificate data are available from states' vital statistics data. **From PRAMS** In the last 3 months of your pregnancy, how many cigarettes did you smoke on an average day? • 41 cigarettes or more • 21 to 40 cigarettes • 11 to 20 cigarettes • 6 to 10 cigarettes • 1 to 5 cigarettes • Less than 1 cigarette • I didn't smoke then How many cigarettes do you smoke on an average day now? (A pack has 20 cigarettes.) • 41 cigarettes or more • 21 to 40 cigarettes • 11 to 20 cigarettes • 6 to 10 cigarettes • 1 to 5 cigarettes • Less than 1 cigarette • I didn't smoke then

From NHIS

Have you given birth to a live born infant within the past 5 years?

- Yes
- No
- REFUSED
- DON'T KNOW

Did you smoke cigarettes at any time during your pregnancy with your last child?

- Yes
- No
- REFUSED
- DON'T KNOW

Comments

Using birth certificate data may lead to underestimates of smoking rates during pregnancy due to variations in birth certificate forms as well as underreporting.[2] Surveys, such as PRAMS, may also be subject to underreporting bias.[3]

To gather more complete data on tobacco use, evaluators can also ask questions about the use of other tobacco products, such as cigars, smokeless tobacco, and loose tobacco.

Because most mothers resume smoking within 18 months of delivery,[4,5] evaluators may also choose to measure the proportion of women who use tobacco in the postpartum period (6 months after giving birth). In addition to the increased morbidity and mortality risks for the mothers, children exposed to secondhand smoke are at increased risk for sudden infant death syndrome (SIDS), acute respiratory infections, ear infections, and more severe asthma.[1,2,12]

Rating

Overall quality low ⟷ high	Resources needed	Strength of evaluation evidence	Utility	Face validity	Accepted practice
	$	●	●	●	●
		← ○ ◒ ◓ ● → better			

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Indicator 3.8.c

Per Capita Consumption of Tobacco Products

KOI 2005	3.14.4
Goal area 3	Promoting Quitting Among Adults and Young People
Outcome 8	Reduced tobacco-use prevalence and consumption
What to measure	Number of tobacco products sold per adult aged 18 years or older in the state, by type
Why this indicator is useful	Decreases in overall tobacco consumption are associated with the success of a comprehensive tobacco control program.[1-5] However, tax disparities and variations in tobacco industry promotion for different tobacco products can lead to shifts in product-specific consumption.[6,7] Capturing overall tobacco consumption and key product-specific consumption levels can provide important tobacco control planning and program improvement information.
Example data source(s)	Excise tax data from the U.S. Department of Treasury's Alcohol and Tobacco Tax and Trade Bureau State departments of revenue The Tax Burden on Tobacco Available at: https://chronicdata.cdc.gov/Policy/The-Tax-Burden-on-Tobacco-Volume-49-1970-2014/7nwe-3aj9
Population group(s)	This indicator is best measured by examining tax records to assess state tobacco sales. Population survey methods include asking items of all tobacco users.
Example survey question(s)	Not Applicable
Comments	The two standard approaches for measuring consumption are (1) estimating consumption based on tobacco excise tax data and (2) surveying a representative sample of the public and asking questions about personal consumption levels. The U.S. Department of Agriculture, which previously provided estimates based on tax data, stopped reporting on tobacco consumption in 2007. The Centers for Disease Control and Prevention (CDC) now uses excise tax data from the U.S. Department of Treasury's Alcohol and Tobacco Tax and Trade Bureau to estimate consumption. Evaluators need to measure statewide consumption of cigarettes, smokeless tobacco, and other tobacco products separately.

Rating

Overall quality: low ⟷ high	Resources needed	Strength of evaluation evidence	Utility	Face validity	Accepted practice
	$$	●	●	●	●
		← ○ ◒ ◓ ● → better			

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Indicator 3.8.d

Tobacco Product Preferences of Tobacco Users

KOI 2005	New
Goal area 3	Promoting Quitting Among Adults and Young People
Outcome 8	Reduced tobacco-use prevalence and consumption
What to measure	Type and brand of tobacco products used by respondents in the past 30 days
Why this indicator is useful	Research suggests a link between exposure to tobacco advertising and brand preference.[1,2] Knowing brand and product preferences of tobacco users across the life course can help inform the development of effective tobacco control interventions and also provide insight into the influence of the tobacco industry's marketing practices.[3,4] The tobacco industry disproportionately targets certain populations and communities.[5] For example, evidence shows increased menthol cigarette marketing at the point of sale in lower income and African American communities.[6,7] Additionally, the tobacco industry has begun marketing alternative tobacco products with claims that they are less harmful or less addictive than cigarettes, and there is concern that smokers may use these products as an alternative to cessation.[8] Although these messages may appeal to smokers, research demonstrates that switching product type does not lead to cessation.[8,9]
Example data source(s)	National Adult Tobacco Survey (NATS), 2009-2010 and 2013–2014 Information available at: http://www.cdc.gov/tobacco/data_statistics/surveys/nats/ National Youth Tobacco Survey (NYTS), 2011 Information available at: http://www.cdc.gov/tobacco/data_statistics/surveys/nyts/index.htm National Survey on Drug Use and Health (NSDUH), 2011 Information available at: http://www.samhsa.gov/data/NSDUH.aspx
Population group(s)	Current tobacco users
Example survey question(s)	**From NATS 2009-2010** During the past 30 days, that is since _____, what brand of cigarettes did you buy most often? During the past 30 days, that is since _____, what brand of cigarettes did you smoke most often? During the past 30 days, that is since _____, what brand of smokeless tobacco did you use most often? **From NATS 2013–2014** At any time during the past 12 months, did you completely switch from smoking traditional cigarettes to using electronic or e-cigarettes? At any point during the past 12 months, did you completely switch from smoking cigarettes to using a smokeless tobacco product, such as chewing tobacco, dip, snuff, or snus? **From NYTS** During the past 30 days, which of the following tobacco products did you use on at least one day? (CHOOSE ALL THAT APPLY) • Roll-your-own cigarettes • Flavored cigarettes, such as Camel Crush • Clove cigars • Flavored little cigars

	• Smoking tobacco from a hookah or a waterpipe • Snus, such as Camel or Marlboro Snus • Dissolvable tobacco products, such as Ariva, Stonewall, Camel orbs, Camel sticks, or Camel strips • Electronic cigarettes or E-cigarettes, such as Ruyan or NJOY • Some other new tobacco products not listed here • I have not used any of the products listed above or any new tobacco product
Comments	In addition to monitoring trends in type and brand preferences among tobacco users, evaluators may want to identify recent product type and brand changes as well as reasons for preference changes. Capturing this additional information may aid in the interpretation of cross-sectional data and help to link product preference information with other cessation-related behaviors. Ideally, changes in product preferences and subsequent effects on quit attempts/dual use/ continued use should be assessed using longitudinal data systems.

