



# Sodium Reduction in Communities Program

## Outcome Evaluation Toolkit

---

Evaluation and Program Effectiveness Team . Division for Heart Disease and Stroke Prevention



*The findings and conclusions in this toolkit are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.*

*This page intentionally left blank*

# Table of Contents

<b>Section</b>	<b>Page</b>
<b>1 Toolkit Overview</b>	<b>1</b>
1.1 History and Development .....	1
1.2 Primary Toolkit Audience .....	3
1.3 SRCP Toolkit and CDC's Evaluation Framework .....	3
<b>2 Engage Stakeholders</b>	<b>4</b>
2.1 SRCP Stakeholders .....	4
2.2 Stakeholder Engagement Questions and Tool .....	5
<b>3 Describe the Program</b>	<b>7</b>
3.1 Program Description .....	7
3.2 Contextual Factors .....	7
3.3 Logic Model Development.....	8
Inputs .....	8
Activities.....	9
Outputs .....	9
Outcomes .....	9
Impact .....	9
SRCP National Evaluation Logic Model .....	9
SRCP Logic Model Tool.....	10
<b>4 Focus the Evaluation Design</b>	<b>12</b>
4.1 Evaluation Planning Matrix Tool.....	12
<b>5 Gather Credible Evidence</b>	<b>14</b>
5.1 Data Collection Methods.....	15
5.2 Data Collection Timeline Tool .....	16
<b>6 Justify Conclusions</b>	<b>19</b>
<b>7 Use and Share Lessons Learned</b>	<b>21</b>
<b>8 Conclusion</b>	<b>24</b>
<b>References</b>	<b>R-1</b>

## Excerpts from Example Tools

Tool 1.	Critical Factors that Affect Stakeholder Involvement in the SRCP Evaluation .....	6
Tool 2.	Key Program Elements that Can Influence Evaluation Design Selection.....	7
Tool 3.	Contextual Factors that Affect SRCP Implementation and Corresponding Strategies to Improve the Evaluation .....	8
Tool 4.	Logic Model Element Identification.....	11
Tool 5.	Evaluation Planning Matrix Linking Activities, Outcomes, and Impact .....	13
Tool 6.	Questions to Enhance Evaluation Data Credibility .....	15
Tool 7.	Example Baseline and Year 1 Data Collection for Program Examining Lower Sodium Food Purchase in Hospital Cafeteria.....	17
Tool 8.	Data Collection Timeline Calendar .....	18
Tool 9.	Analyzing and Interpreting Data.....	20
Tool 10.	Dissemination Strategy Identification.....	22

## Appendixes

A	Tool 1, Identify Critical Factors that Affect Stakeholder Involvement in the SRCP Evaluation.....	A-1
B	Glossary .....	B-1
C	Tool 2, Key Program Elements that Can Influence Evaluation Design Selection Tool .....	C-1
D	Tool 3, Contextual Factors that Affect the SRCP Implementation and Corresponding Strategies to Improve the Evaluation .....	D-1
E	Tool 4, Logic Model Element Identification Tool .....	E-1
F	Tool 5, Evaluation Planning Matrix Linking Activities, Outcomes, and Impact .....	F-1
G	Tool 6, Questions to Enhance Evaluation Data Credibility .....	G-1
H	SRCP Recommended Performance Measures .....	H-1
I	Sample Performance Measure Profile .....	I-1
J	Tools 7 and 8, Example Baseline and Year 1 Data Collection Timeline .....	J-1
K	Tool 9, Analyzing and Interpreting Data .....	K-1
L	Tool 10, Dissemination Strategy Identification .....	L-1

# List of Exhibits

<b>Number</b>	<b>Page</b>
1. CDC’s Evaluation Framework .....	3
2. SRCP Stakeholders .....	4
3. Key Questions to Gauge Stakeholder Investment in the SRCP and Evaluation.....	5
4. Sodium Reduction in Communities Program National Evaluation Logic Model: 2016–2021 (5 years) .....	10
5. Process for Justifying Conclusions .....	19

## Acknowledgment

The Centers for Disease Control and Prevention would like to thank the County of Los Angeles Department of Public Health and the Health and Hospital Corporation of Marion County, IN, who voluntarily provided feedback on the toolkit to help create a strong evaluation instrument that CDC partners can use to strengthen their evaluation approaches in their future work on sodium reduction strategies.

# 1 Toolkit Overview

The purpose of this toolkit is to provide a step-by-step guide for program staff and evaluators who are planning and implementing sodium reduction outcome evaluations. Although this toolkit is written for programs funded by for Sodium Reduction in Communities Program (SRCP), CDC-RFA-DP16-1607, the information provided can be applied broadly to sodium reduction evaluations.

## 1.1 History and Development

Dietary sodium reduction is a public health priority. Excess sodium intake is associated with increased blood pressure, and subsequent risk of heart disease and stroke (Centers for Disease Control and Prevention [CDC], 2016; He, Ogden, Vupputuri, Bazzano, Loria, & Whelton, 1999; American Heart Association, 2017). Although the 2015–2020 Dietary Guidelines for Americans (U.S. Department of Health and Human Services [HHS] and U.S. Department of Agriculture [USDA], 2015) recommends less than 2,300 mg/day of sodium for individuals 14 years or older, Americans aged 2 or older consume an average of more than 3,400 mg/day (USDA, 2014).

SRCP, housed in CDC's Division for Heart Disease and Stroke Prevention (DHDSP), aims to improve community support for sodium reduction and to build practice-based evidence around effective population-based strategies to reduce sodium consumption. Within specific entities, the short-term outcomes include:

- ❦ Increased implementation of food service guidelines/standards that include sodium
- ❦ Increased integration of procurement practices to reduce sodium content in purchased items
- ❦ Increased implementation of food preparation practices to reduce sodium content of meals and/or menu items
- ❦ Increased implementation of environmental strategies/behavioral economics approaches

The intermediate outcomes of this program include:

- ⚡ Increased availability of lower sodium food products
- ⚡ Increased purchase or selection of lower sodium food products/ingredients by either consumers or large food service operators

The long-term outcome of this program is:

- ⚡ Reduced sodium intake to within the Dietary Guidelines for Americans recommended maximum

To implement community-wide sodium reduction strategies, SRCP-funded programs partner with food service venue and entity partners to lower the amount of sodium in foods served or sold to patrons. Food service venue and entity partners include public- and private-sector worksites, public- and private-sector programs that purchase and provide food to congregate populations (e.g., senior meal programs, schools, early childhood education centers, programs that serve people in institutionalized settings), hospitals, universities/colleges, and small regional chain restaurants.

