



WISEWOMAN™

Well-integrated Screening and Evaluation
for Women Across the Nation

Evaluation Toolkit

Section 2: Evaluation Implementation

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Step 4. Gather Credible Evidence



RECAP:

At this point in the evaluation you have accomplished the following:

- Identified and engaged a group of evaluation stakeholders
- Created a foundation for communication with stakeholders
- Set initial expectations for how each stakeholder will be involved during the evaluation
- Developed a tailored logic model for your program
- Drafted a program narrative
- Defined the purpose of your evaluation and identified process and outcome evaluation questions
- Identified appropriate data collection methods and data sources
- Compiled a comprehensive evaluation plan

In this step, you will accomplish the following:

- Develop a data collection plan.
- Implement data collection and quality control procedures.

Gathering Credible Evidence^{5,10}

Gathering credible evidence involves collecting data to answer your evaluation questions. The data should be valid, reliable, and credible and provide an overall picture of the program.

Data Collection Plan

A data collection plan or protocol is a tool that can help you organize data collection activities, engage stakeholders and staff involved in data collection, and help ensure consistency and fidelity in data collection activities. Your data collection plan should be developed with input from your evaluation stakeholders. As you develop your plan, consider opportunities to leverage existing data sources, the available budget, and resources available to support evaluation activities. Also take into consideration the potential data collection burden on staff, clinical providers, and partners.⁵

Your full data collection plan should specify the following:

- Who is responsible for collecting the data
- Timing of data collection
- Procedures for data collection
- Procedures for managing data
- Data security measures

The subsequent sections describe in greater detail the factors that should be taken into consideration while developing your data collection plan. The example in Exhibit 1 illustrates how you might construct a data collection plan. In the tools and templates provided in Section 2, you will find an example data collection plan template that can be tailored for your evaluation needs.

Collaborating with evaluation stakeholders can help¹⁸

- increase communication,
- lessen the need for additional evaluation funding,
- reduce the burden on data collectors,
- identify areas for program improvement,
- improve processes

Exhibit 1. Example Data Collection Plan

Data Source (existing/new)	Related Evaluation Questions	Data Collection Method/Description	Timing	Person(s) Responsible	Quality Assurance	Notes
Interviews with clinical service providers (new)	<p>What best practices are used by providers to incorporate WISEWOMAN protocols into practice workflows?</p> <p>Have our program activities with providers contributed to changes in protocols for providing services for all women?</p>	<p>Evaluation consultant will conduct 30-minute telephone interviews with clinical site program coordinators using a semi-structured interview guide. Interviewers will take notes during the discussion and all interviews will be digitally recorded.</p>	February 2014	Evaluation consultant team	Interviews will be audio recorded to allow the evaluation consultant to verify notes for analysis.	Designed in such a way to address both evaluation questions and thus eliminate the need to interview providers multiple times.
Pre-post Lifestyle Program participant surveys (existing)	<p>Does participation in the evidence-based lifestyle program contribute to participant outcomes related to physical activity, sodium intake, and tobacco cessation?</p>	<p>Electronic pre-post survey data for WISEWOMAN participants in the XYZ Lifestyle Program for Program Year 2 will be submitted in a comma delimited file for secondary data analysis.</p>	August 2015	Will W., Lifestyle Program Coordinator and Nora R., Program Epidemiologist	Nora R. will review data file for missing data and inconsistencies and consult with Will W. to clean the data.	The lifestyle program developed the instrument but they will provide the data for WISEWOMAN participants. Both the pretest and the posttest contain 20 close-ended items and two open-ended items.

Data collection requires careful planning and coordination. A variety of factors can influence the quality and credibility of data collected for addressing the evaluation questions. Consider these factors as you develop your data collection protocol¹⁰:

- Design of the data collection instruments
- Timeline for data collection
- Persons responsible for data collection
- Organizational requirements regarding data collection

Data Collection Instruments

Prior to data collection, work with your evaluation stakeholders to determine which data sources and data collection instruments are available that may help you gather the information you need to address your evaluation questions. Data for your evaluation activities may come from new or existing sources, and you may find existing data collection instruments that can be modified to help address your evaluation questions. Your data collection plan should include copies of any new or existing data collection sources or instruments that you intend to use.