Rating

Overall quality low ⟷ high	Resources needed	Strength of evaluation evidence	Utility	Face validity	Accepted practice
 †	$	◒	◒	◒	●
		← ○ ◒ ◒ ● → better			

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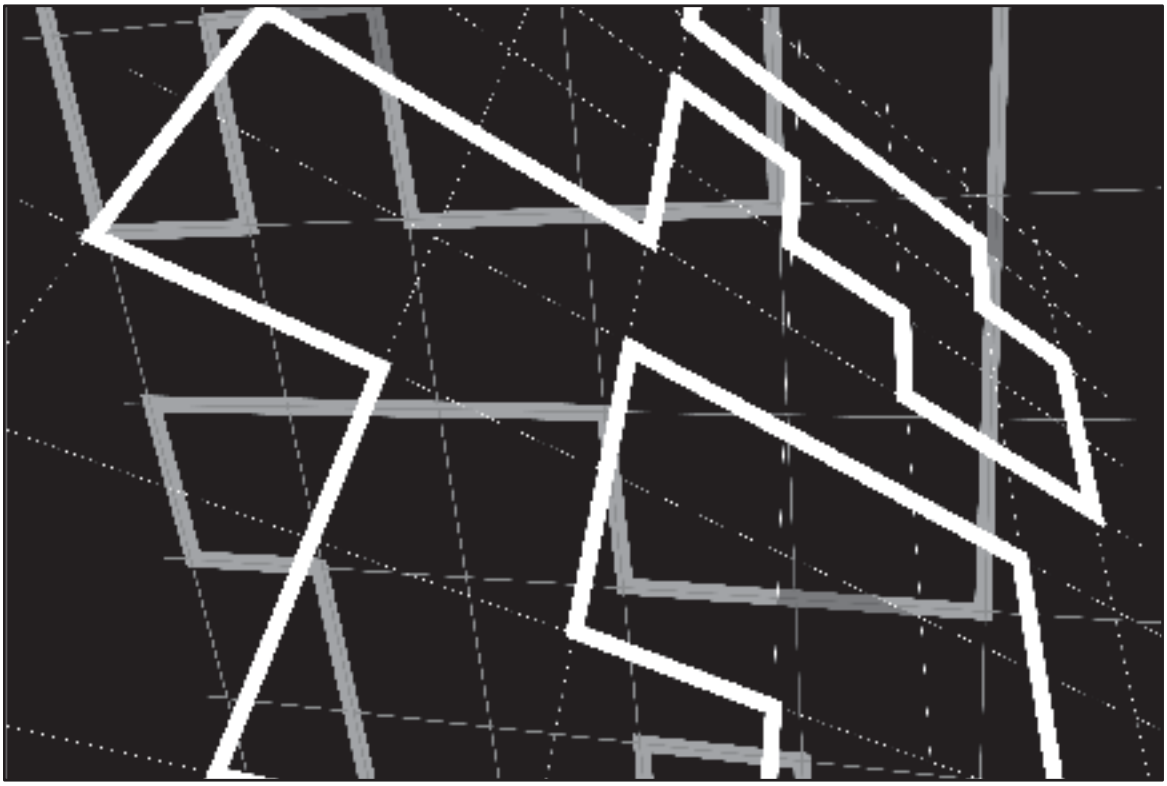
Appendices and Glossary



National Tobacco Control Program

An Overview

The Centers for Disease Control and Prevention's (CDC's) Office on Smoking and Health (OSH) created the National Tobacco Control Program (NTCP) in 1999 to encourage coordinated, national efforts to reduce tobacco-related diseases and deaths. The program provides funding and technical support to state and territorial health departments.

NTCP funds

- all 50 states,
- the District of Columbia,
- eight U.S. territories/jurisdictions,
- eight tribal support centers, and
- several national networks that provide technical assistance to increase tobacco control and prevention capacity and infrastructure to address health disparities.

NTCP-funded programs are working to achieve the objectives outlined in OSH's *Best Practices for Comprehensive Tobacco Control Programs*.[1]

The four goals of NTCP are to

- prevent initiation among youth and young adults,
- eliminate exposure to secondhand smoke,
- promote quitting among adults and youth, and
- identify and eliminate tobacco-related disparities among population groups,

The four components of NTCP are

- population-based community interventions,
- countermarketing,
- program policy/regulation, and
- surveillance and evaluation.

For more information on the NTCP, go to: http://www.cdc.gov/tobacco/tobacco_control_programs/ntcp/ . Several resources for effective tobacco control programs are also available on the Web site, including the following:

- *Best Practices for Comprehensive Tobacco Control Programs-2014*[1]
- *Designing and Implementing an Effective Tobacco Counter-Marketing Campaign*[2]

- *Surgeon General Reports* related to tobacco prevention and control[3-8]
- *The Guide to Community Preventive Services: Tobacco Use Prevention and Control*[9]

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We thank the following panel of expert members (in alphabetical order) who rated the indicators. Without their generosity in sharing their expertise and donating their time, this publication would not have been possible.

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Outcome Indicator Workgroup

We thank the following individuals for their assistance in preparing and reviewing this publication.

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Selecting and Rating the Indicators

The Centers for Disease Control and Prevention (CDC) began producing this publication by first reviewing the indicators included in Goal 3: Promoting Quitting Among Adults and Young People from the *Key Outcome Indicators for Evaluating Comprehensive Tobacco Control Programs* published in 2005 (KOI 2005). The 2005 guide was developed by updating previously published logic models for three of the four goal areas of the National Tobacco Control Program (NTCP):

- Preventing initiation of tobacco use among young people.
- Eliminating nonsmokers' exposure to secondhand smoke.
- Promoting quitting among adults and young people.

Initial Outcome Indicator Development

KOI 2005 used an extensive review of published and fugitive literature to select candidate indicators for the outcome components of each NTCP goal area's logic model. Once selected, the scientific evidence was then reviewed to determine whether an association existed between the candidate indicators and the outcome components in the NTCP logic models.

Candidate indicators that demonstrated an association were included in further development, including the selection of example data sources and survey questions for each indicator. The selection of example data sources was focused on choosing data sources that were readily available to state tobacco control programs.

Candidate indicators with example data sources and survey questions then were submitted to an external review panel for rating across several criteria. Reviewer responses were analyzed and augmented with information from an independent literature review conducted by the Battelle Centers for Public Health Research and Evaluation under contract to CDC. (See KOI 2005, Appendix B for a detailed description of the methods.)

Updating Goal 3 Outcome Indicators

Revising the Candidate List of Indicators

In 2012, an initial step taken to update the Goal 3 indicators was to review the relevant tobacco literature published since the release of KOI 2005. During this review, we sought to determine whether the scientific evidence continued to support associations between individual indicators and outcome components in the NTCP Goal 3 logic model and to determine whether the evolution of science and practice created gaps in the logic model requiring development of new outcome indicators. The process included careful examination of seminal tobacco control documents, including Surgeon General reports, National Cancer Institute (NCI) Monographs,

Clinical Guidelines and Institute of Medicine reports published from 2005 to 2012. We also conducted targeted literature searches via PubMed.