The SRCP funding opportunity announcement (FOA) includes evaluation and performance monitoring requirements to track progress and ensure a link between program activities and overall outcomes. In addition to collecting and reporting required performance measures to support the national CDC evaluation, SRCP programs are encouraged to conduct local evaluations that will foster program improvement and stakeholder engagement in their local communities. The local evaluations will also contribute to CDC's national evaluation of the SRCP.

CDC staff developed this toolkit to provide funded programs an orientation to outcome evaluation and facilitate greater consistency across programs. This toolkit offers general guidance that can be tailored to each program's context and evaluation goals as the program progresses. This toolkit can also be used by programs that are not CDC funded that are making efforts to reduce sodium.

## 1.2 Primary Toolkit Audience

The toolkit is intended for program staff and evaluators to assess the process and outcome of sodium reduction efforts in various venues and entities. While this toolkit is written as guidance for funded programs, particularly SRCP 1607, the SRCP evaluation toolkit may be useful for other programs seeking to monitor and evaluate efficiency and effectiveness of sodium reduction efforts. While completing tools in the toolkit is not required, programs that use the toolkit in its entirety to design and implement their evaluation may improve the overall rigor of their evaluation and produce more usable findings.

## 1.3 SRCP Toolkit and CDC’s Evaluation Framework

Each section in the SRCP evaluation toolkit references CDC’s evaluation framework (Exhibit 1). The evaluation framework is iterative, in that stakeholder engagement, evaluation design, data collection, and dissemination plans are continuously updated throughout the project life cycle.

**Exhibit 1. CDC’s Evaluation Framework**



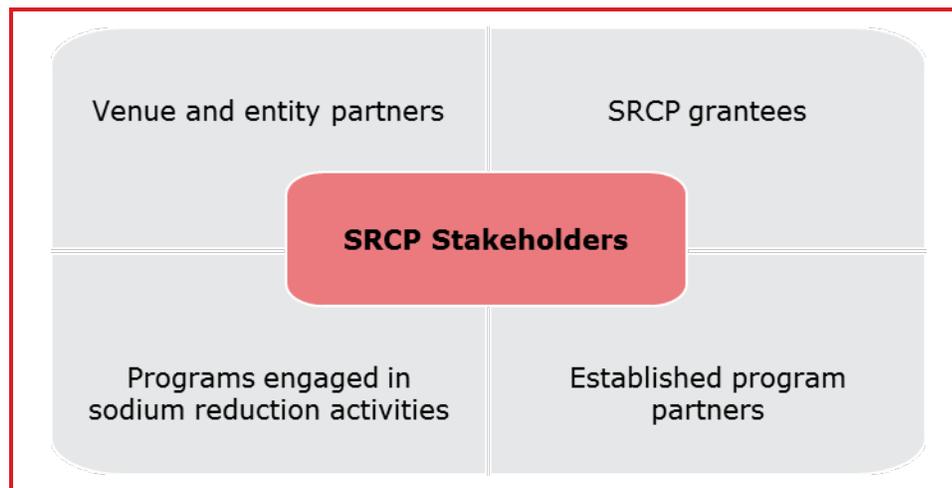
Source: Centers for Disease Control and Prevention. (2016). [A framework for program evaluation](#).

# 2 Engage Stakeholders

## 2.1 SRCP Stakeholders

Stakeholders are any persons or entities that may have a vested involvement or interest in the SRCP activities and outcomes (Exhibit 2). For the SRCP national evaluation, common stakeholders involved in implementation include venue and entity partners, SRCP grantees, programs engaged in sodium reduction activities, and established program partners (other non-funded organizations engaged in implementation or monitoring). In addition, some SRCP grantees stakeholders may include consumers, evaluators, other organizations working on sodium reduction programs, and CDC leadership.

**Exhibit 2. SRCP Stakeholders**



Stakeholders can play a critical role in collecting data, sustaining the program beyond funding, and, in some cases, obtaining additional funding for future sodium reduction efforts.

This toolkit highlights the role that stakeholders can play in influencing program decisions and the evaluation design. The resources and efforts required to implement activities, monitor outcomes, and create dissemination products may be greatly

reduced simply by critically considering stakeholder roles and interests from the program onset.

## 2.2 Stakeholder Engagement Questions and Tool

Before program implementation, engage stakeholders in an information-gathering session to gauge their interest and investment and consider barriers and dissemination efforts early in the planning process. Exhibit 3 provides key questions to gauge stakeholder investment in the SRCP and evaluation.

**Exhibit 3. Key Questions to Gauge Stakeholder Investment in the SRCP and Evaluation**

Topic	Question
<b>Motivation/ interest</b>	What motivated you to participate in the SRCP and evaluation efforts?
<b>Role</b>	Who are the key staff members involved in [activity] (e.g., menu modification, signage, organizational policy decisions)?
<b>Effort</b>	How much time/availability are you willing and able to provide to program implementation and data collection?
<b>Timing</b>	Are there any events or factors (seasonal staff, school year) that might affect data collection activities?
<b>Dissemination</b>	How frequently would you like to receive program updates (e.g., quarterly, biannually, annually)?
	What type of information is most useful to you when engaging with the SRCP?
	In what format would you prefer to receive dissemination products (1-page fact sheet, brief, full evaluation report)?

Tool 1 provides an outline of critical elements to consider when engaging stakeholders. In the tool, list each stakeholder and map their proposed role, type of information/interests they may have, and any impediments the toolkit reader may need to consider.

**Tool 1. Critical Factors that Affect Stakeholder Involvement in the SRCP Evaluation**

Stakeholder	Name and Contact Information	Role	Asset	Effort	Timing	Potential Involvement	Dissemination
<b>Ex: Hospital cafeteria manager</b>	Sally Reeding (111) 222-3333	Data collection	Involved in procurement, menu creation, and cafeteria ordering/data reporting system	2 hours/week	Staff reduced during summer months	Steering committee, subject matter expert, or workgroup	Prefer 1-page briefs on evaluation outcomes each quarter. Interested in how current systems can be used to provide data for the program

Refer to Appendix A for an editable version of Tool 1, Critical Factors that Affect Stakeholder Involvement in the SRCP Evaluation.

# 3 Describe the Program

The first step in developing a program evaluation is to clearly describe the program and identify contextual factors that may affect its effectiveness.

## 3.1 Program Description

To identify the most feasible and appropriate evaluation opportunities, it is important to articulate the goals and scope of the sodium reduction program. Tool 2 provides a fictional sample program description that outlines several core program descriptors that can influence the type of evaluation design selected.