There are advantages and disadvantages to using any data source or data collection instrument.^{5,6,10} Although using existing data is often less expensive and more convenient, it may not capture all the detail needed to address your evaluation question. Keep in mind you may need multiple data sources to answer the evaluation questions. For example, you could collect data from WISEWOMAN participants using a brief baseline and follow-up survey, and then you could conduct short telephone interviews with a small sample of providers. Also, it often helps to increase the credibility of your evaluation findings by including data collected from more than one source.⁴

Evaluation Stakeholder Group Discussion Items¹⁰

- Are there existing data sources or data collection instruments available from your partners or will new sources and instruments need to be developed?
- What are the advantages and disadvantages of each data source and data collection instrument (e.g., resources, time, sufficiency of information, alignment with evaluation questions)?
 - An advantage of using existing instruments is that they may have been tested and shown to collect valid and reliable data.
 - A disadvantage of using existing instruments is that you may need to modify them or add new items to address your evaluation questions.
- Are there staff members available internally or externally who have expertise developing data collection instruments?

Designing New Data Collection Instruments

The design of data collection instruments is a critical factor that can influence the quality of your data.¹⁰ If you are designing new data collection instruments, be sure to build in sufficient time to pilot test the instrument(s). Also, consider seeking help from an evaluation expert with experience creating new instruments.

Below are some tips for designing new data collection instruments¹⁰:

- **Surveys or questionnaires** are useful for gathering different kinds of information in a consistent fashion from many participants. Depending on how surveys or questionnaires are administered, they may take less time to collect data from many participants than other methods. Questions should be clear, concise, culturally appropriate, and easy for respondents to complete. If you are designing new surveys or questionnaires, we recommend consulting the Resource Guide in Section 4 for additional guidance. The type of questions used in a survey or questionnaire is key to soliciting relevant and unbiased responses.
 - Types of questions may include open-ended (e.g., comments) or closed-ended (e.g., yes/no, multiple choice, rating scale) responses.
 - Avoid:
 - Jargon—Use simple, direct language that is relevant to the respondents.
 - Assumptions—Do not assume respondents are familiar with specific details; add information or context if necessary.
 - Leading questions—Do not lead respondents to answer in a certain way based on the wording of the question.
 - Loaded questions—Do not use emotionally charged language or words that carry unintended connotations.
 - Double-barreled questions—Do not include two ideas in one survey question; split them up into two separate questions.
- **Interview and focus group guides** are useful for gathering in-depth information from participants or other stakeholders.
 - Interviews may necessitate a sizable investment of time for data collection, somewhat depending on whether participants are included individually or in groups.
 - Guides should be clear, easy to follow, and primarily include open-ended questions and probes. The guide should allow some flexibility for the interviewer to probe and ask follow-up questions that can add depth to the information collected.

- **Document review abstraction tools** are useful in gathering background information about the program. Developing an abstraction tool helps in gathering desired information (i.e., specific data elements) consistently from documents you identify. It is helpful to develop a checklist of materials that will be reviewed prior to analysis.
 - Be sure to follow all confidentiality policies and procedures when collecting documents for use in evaluation activities.
 - Documents for use in evaluation might include your program's^{4,19}
 - Policies and procedures documents
 - Work plans
 - Staff records
 - Budgets
 - Memoranda of understanding and contracts with partners
 - Training records
 - Quality assurance site visit reports

Pilot Testing

We recommend that you pilot test new data collection instruments and procedures prior to implementation to identify challenges and ensure that procedures are implemented properly. Pilot testing can help ensure that the data collection tools capture information intended and address your evaluation questions. You should pilot test the data collection instrument with a small selection of individuals who are representative of your target population, and under conditions similar to those you will use in gathering your data. Specifically, pilot testing can help answer the following questions¹⁰:

- How long does it take to complete the questionnaire?
- Do the questions in the instrument flow well?
- Are there any challenges with administering specific instruments or in getting desired responses to specific questions?
- Do participants interpret questions and response options as you intended?
- Are the instrument questions reliable (i.e., they obtain similar responses when used repeatedly) and valid (i.e., measure what is intended)?
- Have any trends emerged in the responses that can be used to improve questions or responses?

Timing Data Collection

As you develop your data collection plan, you will need to determine when and how frequently data will be collected.¹⁰ As you work with your evaluation stakeholders, consider the following questions when determining the timing of data collection^{4,10}:

- When will you need to report your evaluation findings?
- When do the data need to be analyzed?
- When would data collection activities be least disruptive to those collecting data?
- What data collection resources will be available (e.g., staff availability, funding)?
- From how many participants will you collect data? Is the program mature enough to have reached this participation level?
- How long will it take to collect the data from the desired number of participants using each specified data collection activity (e.g., surveys, interviews)?
- How often will data be collected?

Determining Responsibility for Data Collection

Prior to data collection, you will need to determine who will collect data. The quality of your evaluation findings will depend on the quality of the data collected, so it is important to ensure rigor and consistency with data collection activities.¹⁰ Your decision of who collects the data will depend on staff availability and data collection skills. The skills needed are dependent on your evaluation questions, methods, and data sources. If your agency lacks staff with evaluation expertise, you may need to hire someone or seek assistance from an external agency. Another option is to train staff in order to develop their data collection skills.

If you are working with an evaluation consultant, the consultant or their team may facilitate data collection. If you are involving external staff in data collection, identify individuals who¹⁰:

- Are organized, detail-oriented, familiar with your program, experienced in the specified data collection activities, dependable, and flexible.
- Have strong communication skills.
- Can work with individuals representing diverse backgrounds.

Protecting Evaluation Participants

Depending on your organization's policies and the nature of data collection activities, you may need to submit your data collection instruments and protocol to an institutional review board (IRB) to ensure the protection of your participants. Your data collection plan should incorporate

procedures to ensure data security and patient confidentiality throughout the data collection, management, analysis, and reporting process.¹⁰

For example, you can help ensure patient confidentiality by removing any individually identifiable health information, known as protected health information, from the data collected. Protected health information, which includes demographic information, relates to a person's health condition or provision of health care. Protected health information consists of many common identifiers (e.g., name, address, birth date, Social Security number) when they are associated with health information. The de-identification process, which involves the removal of identifiers from health information, helps to protect patient confidentiality.²⁵

Questions to Consider in Ensuring Confidentiality and Data Security^{6,10}

- Does your organization require data collection activities to be reviewed by an IRB?
 - If so, how long does it typically take to get approval?
 - Are there forms or templates you can use to develop your study protocol for IRB review?
 - Are there examples of IRB-approved study protocols you can review?
 - Is there a staff member available in your organization that can help develop your study protocol for IRB review?
- How will you ensure patient confidentiality? Will you need to de-identify any patient information?
- Are you working with partners or other organizations?
 - If so, do you need a data sharing agreement in order to access data from partner organizations? Can you publish the partners' data?
 - Do you need a data sharing agreement to provide data to partners who may help you with data collection, management, and analysis?
- Will informed consent be required from participants before collecting data?
- Will contact information be obtained for follow-up data collection?
- How will you ensure data security and patient confidentiality?
- Where will the data be stored?
- Who will have access to the data?
- When will data be deleted or destroyed after they are no longer needed (e.g., shredding of hard-copy surveys after all data have been entered into an electronic database)?
- Have security and patient confidentiality policies and procedures been implemented for existing data sources?
- What security measures do you need for new data sources (e.g., locked file cabinets, password protected computer files)?