The 2012 literature review identified the need for additional and more nuanced indicators related expanding health coverage for comprehensive cessation services, reducing tobacco industry influence, and increasing environmental changes to support quitting. The Affordable Care Act created opportunities to expand coverage of evidence-based tobacco use cessation treatments while the issue of tobacco industry influence became more salient with the passage of the Family Smoking Prevention and Tobacco Control Act (Tobacco Control Act) in 2009.

Information from the literature review was used to modify the existing Goal 3 logic model and indicator list. Ultimately, 24 new candidate indicators were added to the Goal 3 list, and 10 indicators from KOI 2005 were removed. Revised materials included the revised Goal 3 logic model, a draft list of candidate indicators, and brief indicator profiles with example data sources and survey questions similar to those developed for KOI 2005.

Rating the Indicators

Replicating the original indicator development process, we assembled a panel of experts (listed in Appendix B) to rate the final set of candidate indicators for Goal Area 3. Of the 21 invited experts, 13 agreed to participate and completed the indicator review. The experts assessed the indicators against several criteria and suggested data sources useful for measuring these indicators.

Expert panelists were asked to rate each of the candidate indicators separately according to several criteria (see expert panel review instructions and review form on page X of this appendix).

In addition, we asked the expert raters to

- comment on the data sources and survey questions that CDC had selected for each proposed indicator,
- suggest alternative data sources and questions,
- suggest additional or alternative supporting references, and
- suggest additional indicators that would be useful for evaluation of comprehensive state tobacco control programs.

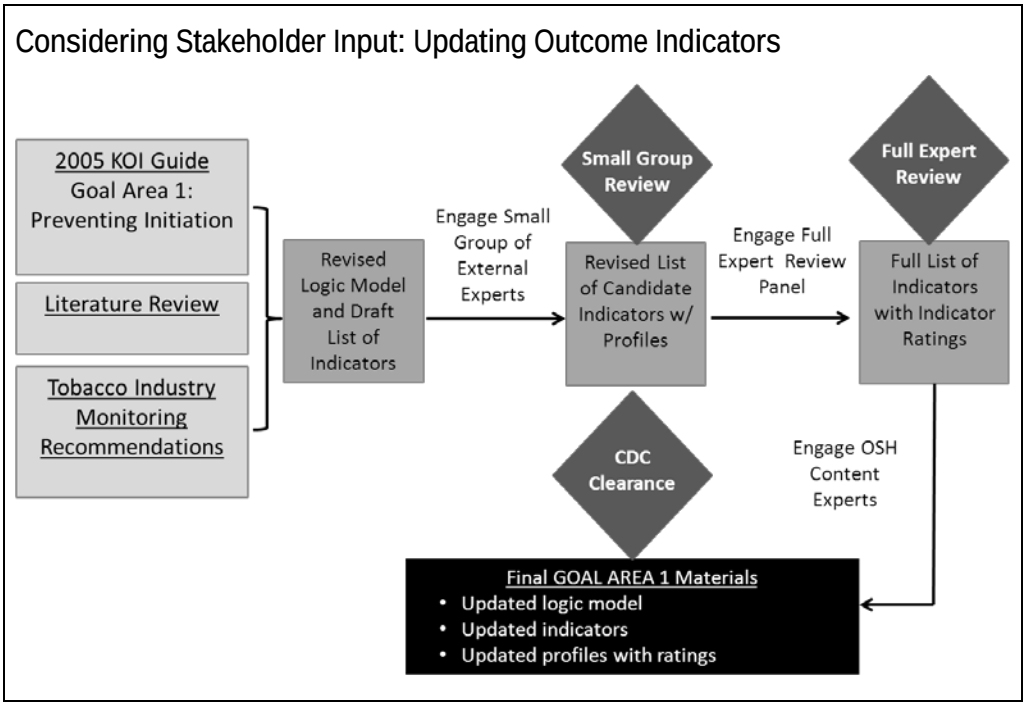
Each expert used a separate rating form for each indicator (see end of this appendix for a reprint of the rating form and rater instructions).

Revising the Indicator Profiles

Concurrent with external review, OSH staff worked to develop complete profiles for each candidate indicator. This included systematically updating example data sources and survey questions, which involved searching current and past (1999–2014) national data sources including federal sources, such as the National Adult Tobacco Survey (NATS), National Youth Tobacco Survey (NYTS), STATE System, CDC OSH News Media Surveillance System, Youth

Risk Behavior Survey (YRBS), School Health Profiles, National Survey on Drug Use and Health (NSDUH) (Substance Abuse and Mental Health Services Administration [SAMHSA]), Synar reports, and Federal Trade Commission reports; and non-federal sources, including Legacy Media Tracking Survey, Center for Responsive Politics, National Institute on Money in State Politics, and state tobacco control program evaluation reports.

Rationale statements and supporting references for each candidate indicator were updated using the 2012 literature review as well as topic-specific PubMed searches for more recent evidence published since 2012.



Analysis and Synthesis of Data from the Expert Reviews

After CDC received the completed rating forms from the experts, all criteria ratings and written comments were entered into an electronic file. We adjusted for multiple responses, skipped items, and coding errors. If, for example, a rater circled more than one adjacent response for a criterion, we averaged the responses unless the rater had noted a preference for one response over another. Skipped items and "don't know" responses were combined into a missing data category. All data were analyzed using IBM SPSS—Version 19.0.

For each type of rating, numerical data were analyzed in various ways. Frequency distributions of numerical data were analyzed to help us understand the raters' perceptions of the indicators. To limit the effect of outliers, we used the median scores for each indicator. "Uniqueness" ratings, which were dichotomous, were only used to determine redundant indicators. Narrative comments included on the raters' rating sheets were also reviewed to help us understand why raters gave an indicator a particularly high or low rating.

Throughout this document, indicators that had low reviewer response or low agreement among reviewers are flagged with footnotes as follows:

- An asterisk (*) indicates low reviewer response. If fewer than 75% of reviewers provided a valid rating on a criterion for an indicator, the criterion is flagged as having low reviewer response. For the purposes of this assessment, invalid responses included "don't know," missing data, and rating errors (e.g., selection of two non-adjacent ratings). A low response suggests a high degree of uncertainty among raters. An example of a rating for which there was low response is the resource score for indicator 1.7.h: Amount of tobacco industry contributions to institutions and groups.
- A dagger (†) indicates a low level of agreement among reviewers. For the resources needed, strength of evaluation evidence, utility, face validity, and accepted practice criteria, a rating was considered to have a low level of agreement if fewer than 75% of valid reviewer responses were within ±1 point of the median. For the overall quality criterion, a rating was considered to have a low level of agreement if fewer than 75% of valid reviewer responses were within ±2 points of the median (denoted by a double dagger ††). An example of a rating with a low level of agreement is the overall quality score for 1.9.a: Average age at which young people first smoked a whole cigarette. This low level of agreement represents a relatively high degree of variability in the raters' responses for the criterion.

Expert panel members rated and offered comments on 55 candidate indicators. After reviewing the expert panel ratings and comments carefully, five indicators were added to address gaps identified by the expert reviewers and OSH staff. These new indicators were not rated by the expert panel, noted by an "NR" suffix to the indicator number in this publication. However, some information about these "NR" indicators is provided in the indicator profiles. Expert panel ratings and comments noted that some indicators were considered to be "not essential," so we deleted four indicators and merged two indicators with two other similar indicators. Thus, this publication contains information on 46 Goal Area 3 indicators.