**Tool 2. Key Program Elements that Can Influence Evaluation Design Selection**

Program Element	Example Program Description
<b>Program</b>	Sunnyside State Health Department
<b>Subprogram name(s)</b>	Skylark County, Webster County, Crawford County
<b>Goal</b>	Reduce sodium intake through increased access to lower sodium food
<b>Venue/entity partner*</b>	Congregate meals: senior meals
<b>Number of entities*</b>	4 senior meal sites
<b>Type of intervention</b>	Menu/meal modification
<b>Intervention activity</b>	Substitute ingredients to reduce sodium in meals served during group lunches and dinner
<b>Target audience</b>	1,200 senior residents and 39 staff in the senior meals program across four senior meal sites
<b>Time frame</b>	Annual data collection will occur in March of 2017, 2018, 2019
<b>Resources Available</b>	Number of program staff available to support evaluation data collection and analysis

\* Reference: Glossary of Terms in Appendix B and Performance Measurement Profiles  
Refer to Appendix C for an editable version of Tool 2, Key Program Elements that Can Influence Evaluation Design Selection.

## 3.2 Contextual Factors

Programs operate in collaboration with venues, organizations, and communities, all of which can have an impact on program implementation and effectiveness. Contextual information can

help programs modify program activities and better understand program outcomes. The program may decide to work with different venue and entity partners or may simply take this contextual information into consideration when planning the evaluation timeline. Tool 3 offers a few example factors and strategies SRCP can leverage.

**Tool 3. Contextual Factors that Affect SRCP Implementation and Corresponding Strategies to Improve the Evaluation**

Contextual Factor	Consideration	Strategy
<b>Ex: Hospital cafeteria has an existing food procurement contract</b>	Existing contract may impede menu modifications	<ul style="list-style-type: none"> <li>▪ Select an alternative venue/entity partner for SRCP intervention</li> <li>▪ Wait until contract ends to initiate intervention and use the time delay to collect baseline data</li> <li>▪ Engage organization holding current procurement contract in the SRCP intervention</li> </ul>
<b>Ex: Worksite organization has a comprehensive wellness policy</b>	The comprehensive wellness policy may augment the SRCP, potentially increasing the reach and impact	<ul style="list-style-type: none"> <li>▪ Collect secondary documents on the current wellness policy</li> <li>▪ Engage organizational leadership involved in the wellness policy</li> </ul>

Refer to Appendix D for an editable version of Tool 3, Contextual Factors that Affect SRCP Implementation and Corresponding Strategies to Improve the Evaluation.

### 3.3 Logic Model Development

Logic models provide a roadmap for program implementers and evaluators to follow, demonstrating how each element of the program (resources, strategy, and data collection activity) links to the intended goal of the program. The logic model should clearly outline the steps required to reach the ultimate programmatic goal of reducing sodium intake. Logic models can be created in a variety of ways and may include some or all of the following: inputs, strategies and activities, outputs, outcomes, and impact.

#### Inputs

Inputs are the human, financial, and organizational resources programs bring to the program activities.

## **Activities**

Activities are the strategies and specific, defined efforts employed by programs to reduce sodium intake and lower risk for heart disease and stroke.

## **Outputs**

Outputs represent the immediate results of program activities. Each activity in the logic model should include a corresponding program output.

## **Outcomes**

Outcomes include results of the program that may affect the knowledge, awareness, and behaviors of the intended target audience. For example, for a 3-year program, outcomes include short (1 year) and intermediate (2–3 year) goals. Short-term outcomes focus on changes in the environment and individual behavior that occur prior to food selection (e.g., increased implementation of food service guidelines/standards that include sodium), while intermediate outcomes focus on changes in the environment and individual behavior directly related to consumption (e.g., availability of lower sodium food, purchase of lower sodium food).

## **Impact**

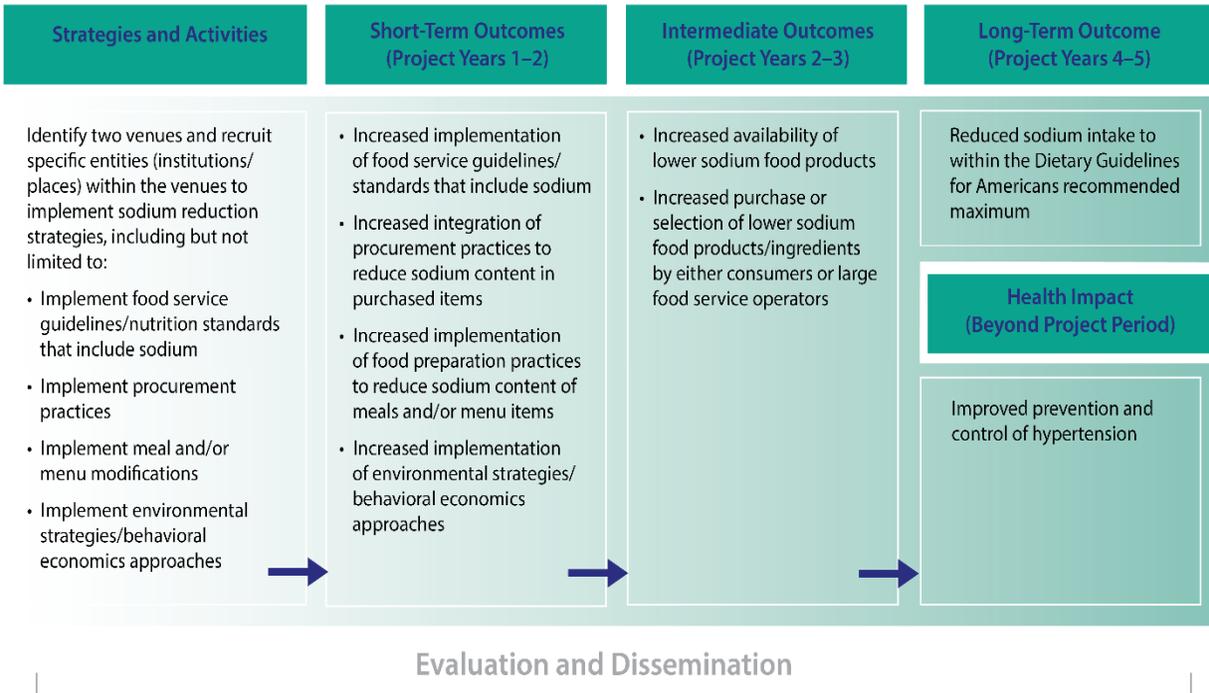
Impact represents the health outcome change SRCP activities aim to effect. The long-term impact of SRCP is improved prevention and control of hypertension, thereby increasing prevention of heart disease and stroke. It is likely that the long-term impact(s) for each logic model will be the same across all activities and outcomes. Although impact is the ultimate goal of SRCP, at the current time, there is no expectation that programs will collect blood pressure data for the national or local evaluation, as this type of data collection often requires extensive resources, potential burden on participants, and IRB and OMB approval.