CDC reviewed the expert panelists' "resources needed" scores (their estimate of the intensity of resources required to collect and analyze data on each indicator). CDC modified scores for 37 indicators that were rated by the experts. Some indicators included multiple types of data sources which added complexity to the rating process. Additionally, when data for a given indicator were found to be available from existing surveillance systems and/or archival sources, the resource rating was modified to a score of 1.

CDC/OSH Key Outcome Indicator 2014 Update
Instructions for Expert Reviewers

Background and Purpose

In 2005, the Centers for Disease Control and Prevention's (CDC's) Office on Smoking and Health (OSH) released the *Key Outcome Indicators for Evaluating Comprehensive Tobacco Control Programs* (KOI Guide) to assist state and territorial tobacco control program evaluation efforts under the National Tobacco Control Program (NTCP). The primary audiences for the publication included planners, managers, and evaluators of state programs to prevent or control tobacco use and CDC's national partners.

Substantial changes and advances in tobacco control have occurred since the release of the KOI Guide. The passage of the Family Smoking Prevention and Tobacco Control Act in 2009 provides an opportunity for expanding tobacco prevention and control policy efforts, especially those focused on reducing tobacco industry influences through marketing, pricing, and promotion. Additionally, the Affordable Care Act, signed into law in March 2010, includes provisions requiring insurers to cover evidence-based tobacco cessation treatments; expands smoking cessation coverage for priority populations, including pregnant women who receive Medicaid; and invests in promotion of effective public health and preventive measures through the establishment of the Prevention and Public Health Fund. Given these changes in the national policy environment, OSH recognized the need to revisit the key outcome indicators related to tobacco cessation.

As a first step, indicators in OSH Goal Area 3 (Promoting Quitting Among Adults and Young People) have been reviewed and revised internally by OSH staff. During this process, some existing key outcome indicators have been removed, others have been substantially revised, and several new indicators have been added. We will implement an external expert review process similar to what was used during the initial indicator development effort.

Similar to the original KOI Guide, the updated version will

- serve as a companion to OSH's Best Practices for Comprehensive Tobacco Control Programs and Introduction to Program Evaluation for Comprehensive Tobacco Control Programs;
- describe key outcome indicators for the evaluation of statewide, comprehensive tobacco control programs, and suggest appropriate data sources and measures for these indicators;
- encourage states to use consistent evaluation measures and comparable data sources; and
- guide the provision of surveillance and evaluation technical assistance to states.

Methods

The candidate indicators included in this document have been identified through an extensive review of the literature and input provided by key tobacco control experts,. Each of the proposed indicators included in this document is linked to a component of the revised Goal Area 3 logic model (Figure 1).

As part of the update process, each of the original KOI Guide Goal Area 3 indicators and their respective profiles were reviewed. Indicator profiles were revised, as necessary, to reflect current state of the science. Example data sources and survey items were updated to reflect those that are readily available to staff involved in state tobacco control programs. If necessary, measures were drawn from

other national and state-specific surveys and evaluation protocols that are not widely used yet but are accessible to state tobacco control programs.

Internal indicator selection decisions were guided by a need to highlight key indicators for planning and evaluating comprehensive tobacco control programs. Linkages connecting antecedent and consequent logic model components (boxes) and nested indicators were reviewed for evidence of association.

Rating Process

The principal purpose of this expert review process is to provide CDC/OSH with expert opinion about the quality and utility of the candidate indicators for use in planning and evaluating comprehensive state tobacco control programs, and the data sources and measures that would be most useful for tracking these indicators. As reviewers, you are asked to do the following:

- Rate each indicator on a set of criteria similar to those used to produce the original KOI Guide.
- Comment on the data sources and measures that have been identified for each proposed indicator.
- Suggest alternative data sources and measures.
- Suggest additional cessation-related indicators that may be useful for state tobacco control program evaluation.

The final product will be similar to the original KOI Guide in that it will include tables displaying the indicators, ratings of the indicators along the review criteria, and detail summary information on each indicator.

We would like you to rate the indicators based on your expertise and experience in this substantive area using the following criteria:

1. Strength of evidence
2. Costs (in money, time, and other resources) required to collect and analyze indicator data
3. Utility
4. Face validity
5. Uniqueness
6. Conformity with accepted practice
7. Overall quality

Below you will find additional guidance regarding these rating criteria and the rating process.

Rating Form

Each indicator is presented on a separate rating form. The rating forms have three sections:

- Summary information on the proposed indicator, including what to measure, example data sources, population group, example survey question(s), other relevant information, and references regarding the evidence supporting use of the indicator, where available. Please note that the references provided are not intended to be a comprehensive bibliography.
- Rating criteria scales for reviewer response
- Space for open-ended reviewer comments on the proposed indicator and data sources/measures

In the summary information section on the rating forms, the example data sources/measures suggested are intended only to help operationalize the indicators and do not represent a comprehensive list of all possible measures for the indicators. Additionally, information included in the "Comments" section has been limited to what will help to provide clarity or address nuances for the specific indicator. The final, updated KOI Guide will include suggestions for other uses of the indicator, the limitations (if any) of using this indicator as a measure of a program's progress, or sources of other information on data collection methods.

IMPORTANT NOTE: Given our plan to provide information on current, relevant indicators for tobacco control, we ask that you **not** reference the original KOI Guide when rating these candidate indicators. Please rate these updated and new indicators based on your expertise and knowledge of the current state of the science. This will help to identify indicators that are no longer pertinent or that have limited supporting evidence.

Rating Criteria

The following criteria are to be used to rate each indicator:

1. **Strength of the evaluation evidence**—Extent to which you believe that the literature supports use of the indicator for the evaluation of comprehensive, statewide tobacco control programs, as characterized by the logic model. Please provide a rating based on your experience and knowledge of the field. We have included several references for each indicator. However, the intent is not for you to examine each reference we have provided but rather to provide a rating based on your knowledge of the literature. For areas you are not as familiar with, please feel free to select "don't know." For areas where you have familiarity and feel that we may be missing a key citation, please add that note to the comment box as well as any issues regarding conflicting evidence and/or concerns with methodology.
2. **Costs required for collecting and analyzing indicator data**—Your rating of the cost (in money, time, and other resources) to collect reliable and precise measures and to analyze appropriately primary or secondary data on the indicator. In making your judgments, please consider availability of existing data (e.g., archival records or other secondary data) versus the need for primary data collection, and methodological and sampling issues.
3. **Utility**—Extent to which you believe that the indicator would help to answer important comprehensive tobacco control program evaluation questions. Although these indicators may also be appropriate and useful for community-level evaluation, the utility criterion refers primarily to statewide efforts.
4. **Face validity**—Your estimation of how face valid the indicator would appear to be in the eyes of policy makers and decision makers who may be users of tobacco control program evaluation results.
5. **Uniqueness**—Your opinion of whether the indicator contributes distinct information for the evaluation of tobacco control efforts. If you believe that the indicator is not unique, please note the redundant indicator in the space provided.
6. **Conformity with accepted practice**—Your opinion of the degree to which use of the indicator is consistent with currently accepted, "real-world" tobacco control practice.
7. **Overall quality**—A summary rating that reflects your opinion of the overall quality of the indicator.