## **SRCP National Evaluation Logic Model**

The 2016 SRCP national evaluation logic model provides an outline of the inputs, activities, outputs, short and intermediate outcomes, and long-term impact of the overall program (Exhibit 4). When developing local evaluation logic models,

programs may reference the 2016 SRCP national evaluation logic model but should be flexible in selecting strategies, outputs, and outcomes specific to their context, resources, and target audience.

**Exhibit 4. Sodium Reduction in Communities Program National Evaluation Logic Model: 2016–2021 (5 years)**



**SRCP Logic Model Tool**

Any work related to SRCP should be able to be placed on the logic model to show how each activity and input will drive outcomes. In developing a logic model, it is important to map each activity, input, and output to corresponding outcomes, recognizing that many of the resources and outputs may overlap. Tool 4 provides a logic model planning shell that can be altered as appropriate to suit the needs of local evaluations. Each activity listed in the logic model should include its own row in the logic model. The logic model tool begins with activities, because the main purpose of the logic model is to demonstrate the theoretical or proposed link between program activities and corresponding outputs, outcomes, and long-term impact.

#### Tool 4. Logic Model Element Identification

Activity	Inputs	Output	Short-Term Outcome	Intermediate Outcome	Long-Term Impact
<b>Ex: Implement menu modification in local restaurants</b>	<ul style="list-style-type: none"> <li>▪ Venue or entity partner organization (restaurant)</li> <li>▪ Previous experience with menu modification</li> <li>▪ CDC funding</li> <li>▪ In-kind resource commitment from local organization (restaurant)</li> <li>▪ SRCP staff</li> </ul>	Lower sodium menu options	<ul style="list-style-type: none"> <li>▪ Improved access to lower sodium food</li> <li>▪ Improved awareness of the benefit of lower sodium food options among implementer organization (restaurant) staff</li> </ul>	<ul style="list-style-type: none"> <li>▪ Increased availability of lower sodium food options</li> <li>▪ Increased purchase/selection of lower sodium food</li> <li>▪ Reduced sodium intake</li> </ul>	Improved prevention and control of hypertension

Refer to Appendix E for an editable version of Tool 4, Logic Model Element Identification.

Once the table is completed, programs may begin to visually map the logic model to demonstrate the way the program should work in practice. The local program evaluation may go beyond the SRCP national evaluation logic model to describe process measures and outcomes or to describe local/contextual resources.

## 4 Focus the Evaluation Design

To select the most feasible and appropriate evaluation design, it is helpful to focus on priority evaluation questions. Some SRCP programs with greater experience implementing the program in select venues and entities may focus their evaluation on program outcomes (e.g., how did program activities lead to lower sodium purchases?), while others working with new venue and entity partners or interventions may choose to focus more on process (e.g., what factors influenced implementation?) and monitoring (e.g., was the program implemented as intended?). Most programs work with limited staff and funding resources and must select evaluation questions that align with overall goals, established program partner/stakeholder interests, and funder requirements. Once priority evaluation questions and methods are identified, programs may identify the evaluation design (e.g. experimental, quasi-experimental, and non-experimental/observational) that best suits the overall goals of the evaluation and the overall resources available. Traditional programs frequently employ a blend of non-experimental/observational design and quasi-experimental design, as these are more feasible in real-world settings and require fewer resources. The SRCP national evaluation largely employs a time-series quasi-experimental design, in which data is collected prior to, during, and after program implementation to determine to what extent the intervention was effective.

### 4.1 Evaluation Planning Matrix Tool

In a sound evaluation, programs identify evaluation questions and corresponding indicators for each activity, outcome, and impact included in the program logic model. Once indicators are identified, measures, data sources, and actual or planned timing of data collection may be determined. These details are summarized in an Evaluation Planning Matrix (EPM). Tool 5 provides a snapshot of an EPM, which can be tailored to the activities, outcomes, and impact of each program.

At each step along the evaluation planning continuum, it is necessary to consider the extent to which resources are available to answer the evaluation question, including whether stakeholders external to the SRCP program will be required for data collection and evaluation. Evaluation questions and data collection methods that require greater resource allocation may limit the number and type of information each program is able to collect during the project timeline. For example, dietary intake may require direct participant surveys, which can be time and labor intensive.

**Tool 5. Evaluation Planning Matrix Linking Activities, Outcomes, and Impact**

Logic Model Activity, Outcome, or Impact	Evaluation Question	Indicators	Data Source	Data Collection	Timing	Stakeholder Involvement	Data Analysis Procedures
<b>Ex: Lower sodium meal or menu options</b>	To what extent has the program reduced average sodium content of meals?	Percent (%) and number (#) of menu items affected by recipe modification to reduce sodium content	Cafeteria manager meal sodium calculation	Program developed sodium meal content questionnaire	August 2016 (baseline), August 2017 (Year 1), August 2018 (Year 2)	Hospital leadership, cafeteria manager	Count each reduced sodium meal offerings per week and divide by the total number of meals offered in the week

Refer to Appendix F for an editable version of Tool 5, Evaluation Planning Matrix Linking Activities, Outcomes, and Impact.

Source: Centers for Disease Control and Prevention. (2011). [Introduction to program evaluation for public health programs: A self-study guide](#). Atlanta, GA: U.S. Department of Health and Human Services.

## 5 Gather Credible Evidence

Gathering credible evidence enhances buy-in and establishes the legitimacy of the evaluation findings. Once programs focus the evaluation on core evaluation questions, it is important to select indicators that meaningfully address the evaluation questions. SRCP Programs have required performance measures that are described in the FOA but should also develop their own indicators to meet the needs and interests of their local level evaluations and those of their partners.

Indicators are developed to assist programs with collecting, analyzing, and reporting data. An indicator profile provides:

- a clear outline of the purpose of the measure,
- definitions of key terms,
- a description of the setting and unit of analysis,
- the proposed analysis plan,
- example data sources, and
- a reporting timeline/frequency.

In order for programs to answer evaluation questions, it is necessary to identify appropriate indicators and explore resources and methodology to enhance data quality.

Tool 6 provides some questions for consideration that can be applied to each evaluation indicator.

The questions in Tool 6 can help further focus the evaluation, ensuring that the indicators, data collection approach, and data sources selected will yield the most credible data possible.

For local evaluations, SRCP programs may reference the format and information included in a traditional CDC performance measure profile and tailor the documents for each newly developed indicator (Appendix I).