Reviewer Comments

Please provide comments and suggestions regarding the proposed indicator, data sources, and measures in the Reviewer Comments section.

Completing the Indicator Review

We encourage you to use the electronic expert review packet to submit your indicator ratings and comments. Responses entered into the electronic expert review packet export directly to a database, eliminating the need for additional data entry and validation steps. If you are using the electronic version of the rating forms, please read the next section for more information on how to complete the packet and submit your ratings. Selected pages or the full expert review packet may be printed if you would like a hard copy to reference or record notes on, but we ask that you enter your final ratings and comments in the electronic expert review packet. If for some reason you are unable to submit ratings and comments electronically, please contact OSH to arrange for hard-copy submission.

[RATING FORM]

Proposed Indicator:	**3.1.a Level of confirmed awareness of media campaign messages that promote cessation**

Please darken the circle that best reflects your rating:

1. Scientific literature supports use of the indicator: ○ Strong support ○ Moderate support ○ Minimal support ○ No support ○ Don't know	**2. Cost (in money, time, and other resources) required to collect and analyze indicator data:** ○ Low cost ○ Moderate cost ○ High cost ○ Very high cost ○ Don't know	**3. Utility of the indicator to answer key program effectiveness and impact:** ○ Strong utility ○ Moderate utility ○ Minimal utility ○ No utility ○ Don't know
4. How face valid the indicator would be to policy and decision makers: ○ Highly valid ○ Moderately valid ○ Minimally valid ○ Not at all valid ○ Don't know	**5. Contributes unique information:** ○ Unique ○ Not unique **IF NOT UNIQUE, write number of redundant indicator** ☐	**6. How consistent the indicator is with accepted tobacco control practice:** ○ Highly consistent ○ Moderately consistent ○ Minimally consistent ○ Not at all consistent ○ Don't know

7. Overall quality of the indicator: **LOW** ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 ○ 10 **HIGH**

Reviewer Comments (including recommendations on other data sources/measures or alternative indicators):

Data Source Indicator Table

The following table cross-references example data sources and indicators in this publication. The example data sources do not represent all data sources available. When possible, Web addresses are provided. For additional information on tobacco-related data sources and data collection methods, refer to the *Introduction to Program Evaluation for Comprehensive Tobacco Control Programs*[1] or *Surveillance and Evaluation Data Resources for Comprehensive Tobacco Control Programs*.[2]

Data source	Indicator number	For more information
Addressing Tobacco in Managed Care (ATMC), Survey of Health Plans, 1997–2002	3.3.a	
American Lung Association (ALA) State Tobacco Cessation Coverage Database	3.2.b	▶ http://www.lungusa2.org/cessation2/
American Lung Association (ALA), Tobacco Cessation Coverage 2012, Survey of State Medicaid, Department of Health and Quitline staff	3.2.a	▶ http://www.lung.org/assets/documents/tobacco/helping-smokers-quit-2012.pdf
Americans for Nonsmokers' Rights (ANR)	3.3.g; 3.4.a; 3.4.c	▶ http://www.no-smoke.org See "Policy tracking system"
Birth certificate data	3.8.b	
Behavioral Risk Factor Surveillance System (BRFSS), 2011	3.7.a; 3.7.b; 3.8.a	▶ http://www.cdc.gov/brfss/
Behavioral Risk Factor Surveillance System (BRFSS), 2013	3.8.a	▶ http://www.cdc.gov/brfss/
Campaign For Tobacco-Free Kids (CTFK)	3.4.e	▶ http://www.tobaccofreekids.org/research/factsheets/pdf/0097.pdf
CDC Pregnancy Risk Assessment Monitoring System (PRAMS), Core Questions, 2009–2012	3.8.b	▶ http://www.cdc.gov/prams/Questionnaire.htm#p3
CDC State Tobacco Activities Tracking and Evaluation (STATE) system	3.1.f; 3.4.a; 3.4.e; 3.6.d	▶ http://www.cdc.gov/statesystem/

Data source	Indicator number	For more information
CDC *Tips From Former Smokers* Campaign, Pilot Campaign Survey, 2014	3.1.a	
CDC *Tips From Former Smokers* Campaign, Smoker Follow-up Questionnaire	3.1.b	
CounterTobacco	3.5.a	▶ http://www.countertobacco.org
Excise tax data from the U.S. Department of Treasury's Alcohol and Tobacco Tax and Trade Bureau	3.8.c	
Environmental scan of social media Web sites for industry presence and pro-tobacco content; monitoring and content analysis of brand and corporate Web sites for age identification requirements and messaging	3.5.e	▶ Social media monitoring tools can be used for surveillance. For example, keywords can be used to monitor product and Web site mentions on Twitter, blogs, and other social media sites.
HealthStyles Survey, 2013	3.1.h	▶ http://www.cdc.gov/breastfeeding/data/healthstyles_survey/survey_2012.htm
HealthStyles Survey, 2012	3.5.h	▶ http://www.cdc.gov/breastfeeding/data/healthstyles_survey/survey_2012.htm
International Tobacco Control Survey (ITC), 2012	3.1.h	▶ http://www.itcproject.org/
International Tobacco Control Policy Evaluation Study (ITC), 2011	3.5.h	▶ http://www.itcproject.org/surveys
International Tobacco Control Policy Evaluation Study (ITC), 2008	3.5.f	▶ http://www.itcproject.org/surveys
Interviews with Retailers	3.5.c	
Minnesota Adult Tobacco Survey (MATS), 2007	3.1.c	▶ http://www.mntobacco.nonprofitoffice.com/
National Adult Tobacco Survey (NATS), 2009-2010	3.1.e; 3.1.h; 3.3.b; 3.3.c; 3.3.d; 3.3.e; 3.3.f; 3.6.b; 3.6.c; 3.8.d	▶ http://www.cdc.gov/tobacco/data_statistics/surveys/nats/
National Adult Tobacco Survey (NATS), 2013–2014	3.1.c; 3.1.d; 3.4.d; 3.4.f; 3.5.h; 3.6.a; 3.7.a; 3.7.b; 3.7.c; 3.8.a; 3.8.d	▶ http://www.cdc.gov/tobacco/data_statistics/surveys/nats/

Data source	Indicator number	For more information
National Ambulatory Medical Care Survey (NAMCS), Electronic Health Records Survey, 2013	3.3.a	▶ http://www.cdc.gov/nchs/ahcd.htm
National Ambulatory Medical Care Survey (NAMCS), Lookback Module, 2013	3.3.c; 3.3.e	▶ http://www.cdc.gov/nchs/ahcd/about_ahcd.htm
National Ambulatory Medical Care Survey (NAMCS), Patient Record Form, 2011	3.3.b	▶ http://www.cdc.gov/nchs/ahcd.htm
National Health Interview Survey (NHIS), 2014	3.3.b; 3.6.a; 3.7.b; 3.7.c; 3.8.a	▶ http://www.cdc.gov/nchs/nhis/quest_data_related_1997_forward.htm#2013_NHIS
National Health Interview Survey (NHIS), 2012	3.7.d	▶ http://www.cdc.gov/nchs/nhis/tobacco/tobacco_questions.htm#questions
National Health Interview Survey (NHIS), Adult Cancer Supplement, 2010	3.3.c	▶ http://www.cdc.gov/nchs/nhis/quest_data_related_1997_forward.htm#2013_NHIS
National Health Interview Survey (NHIS), Sample Adult Diet and Nutrition Supplement, 2010	3.8.b	▶ http://www.cdc.gov/nchs/nhis.htm
National Hospital Ambulatory Medical Care Survey (NHAMCS), 2013 Lookback Module	3.3.a; 3.3.c; 3.3.e	▶ http://www.cdc.gov/nchs/ahcd/about_ahcd.htm
National Quitline Data Warehouse (NQDW) Intake Questionnaire, 2012	3.1.a	▶ http://www.naquitline.org/?page=NatDataWarehouse
National Quitline Data Warehouse (NQDW), Quitline Services Survey, 2012	3.1.f	▶ http://www.naquitline.org/?page=NatDataWarehouse
National Quitline Data Warehouse (NQDW), Quitline Services Survey, 2011	3.6.d	▶ http://www.naquitline.org/?page=NatDataWarehouse
National Survey on Drug Use and Health (NSDUH), 2011	3.8.d	▶ http://www.samhsa.gov/data/NSDUH.aspx
National Survey of Substance Abuse Treatment Services (N-SSATS), 2012 Questionnaire	3.3.a	▶ http://www.icpsr.umich.edu/icpsrweb/ICPSR/series/58
National Survey of Substance Abuse Treatment Services (N-SSATS), 2011 Questionnaire	3.3.g	▶ http://www.icpsr.umich.edu/icpsrweb/ICPSR/series/58

Data source	Indicator number	For more information
National Youth Tobacco Survey (NYTS), 2011	3.3.b; 3.3.c; 3.4.d; 3.5.f; 3.6.b; 3.7.a; 3.7.b; 3.8.a	▶ http://www.cdc.gov/tobacco/data_statistics/surveys/nyts/
National Youth Tobacco Survey (NYTS), 2012	3.1.d; 3.5.h; 3.6.a; 3.8.d	▶ http://www.cdc.gov/tobacco/data_statistics/surveys/nyts/index.htm
New York Adult Tobacco Survey	3.1.a	
New York State's Retail Advertising Tracking Study (RATS)	3.5.a; 3.5.b	▶ http://www.health.ny.gov/prevention/tobacco_control/docs/tobacco_marketing_exposure_rpt.pdf
Observation of tobacco advertising in retail outlets: Standardized Tobacco Assessment for Retail Settings (STARS)	3.5.a; 3.5.b	▶ http://www.sctcresearch.org
Policy tracking system	3.3.g; 3.4.a; 3.4.b; 3.4.c	▶ Americans for Nonsmokers' Rights (http://www.no-smoke.org) ▶ State Legislated Actions on Tobacco Issues (SLATI) online database (http://lungusa2.org/slati/about.php)
Population Assessment of Tobacco and Health (PATH) Study, Adult Extended Interview, 2012	3.1.c; 3.5.g; 3.6.f; 3.7.c; 3.7.d	▶ https://pathstudyinfo.nih.gov/UI/FAQsResMobile.aspx
Pregnancy Risk Assessment Monitoring System (PRAMS), 2009	3.3.b; 3.3.c; 3.3.e; 3.6.c	▶ http://www.cdc.gov/prams/AboutPRAMS.htm
Retail observation	3.4.f; 3.5.c	▶ Operation Storefront: Youth Against Tobacco Advertising and Promotion Initiative http://www.dhs.ca.gov/tobacco/html/Evaluation_Resources.htm
Scanner data	3.4.f; 3.5.b	
Scene Smoking, "Thumbs Up! Thumbs Down!"	3.5.d	▶ http://www.scenesmoking.org/frame.htm
State departments of revenue	3.4.e; 3.8.c	▶ State tax sales data, tobacco product excise taxes
Survey of Dental Practice, 2010	3.3.e	▶ http://www.healthindicators.gov/Resources/DataSources/SDP_229/Profile
The Tax Burden on Tobacco	3.8.c	▶ https://chronicdata.cdc.gov/Policy/The-Tax-Burden-on-Tobacco-Volume-49-1970-2014/7nwe-3aj9
Tobacco Industry document reviews	3.5.c	▶ Legacy Tobacco Documents Library http://legacy.library.ucsf.edu/

Data source	Indicator number	For more information
Tobacco Use Supplement to the Current Population Survey (TUS-CPS), 2006–2007	3.1.d; 3.4.d	▶ http://riskfactor.cancer.gov/studies/tus-cps/
Tobacco Use Supplement to the Current Population Survey (TUS-CPS), 2010–2011	3.6.b; 3.6.c; 3.6.e; 3.6.f; 3.7.d	▶ http://appliedresearch.cancer.gov/tus-cps/info.html
Youth Risk Behavior Surveillance System (YRBSS), 2015	3.8.a	▶ http://www.cdc.gov/HealthyYouth/yrbs/index.htm

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1. MacDonald G, Starr G, Schooley M, Yee SL, Klimowski K, Turner K. *Introduction to program evaluation for comprehensive tobacco control programs*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health; 2001.
2. Centers for Disease Control and Prevention. *Surveillance and evaluation data resources for comprehensive tobacco control programs*. Atlanta, GA: Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health; 2014. Available at: http://www.cdc.gov/tobacco/tobacco_control_programs/surveillance_evaluation/pdfs/surveillance_evaluation_508.pdf

Glossary and Acronyms

Activities
The events or actions that are part of a tobacco control program.

Attitudes
Biases, inclinations, or tendencies that influence a person's response to situations, activities, other people, or program goals.

Awareness
The extent to which people in the target population know about an event, activity, or campaign.

Capacity
The resources (e.g., staff, data collection systems, funds) needed to conduct a tobacco control program or to evaluate such a program.

CDC
Centers for Disease Control and Prevention.

Cognitive-behavioral interventions
Activities based on the premise that people can learn new behaviors to use in response to stimuli and that the thought processes that serve as intermediate steps between stimuli and behaviors can be altered, thereby influencing behavior. Basic applications of this theory for tobacco-use cessation are

- establishing self-awareness of tobacco use,
- providing the motivation to quit,
- preparing to quit, and
- providing strategies to maintain abstinence.

Comprehensive cessation coverage
Comprehensive cessation services are currently defined as coverage of all 10 evidence-based treatments recommended by the U.S. Public Health Service.[1]

Consumption
The number of tax-paid cigarettes (pack of 20) purchased by consumers in a particular calendar year.