## Tool 6. Questions to Enhance Evaluation Data Credibility

Credibility Criteria	Example Program Response
<b>What is the evaluation question of interest for this indicator?</b>	To what extent did the program reduce sodium over time
<b>What is the indicator?</b>	Percent (%) and number (#) of menu items affected by recipe modification (replacing an ingredient with lower sodium alternative in recipe)
<b>What are the data source type and attributes?</b>	Use the recipes of menu items to identify which have undergone a sodium reduction due to modifying ingredients (use the list of ingredients needed for each recipe).
<b>What is the rationale for selecting this data source?</b>	The purpose of this measure is to document the extent to which entities are implementing food preparation strategies related to recipe modification to reduce sodium content
<b>Is the indicator credible to the stakeholder or decision maker?</b>	Yes
<b>What type of trainings or established procedures are necessary to ensure high-quality data collection?</b>	Requires engagement with entity point of contact and person in charge of menu modifications and recipe tracking. To track high quality data, programs should ensure that recipes/ingredients will be available for each menu item
<b>How frequently will the program assess data quality?</b>	After each data collection period (a minimum of 5 data collection points each year)
<b>What methods for data cleaning and improvement may be required?</b>	Review data for completeness. Assess whether sodium content can be examined for each menu item. Follow-up with stakeholder as needed to collect complete/quality data.

Refer to Appendix G for an editable version of Tool 6, Questions to Enhance Evaluation Data Credibility.

### 5.1 Data Collection Methods

To construct evaluation indicators, program staff must gather appropriate data. The first step in doing this is to identify potential sources of data for the evaluation that are best suited for their specific venues and entities and assess the feasibility of accessing each data source. When data are not readily accessible or available, programs may need to identify feasible primary data collection activities and timelines. These two factors (appropriateness and feasibility) will determine what data sources are used in the evaluation. Programs should consider both qualitative and quantitative data collection methods as they plan to examine selected indicators. Qualitative data collection methods are most often used for formative

process evaluations, although qualitative data can also provide a means to further illustrate or triangulate quantitative findings. Quantitative data are most often used to provide frequency counts and averages or to examine change over time as a result of program activities. After the best data sources are identified, the next step is to determine what stakeholders should be engaged to collect or provide access to the data. Most data will come from venue and entity partners, so engaging them early in the evaluation process is essential. Evaluation staff should provide partner staff with an overview of what data are needed, what the data will be used for, and how the data will be stored. There may be barriers to obtaining the data, so evaluation staff should begin these discussions as early as possible. To address some indicators, particularly for local evaluations, SRCP programs may need to conduct primary data collection, which may include focus groups, intercept interviews (an interview in a high traffic location such as cafeteria or restaurant), and surveys, among other methods (CDC, 2011). When planning primary data collection, programs should clearly communicate the proposed data collection and timeline with stakeholders and venue and entity partners to ensure transparency and identify any potential conflicts.

Data collection methods can be finalized through discussions with venue and entity partners. It should be established what data venue and entity partners will provide and at what time. It should also be documented how evaluation staff will examine the data and what metrics will be produced.

## **5.2 Data Collection Timeline Tool**

When developing a data collection timeline, it is critical to consider each milestone in the evaluation preparation and execution process. Each venue and entity partner, data collection activity, or outcome of interest may have its own timeline and completion milestones. Tool 7 provides an example for outlining the data collection milestones with a timeline for completion.

To account for the extent to which data collection methods, activities, and timelines overlap, consider developing a data collection calendar that includes all tasks and milestones across

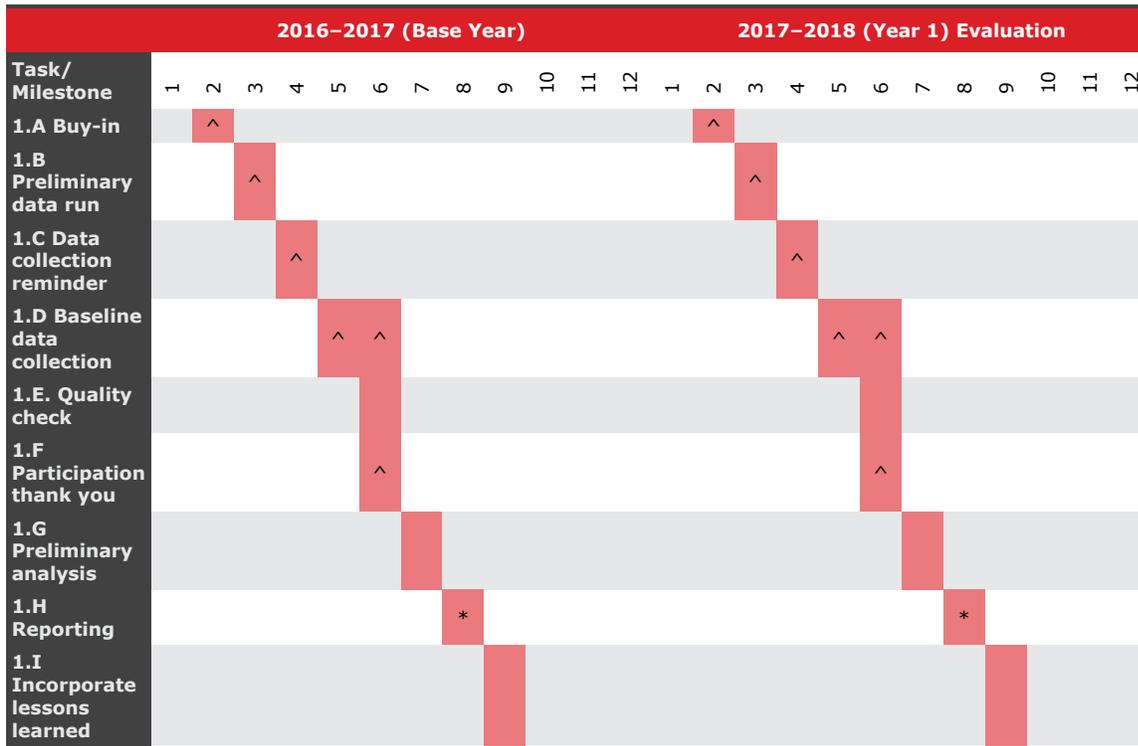
the evaluation project. Baseline and follow-up data collection should follow similar annual timelines, though it is helpful to examine barriers and lessons learned and modify data collection activities accordingly. Tool 8 provides a template programs might employ when projecting timelines for staff and stakeholder efforts. This can be especially important when engaging stakeholders and partners for data collection.