Current tobacco user
An individual who reports using a given tobacco product ~~everyday or some days~~ in the past 30 days. Note that some surveys restrict current adult tobacco users to those who have smoked at least 100 cigarettes (or used a given tobacco product) in their lifetime as well as used a given tobacco product in the past 30 days.

Data
: Documented information or evidence.

Data sources
: Surveys or surveillance systems used to gather data.

Designated market area (DMA)
: A region (i.e., a number of grouped counties that in some instances cross state borders) where the population can receive the same (or similar) retail, television, and radio station offerings, and may also include other types of media, including newspapers and Internet content.

Dual use
: Use of two different types of tobacco products either every day or some days.

Earned media
: Refers to publicity gained through promotional efforts other than paid advertising.

Electronic Health Record
: An electronic health record is a digital version of a patient's paper medical chart. Electronic health records are real-time, patient-centered records that make information available instantly and securely to authorized users.[3]

Emerging tobacco products
: All newer, non-cigarette tobacco or nicotine-containing products that are not nicotine replacement therapies (NRTs). Examples include electronic nicotine delivery systems such as e-cigarettes, dissolvables, nicotine gels, snus, and waterpipe tobacco.

Evaluation
: The process of determining whether programs—or certain aspects of programs—are appropriate, adequate, effective, or efficient and, if not, how to make them so.

Everday smoker
: An individual who reports having smoked at least 100 cigarettes in their lifetime and currently using cigarettes everyday.

Ever-smoker
: A person who reports having tried cigarette smoking, even one or two puffs.

Example data source
: Surveys or surveillance systems used to measure an indicator and the population on which the data are needed.

Face validity
: The degree to which data on an indicator appear reliable to stakeholders and policy makers.

Family Smoking Prevention and Tobacco Control Act (Tobacco Control Act)
: Gives the Food and Drug Administration (FDA) the authority to regulate the manufacture, distribution, and marketing of tobacco products to protect public health.

FDA
U.S. Food and Drug Administration.

Former tobacco users
An individual who reports having used a given tobacco product in their lifetime but currently does not use the tobacco product. Note that some surveys qualify former smokers as those individuals who report having smoked at least 100 cigarettes during their lifetime but currently do not use cigarettes.

Goal area
One of the four components of the overall goal of CDC's National Tobacco Control Program.

Implementation
Carrying out or putting into effect a plan or program.

Indicator
An observable and measurable characteristic or change that shows the progress a program is making toward achieving a specified outcome.

Indicator profile
The term used in this manual for a table with detailed information on one indicator listed in this publication (see page 32 for an example).

Indicator rating table
The term used in this publication for the list of indicators associated with one outcome in one National Tobacco Control Program logic model. The experts' rating for each indicator is also included (see page 31 for an example).

Inputs
Resources used to plan and set up a tobacco control program.

Intervention
The method, device, or process used to prevent an undesirable outcome or create a desirable outcome.

Logic model
A graphic depiction of the presumed causal pathways that connect program inputs, activities, outputs, and outcomes.

Media messages
Anti-tobacco information provided to the public through various media (e.g., television, radio, billboards).

Morbidity
Disease or disease rate.

NCI
National Cancer Institute.

Never-smoker
A person who reports never having tried cigarette smoking, even one or two puffs.

NIH
National Institutes of Health.

NTCP
National Tobacco Control Program.

Observation
A method of collecting data that does not involve any communication with the subjects being studied. The investigators merely watch for particular behaviors and record what they see.

Opinion leader survey
Collection of information (data) from leaders in the community.

Outcome
The results of an activity such as a countermarketing campaign or an effort to reduce nonsmokers' exposure to smoke. Outcomes can be short-term, intermediate, or long-term.

Outcome components
The term used in this publication for the short-term, intermediate, and long-term results described in the National Tobacco Control Program logic models for the first three goal areas. These are the results expected if tobacco control programs provide the needed inputs and engage in the recommended activities also described in the logic models.

Outcome evaluation
The systematic collection of information to assess the effect of a program or an activity within such a program to reduce the adverse health effects of tobacco use. Good evaluation allows evaluators to draw conclusions about the merit of a program and make recommendations about the program's direction.

Outcome overview
The term used in this publication for the summary of the scientific evidence in support of the assumption that achieving an outcome on a National Tobacco Control Program logic model affects all concurrent and later activities and outcomes (see page 28 for an example).

Outputs
The direct products of a program (e.g., the materials needed for a media campaign).

Point of sale
Retail environment where tobacco products are purchased.

Population group
Individuals from which data about a given indicator can most commonly be collected.

Preemption

Federal or state legislation that prevents states or local jurisdictions from enacting tobacco control laws more stringent than or otherwise different from the federal or state law.

Prevalence

The proportion or percent of a specificed population that has a factor of interest (e.g., tobacco use, awareness of a media campaign) at a specified point in time.

Price discounts

Tobacco manufacturers' reductions in the prices paid by retailers and/or wholesalers for tobacco products, who in turn reduce the prices to consumers, such as off-invoice discounts, buy-downs, and voluntary price reductions.

Process evaluation

Systematic collection of information to determine how well a program is implemented and operated.

Program evaluation

Systematic collection of information about activities, characteristics, and outcomes of programs, used to make judgments about a program, improve its effectiveness, or inform decisions about future program activities.

Purchaser

Health insurance purchasers include companies, government agencies, or other consortia who procure health care benefits for a group of individuals.

Quit attempt

Stopping use of a given tobacco product for one day or more because an individual is trying to quit using the product. Note that surveys may differ in the time threshold for a quit attempt, from the prior twelve months for a recent quit attempt to ever quitting in a lifetime.[2]

Rate

A measurement of how frequently an event occurs in a certain population at one point in time or during a particular period of time.

Reach

The absolute number, proportion, and representativeness of persons who are exposed to or participate in a given program or intervention. Representativeness refers to whether participants have characteristics that reflect the target population.

Recent successful quit attempts

Proportion of former smokers who last smoked 6 months to 1 year ago.

Receptivity

The extent to which people are willing to listen to a persuasive message.

Resources

Assets available or expected to be available for program operations. Resources include people, equipment, facilities, and other items used to plan, implement, and evaluate public health programs whether or not they are paid for directly with public funds.

Retail observation

In-store observations of product displays, display position and prominence, placement, shelving, inventory, variety of product available, measurement of shelf space, price, and availability of discounts or special pricing.

Slotting fees

Payments for stocking, shelving, displaying, and merchandising tobacco brands in a certain manner.

Some-day smoker

A current smoker who has smoked at least 100 cigarettes in their lifetime and gives a "smoked on some days" response.

SMART Objective

"Objectives are statements describing the results to be achieved and the manner in which these results will be achieved… A well-written and clearly defined objective is SMART: Specific, Measurable, Achievable and Ambitious, Relevant, and Time-bound." (page 25)[4]

Smoking initiation

The beginning of cigarette use. Survey definitions of smoking initiation vary from when a respondent reports smoking part of a cigarette, to smoking a whole cigarette, to smoking cigarettes on a fairly regular or daily basis.

Stakeholder

The persons or organizations that have a vested interest in what will be learned from an evaluation and what will be done with the information.

Surveillance

The ongoing, systematic collection, analysis, and interpretation of data about a hazard, risk factor, exposure, or health event.

Survey

A quantitative method of collecting information on a target population at one point in time. Surveys can be conducted by interview (in person or by telephone) or by questionnaire.

Susceptibility

The intention to smoke or the absence of a strong intention not to smoke.

Sustained abstinence

Complete cessation of tobacco use for 6 months or longer.

Theory of change

Intellectual framework for understanding the process of behavior change.

Utility

The extent to which evaluation produces reports that are disseminated to relevant audiences, that inform program decisions, and that have a beneficial effect.

References:

1. Fiore MC, Jaén CR, Baker TB, Bailey WC, Benowitz NL, Curry SJ, et al. *Treating tobacco use and dependence: 2008 update*. Clinical Practice Guideline. Rockville, MD: U.S. Department of Health and Human Services, Public Health Service; May 2008.
2. Agaku IT, King BA, Dube SR; Centers for Disease Control and Prevention. Current cigarette smoking among adults—United States, 2005–2012. *Morbidity and Mortality Weekly Report*. 2014 Jan 17;63(2):29–34.
3. HealthIT.gov. What is an electronic health record (EHR)? Available at: http://www.healthit.gov/providers-professionals/faqs/what-electronic-health-record-ehr. Accessed June 4, 2014.
4. MacDonald G, Starr G, Schooley M, Yee SL, Klimowski K, Turner K. *Introduction to program evaluation for comprehensive tobacco control programs*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health; 2001. Available at: http://www.cdc.gov/tobacco/stateandcommunity/tobacco_control_programs/surveillance_evaluation/evaluation_manual/index.htm

Additional Resources:

Centers for Disease Control and Prevention. *Developing an effective evaluation plan: setting the course for effective program evaluation.* Atlanta, GA: Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health; Division of Nutrition, Physical Activity, and Obesity; 2011. Available at: http://www.cdc.gov/tobacco/stateandcommunity/tobacco_control_programs/surveillance_evaluation/evaluation_plan/index.htm

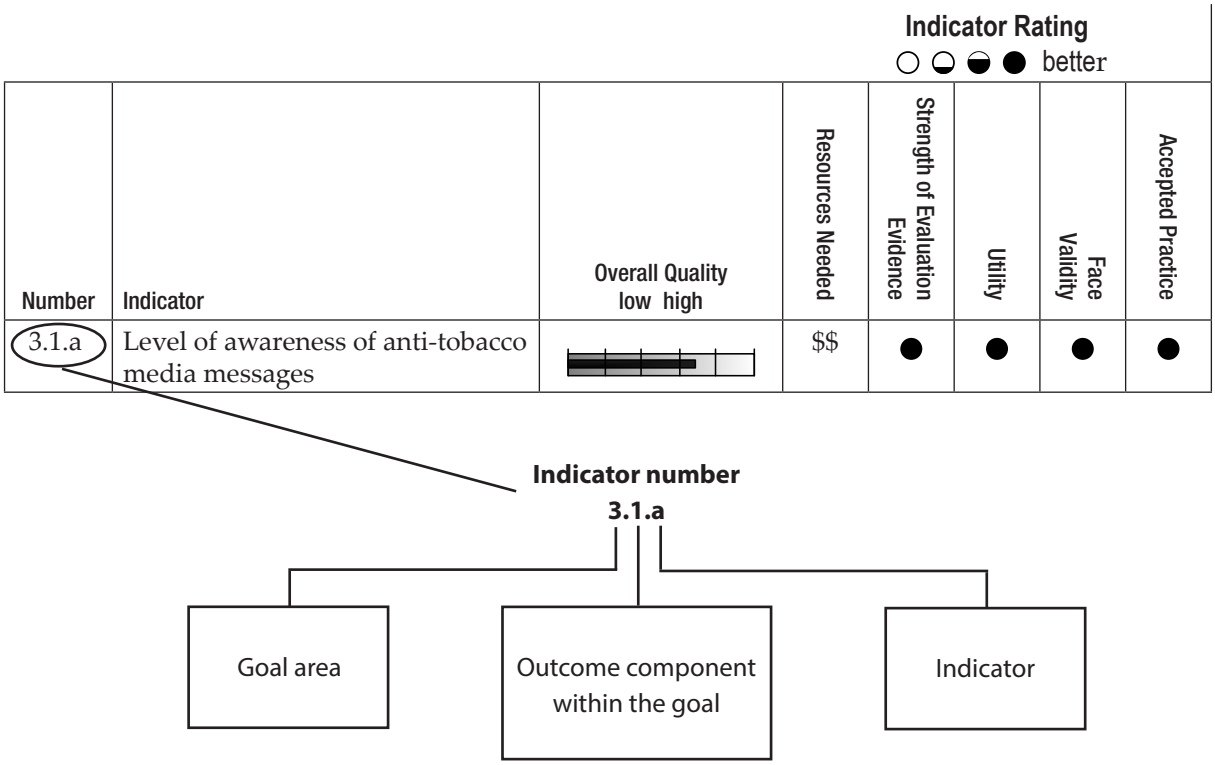
Centers for Disease Control and Prevention. *Developing an effective evaluation report: setting the course for effective program evaluation* . Atlanta, GA: Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health; Division of Nutrition, Physical Activity, and Obesity; 2013. Available at: http://www.cdc.gov/tobacco/stateandcommunity/tobacco_control_programs/surveillance_evaluation/evaluation_report/index.htm

Centers for Disease Control and Prevention. *Preventing initiation of tobacco use: outcome indicators for comprehensive tobacco control programs–2014*. Atlanta, Georgia: Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2014. Available at: http://www.cdc.gov/tobacco/tobacco_control_programs/surveillance_evaluation/preventing_89i/pdfs/preventing_initiation.pdf

Figure 2: How to Use the Rating Table

Outcome 1

Increased intention to quit, perceived harm of tobacco use, and awareness of and support for cessation services



Overall quality: A summary rating that reflects the overall quality of the indicator and the general worth of the indicator as it relates to evaluating state tobacco control programs.

Resources needed: Dollar signs show the amount of resources (funds, time, and effort) needed to collect and analyze data on the indicator using the most commonly available data source: the more dollar signs (maximum four), the more resources needed. The dollar signs do not represent specific amounts because the actual cost of measuring and analyzing an indicator varies according to the existing capacity of a state health department or organization to evaluate its programs.

Strength of evaluation evidence: The degree to which scientific evidence supports the assumption that implementing interventions to effect change in a given indicator will lead to a measurable downstream outcome. This includes the extent to which reviewers believed that the scientific literature supports use of the indicator for the evaluation of comprehensive, statewide tobacco control programs and considers conflicting evidence as well as concerns regarding the methodology of supporting studies.

Utility: The extent to which the indicator would help to answer important comprehensive tobacco control program evaluation questions.

Face validity: The degree to which data on the indicator would appear valid to tobacco program stakeholders, such as policy and decision makers who may be users of tobacco control program evaluation results.

Accepted practice: The degree to which use of the indicator is consistent with currently accepted, real-world tobacco control practice.