**Tool 7. Example Baseline and Year 1 Data Collection for Program Examining Lower Sodium Food Purchase in Hospital Cafeteria**

<b>Task/Milestone</b>	<b>Responsible Person</b>	<b>Stakeholder Involvement?</b>	<b>Due Date</b>
<b>1.A Contact hospital cafeteria manager via phone to obtain buy-in and examine any barriers*</b>	Program Director	Yes	November 2016 (3 months prior to baseline data collection)
<b>1.B Work with hospital cafeteria manager to examine preliminary purchase data; examine data collection modification needs</b>	Program Director and evaluator	Yes	December 2016 (2 months prior to baseline data collection)
<b>1.C Provide data collection timeline reminder to stakeholder</b>	Program Director and evaluator	Yes	January 2017 (2 weeks prior to baseline data collection)
<b>1.D Collect baseline data</b>	Hospital cafeteria manager	Yes	February 2017–March 2017
<b>1.E Examine baseline data for discrepancies/missing data</b>	Program Director and evaluator	No	March 2017
<b>1.F Contact hospital cafeteria manager with questions and thank him/her for participating</b>	Program Director	Yes	March 2017
<b>1.G Conduct initial analysis of baseline data</b>	Evaluator	No	April 2017
<b>1.H Develop and submit reporting materials for SRCP Annual Progress report</b>	Program Director and evaluator	Yes	May 2017
<b>1.I Examine barriers to data collection and refine follow-up year timeline accordingly</b>	Program Director and evaluator	No	June 2017
<b>1.J Repeat steps 1.A–1.I for following year, with data collection slated for February 2018</b>	Program Director, evaluator, data collection point person(s)	Yes	

\* Refer to Exhibit 1 in Section 2.2 for potential stakeholder questions prior to data collection. Refer to Appendix J for an editable version of Tool 7, Baseline and Year 1 Data Collection.

### Tool 8. Data Collection Timeline Calendar



^ Represents stakeholder involvement

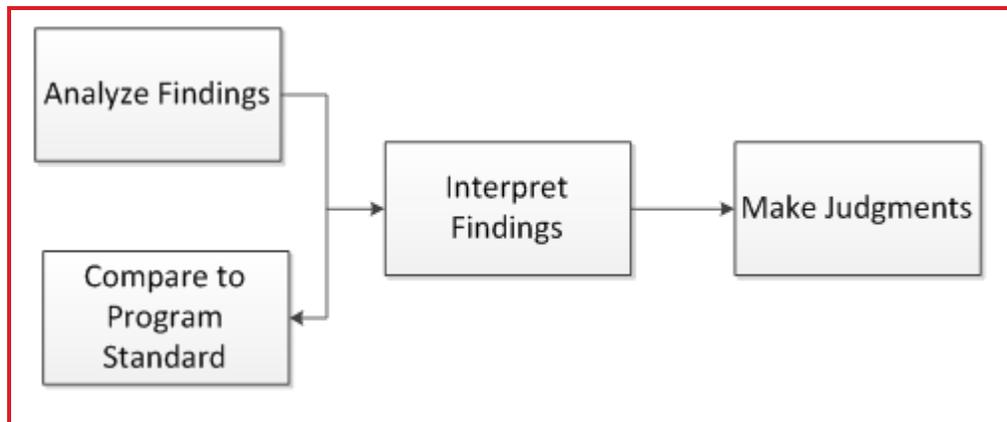
\* Represents a product

Refer to Appendix J for an editable version of Tool 8, Data Collection Timeline Calendar.

## 6 Justify Conclusions

Justifying conclusions requires analyzing the data and interpreting and drawing conclusions from the findings. This step is necessary for programs to examine 1) whether program activities are reaching desired goals and outcomes and 2) the extent to which the program is effective or efficient. For each indicator, programs must analyze data, compare the findings against proposed targets, and determine if implementation or data collection methods are sufficient and appropriate or should be altered (Exhibit 5).

**Exhibit 5. Process for Justifying Conclusions**



Source: Centers for Disease Control and Prevention. (2011). [Introduction to program evaluation for public health programs: A self-study guide](#). Atlanta, GA: U.S. Department of Health and Human Services.

The excerpt of Tool 9, below, provides an example of a selected indicator, proposed data analysis procedures, program standards, data interpretation, and judgments that programs can make about their outcomes and progress over time. Programs can use Tool 9, along with multiple data sources and data analysis procedures to examine each indicator of interest.

## Tool 9. Analyzing and Interpreting Data

Logic Model Activity, Outcome, or Impact	Evaluation Question	Indicators	Data Analysis Procedures	Findings	Program Standard	Interpretation	Make Judgments
<b>Ex: Lower sodium meal or menu options</b>	To what extent has the program reduced average sodium content of meals?	Percentage (%) and number (#) of menu items affected by recipe modification to reduce sodium content in Year 1	Count each reduced sodium meal offering per week and divide by the total number of meals offered in the week	Reduced Sodium meal offerings (4)/total number of meals offered in the week (5) 4/5=80%	Program projected modifying 60% of menu items through recipe modification	Program is reaching 20% more menu items than originally projected in Year 1	Program is performing above target. Consider increasing target sodium reduction in Year 2.

Refer to Appendix K for an editable version of Tool 9, Analyzing and Interpreting Data.

When interpreting findings for SRCP, it is important to identify opportunities to reach goals more effectively and efficiently. Programs should compare data analysis findings with local program standards and consider what is feasible and appropriate given the resources and inputs available to each stakeholder. In circumstances where SRCP programs are not reaching internally set program standards, programs should 1) consider how to allocate internal and external resources (e.g., staff, time, stakeholder input) to reach the standard and 2) identify ways to remove or overcome internal or external barriers to completion.

When interpreting local evaluation findings, SRCP programs should first consider the needs of their stakeholders and venue and entity partners. For example, partners may be interested in data interpretation that goes beyond program performance and addresses the way partner contributions help improve outcomes over time. Refer to Section 2 for more information on ways to engage stakeholders and identify priority topics and dissemination channels of interest early in the program development and implementation process.

## 7 Use and Share Lessons Learned

Dissemination of evaluation findings is a key ingredient to stakeholder engagement and program sustainability. Tool 10 provides a few examples that programs may reference when developing their dissemination strategy. As described in Section 1 of this toolkit, to reduce unnecessary effort and create an effective product, it is essential to engage stakeholders in dissemination planning and to pose specific questions about the timing, format, and type of information of greatest interest (CDC, 2013).

Sharing lessons learned and challenges as they are identified throughout program implementation and evaluation drives how programs, CDC, and program partners evaluate the program and can affect both short- and long-term evaluation plans in the future. Developing lessons learned and challenges briefs is a fast and easy way to communicate common opportunities or impediments with others seeking to implement and evaluate similar interventions. Sharing lessons learned transparently and broadly can also help programs identify new resources or pathways to success, such as strategies that worked or did not work or improved data collection methods or sources (CDC, 2011).

## Tool 10. Dissemination Strategy Identification

Target Audience	Desired Action	Timing or Frequency	Person Responsible	Format	Effective Communication Strategies
<b>Ex: SRCP program partners</b>	<ul style="list-style-type: none"> <li>Share success stories with implementation partners</li> <li>Continue participation in SRCP</li> </ul>	Annual	Program Director	1-page brief or fact sheet	Findings summaries with graphic and visual emphasis and details on partner support for program and evaluation
<b>Ex: CDC DHDSP program staff</b>	Examine opportunities for future funding opportunity announcement (FOA)	Annual	Evaluator	Written report	Detailed findings summaries
<b>Ex: CDC SRCP staff</b>	Consider program lessons learned and barriers when developing future FOA	Annual	Evaluator	Annual presentation or written report	Annual presentation or report of key evaluation findings and implications for SRCP improvement
		Ongoing		Lessons learned briefs fact sheets	Sharing lessons learned as they are identified helps programs and CDC evaluate the program and identify opportunities for SRCP improvement
<b>Ex: Other programs</b>	<ul style="list-style-type: none"> <li>Improve program efficiency and effectiveness and learn how to conduct SRCP evaluation</li> <li>Foster interest in SRCP and expand potential applicant base</li> </ul>	End of evaluation	Program Manager	Live or archived webinar	Description of evaluation purpose and key indicators, brief reports
<b>Ex: Broader public health community</b>	Contribute to nutrition evaluation knowledge base	End of evaluation	Program Director/Evaluator	Manuscript or presentation at national conference	Highlights of evaluation methods or findings

Refer to Appendix L for an editable version of Tool 10, Dissemination Strategy Identification.

For additional guidance on disseminating and sharing lessons learned, consider reviewing the following references:

American Evaluation Association. (2017). [Homepage](#).

Centers for Disease Control and Prevention. (2011). [Program evaluation tip sheet: Reach and impact](#).

Centers for Disease Control and Prevention. (2015). [WISEWOMAN Evaluation Toolkit](#).

Centers for Disease Control and Prevention. (2017a). [CDC Unified process practices guide: Lessons learned](#).

Centers for Disease Control and Prevention. (2017b). [Evaluation reporting: A guide to help ensure use of evaluation findings](#).

## 8 Conclusion

This toolkit provides a step-by-step guide for program staff and evaluators who are planning and implementing sodium reduction outcome evaluations in specific venue and entity partners. Although this toolkit is written as guidance for SRCP 1607, the information here can be applied broadly to other sodium reduction evaluations. Evaluators can follow this guide to quickly and efficiently begin an effective program evaluation of sodium reduction programs.

## References

- American Heart Association. (2017). [Sodium and your health homepage](#).
- Centers for Disease Control and Prevention. (2011). [Introduction to program evaluation for public health programs: A self-study guide](#). Atlanta, GA: U.S. Department of Health and Human Services.
- Centers for Disease Control and Prevention. (2013). [Evaluation reporting: A guide to help ensure use of evaluation findings](#). Atlanta, GA: U.S. Department of Health and Human Services
- Centers for Disease Control and Prevention. (2016). [A framework for program evaluation](#).
- Centers for Disease Control and Prevention. (2017). [Most Americans should consume less sodium](#). Atlanta, GA: U.S. Department of Health and Human Services. National Center for Chronic Disease Prevention and Health Promotion, Division for Heart Disease and Stroke Prevention.
- He, J., Ogden, L., Vupputuri, S., Bazzano, L., Loria C, & Whelton, P. (1999). Dietary sodium intake and subsequent risk of cardiovascular disease in overweight adults. *Journal of the American Medical Association*, 282(21), 2027–2034. doi:10.1001/jama.282.21.2027
- U.S. Department of Agriculture, Agricultural Research Service. (2014). [Nutrient intakes from food and beverages: Mean amounts consumed per individual, by gender and age, what we eat in America, NHANES 2011–2012](#).
- U.S. Department of Health and Human Services and U.S. Department of Agriculture. (2015). [Dietary Guidelines for Americans, 2015–2020](#).

## Appendix A: Tool 1, Critical Factors that Affect Stakeholder Involvement in the SRCP Evaluation

Stakeholder	Name and Contact Information	Role	Asset	Effort	Timing	Potential Involvement	Dissemination

## Appendix B: Glossary

Comprehensive Nutrition Standards and Practices = Food procurement policy and customary procedures adopted by an institution or organization requiring that the food it purchases, provides, or makes available contains key nutrients at levels that do not exceed criteria established by public health authorities. To be comprehensive, a set of standards is not limited to focusing on one nutrient (in this case, sodium) but considers other key nutrients of concern (refer to the 2015–2020 Dietary Guidelines for Americans). *The Food Service Guidelines for Federal Facilities* (2016) is one model of nutrition standards that can be used in government settings and other food service venues and entities.

Entity = Specific institutions/places within the venue where the sodium reduction intervention is taking place (e.g., John’s Deli and Bistro, Julia’s Coffee House).

Implement = To put a change into place (such as changing procurement practices or modifying recipes used in a menu cycle).

Venue = The food service setting type where the sodium reduction intervention is targeted (e.g., hospitals, work sites, or restaurants).

## Appendix C: Tool 2, Key Program Elements that Can Influence Evaluation Design Selection

Program Element	Program Description

## Appendix D: Tool 3, Contextual Factors that Affect the SRCP Implementation and Corresponding Strategies to Improve the Evaluation

Contextual Factor	Consideration	Strategy

## Appendix E: Tool 4, Logic Model Element Identification Tool

Activity	Inputs	Output	Short Term Outcome	Intermediate Outcome	Long-Term Impact

## Appendix F: Tool 5, Evaluation Planning Matrix Linking Activities, Outcomes, and Impact

Logic Model Activity, Outcome, or Impact	Evaluation Question	Indicators	Data Source	Data Collection	Timing	Stakeholder Involvement	Data Analysis Procedures

## Appendix G: Tool 6, Questions to Enhance Evaluation Data Credibility

Credibility Criteria	Program Response
What is the evaluation question of interest for this indicator?	
What is the indicator?	
What are the data source type and attributes?	
What is the rationale for selecting this data source?	
Is the indicator credible to the stakeholder or decision maker?	
What type of trainings or established procedures are necessary to ensure high-quality data collection?	
How frequently will the program assess data quality?	
What methods for data cleaning and improvement may be required?	

## Appendix H: SRCP Recommended Performance Measures

### Short-term outcomes and corresponding performance measures

Within specific entities:

Increased implementation of food service guidelines/standards that include sodium

- Percentage and number of entities implementing comprehensive nutrition standards and practices, including sodium reduction standards and practices
- Percentage and number of people exposed to implemented food service guidelines

Increased integration of procurement practices to reduce sodium content in purchased items

- Percentage and number of products/ingredients replaced with a lower sodium alternative
- Percentage and number of meals/menu items affected by ingredient or product modification/substitution to reduce sodium content
- Percentage and number of entities using standardized purchasing lists

Increased implementation of food preparation practices to reduce sodium content of meals and/or menu items

- Percentage and number of menu items affected by recipe modification to reduce sodium content including but not limited to the following strategies:
  - Decreasing or eliminating added salt to salt-containing ingredients in a recipe
  - Replacing an ingredient with a lower sodium alternative in a recipe
  - Portion size modification

- Percentage and number of entities implementing standardized recipes to measure accurate sodium content of foods
- Percentage and number of entities that have eliminated the use of “free salting” or adding salt at the end of meal preparation by food service staff

#### Increased implementation of environmental strategies/behavioral economics approaches

- Percentage and number of entities implementing environmental choice architecture and placement interventions of lower sodium foods (includes guiding low-sodium choices through default, putting lower sodium items first in a “line,” as grab-and-go options, or more proximal or visible at point of selection, and/or moving higher sodium foods to be less accessible or restricting access as well as interventions to improve the ambience, functional design, or presentation of lower sodium foods in an environment)
- Percentage and number of people exposed to environmental choice architecture and placement interventions for lower sodium foods (includes guiding low-sodium choices through default, putting lower sodium items first in a “line,” as grab-and-go options, or more proximal or visible at point of selection, and/or moving higher sodium foods to be less accessible or restricting access as well as interventions to improve the ambience, functional design, or presentation of lower sodium foods in an environment)
- Percentage and number of entities implementing sodium reduction price interventions (includes offering lower sodium foods at a price equal to or less than higher sodium food options)
- Percentage and number of people exposed to sodium reduction price interventions (includes offering lower sodium foods at a price equal to or less than higher sodium food options)
- Percentage and number of entities implementing nutrition education interventions that include sodium (includes information about sodium content, traffic light labelling, health claims, and warnings at the point of choice or point of purchase)

- Percentage and number of people exposed to nutrition education interventions that include sodium
- Percentage and number of entities implementing prompting interventions for lower sodium foods (includes visual prompts such as strategic menu descriptions and featured foods as well as auditory prompts from food service staff)
- Percentage and number of people exposed to prompting interventions for lower sodium foods

### **Intermediate outcomes and corresponding performance measures**

#### Increased availability of lower sodium food products

- Average sodium content of foods
- Percentage and number of lower sodium foods or meals available by entity
- Percentage and number of entities implementing sodium reduction interventions
- Percentage and number of people with access to partnering entities with healthy food options, including lower sodium foods

#### Increased purchase or selection of lower sodium food products/ingredients by either consumers or large food service operators

- Average sodium content of products per purchase/selection by food category
- Percentage and number of lower sodium foods purchased/selected by food category per week
- Percentage and number of people purchasing/selecting lower sodium foods per week
- Percentage and number of people who use sodium nutrient information to inform their food purchases/selections
- Total and per capita sales of lower sodium products by food category

### **Long-term outcomes and corresponding measures**

- Reduced sodium intake to within the Dietary Guidelines for Americans recommended maximum



- Average daily sodium intake (for specific venue)
- Percentage and number of people who have reduced average daily sodium intake (for specific venue)

## Appendix I: Sample Performance Measure Profile

<b>Sodium Reduction in Communities Program (SRCP) Performance Measure Profile (ST-1)</b>
<b>Performance Measure from the FOA:</b> Percentage (%) and number (#) of entities implementing comprehensive nutrition standards and practices, including sodium reduction standards and practices.

Areas	Explanation
Purpose of Measures	The purpose of these measures is: <ol style="list-style-type: none"> <li>1. To document the impact or organizational reach of nutrition standards and practices in a community</li> <li>2. To document the extent to which entities are affected by implementing nutrition standards and practices</li> </ol>
Definition of Key Terms in the Performance Measures	<ul style="list-style-type: none"> <li>▪ Comprehensive Nutrition Standards and Practices = Food procurement policy and customary procedures adopted by an institution or organization requiring that the food it purchases, provides, or makes available contains key nutrients at levels that do not exceed criteria established by public health authorities. To be comprehensive, a set of standards is not limited to focusing on one nutrient (in this case, sodium) but considers other key nutrients of concern (refer to the 2015–2020 Dietary Guidelines for Americans). <i>The Food Service Guidelines for Federal Facilities</i> (2016) is one model of nutrition standards that can be used in government settings and other food service venues.</li> <li>▪ Entity = Specific institutions/places within the venue where the sodium reduction intervention is taking place (e.g., John’s Deli and Bistro, Julia’s Coffee House).</li> <li>▪ Implement = To put a change into place (such as changing procurement practices or modifying recipes used in a menu cycle).</li> <li>▪ Venue = The food service setting type where the sodium reduction intervention is targeted (e.g., hospitals, work sites, or restaurants).</li> </ul>
Unit of Analysis	Entity
Calculate Number of Entities	Total number of entities through SRCP that have implemented comprehensive nutrition standards and practices, including sodium reduction standards and practices (e.g., number of hospitals, number of Chinese buffet restaurants, number of worksites, and number of congregate meal programs)
Calculate Percent of Entities	Total number of entities through SRCP that have implemented comprehensive nutrition standards and practices, including sodium reduction standards and practices/Total number of entities (e.g., hospital, Chinese buffet restaurants, worksites, or congregate meal programs) in the jurisdiction (county or municipality)
Setting	Venue

<b>Areas</b>	<b>Explanation</b>
Example Data Sources	Documentation of adoption: <ul style="list-style-type: none"> <li>▪ MOU</li> <li>▪ EO</li> <li>▪ Ordinance</li> </ul> Documentation of implementation: <ul style="list-style-type: none"> <li>▪ Menu</li> <li>▪ Procurement record</li> </ul>
Reporting Frequency	A minimum of five data collection points for venues engaged in SRCP Year 1: At baseline (before the intervention starts) and at follow-up in Year 2, follow-up in Year 3, follow-up in Year 4, and at the end of Year 5.
Notes	Reminder: When counting the total number of entities, an entity may only be counted if SRCP sodium reduction interventions have been implemented (counting only those entities that have <i>actually</i> implemented comprehensive nutrition standards and practices. Do not count those entities that are planning to or intending to do so).



## Appendix K: Tool 9, Analyzing and Interpreting Data

Logic Model Activity, Outcome, or Impact	Evaluation Question	Indicators	Data Analysis Procedures	Findings	Program Standard	Interpretation	Make Judgments

## Appendix L: Tool 10, Dissemination Strategy Identification

Target Audience	Desired Action	Timing or Frequency	Person Responsible	Format	Effective Communication Strategies