Budget and Resource Consideration

As you develop your data collection plan, it is important that you consider the availability of resources to conduct and manage data collection activities.^{5,10} While it can be challenging to develop a realistic budget, it is best to think through budget implications with your team prior to implementation to avoid challenges later. Sometimes the scope of the evaluation needs to be reduced due to limited resources. As you develop your data collection plan, consider the following questions with your evaluation stakeholder group⁵:

- What is the available evaluation budget for data collection? Is the funding sufficient?
- What is the funding source for the evaluation? Are there any in-kind, partner, or volunteer resources being contributed?
- What is the availability of staff to conduct data collection? Will you need to hire external staff to assist with data collection?
- How will you ensure that data collection activities remain within budget?
- If reductions are necessary, will the collection yield sufficient data to draw conclusions?

You will find an evaluation budget worksheet among the tools and templates following Section 2. You can use the worksheet to help you track and manage your budget during evaluation activities, including data collection.

Data Codebook

Your data collection plan should also include a preliminary data codebook. This codebook will serve as a foundation for

- Managing data collection.
- Entering data.
- Data analysis (described further in Step 5).

A codebook provides instructions on how data elements should be defined in a standardized way. In other words, your codebook should specify how your data will be used in the evaluation and transformed to align with the evaluation indicators you identified in Step 3.¹⁰ For this reason, codebook development should be undertaken prior to data collection.

Quantitative data codes specify a name and description for each item, while qualitative codes are used to organize the data into themes.¹⁰ Codes should align with the variables that you have identified for each evaluation question, as illustrated in Exhibits 2 and 3.

Reminder

As you develop data collection instruments and consider your budget and resources, keep in mind that your CDC Project Officer can connect you with the CDC Evaluation Specialist for additional technical assistance.

Exhibit 2. Example Quantitative Data Codebook Section

Variable Name	Variable Label	Type	Values	Data Source	Comments
DOB	Participant data of birth	Numeric date	mm/dd/yyyy	Q1 participant info form	
Tobac	Participant tobacco use	Numeric	1 = never used tobacco 2 = former tobacco user 3 = current tobacco user	Q4 in behavior questionnaire	Values changed in 2012; for any data prior to 2012, recode as follows: 1 = 3, 2 = 2, and 3 = 1

Exhibit 3. Example Qualitative Data Codebook Section

Code	Description	Examples or Comments
CBR	Description of community-based resources used by WISEWOMAN participants	Example: I started swimming at the Y once or twice a week for one of their classes. The flyer about the class was in a resource packet that the nurse gave me when she came to talk to me about my tests, but the lady who leads the Healthy Living Workshops is the one who really encouraged me to try it.
Partner	Names of partners and description of their roles WISEWOMAN program	American Heart Association provides information for annual needs assessment.

The data codebook included in your data collection plan should be considered a working document. As you collect data, you may experience issues that require you to make revisions to your data collection plan (including your data codebook). This is to be expected, but we encourage you not to wait to develop the codebook until you have collected all of the data, as this structure will help you manage the quality of the data that you obtain. Remember to include any new codes into your data codebook that are created such as those that reflect new themes that may emerge from your qualitative data analysis.

Managing Data Collection

Your data collection plan should be considered a working document. Data must be monitored and managed regularly throughout the data collection process. It is important to revisit the data collection and evaluation plans with the evaluation stakeholders to reassess the usefulness of specific data collection instruments and the effectiveness of data collection procedures and policies. Revise them as needed.

When challenges arise, it is important to identify issues and resolve them as quickly as possible. Pilot testing the data collection instruments prior to implementation can help identify problems and provide an opportunity make revisions.¹⁰

Data Quality Assurance

High-quality data are critical for program improvement, reporting, and evaluation.⁵ The data collected should provide a clear representation of the program's activities and should be accurate and reliable.^{5,6}

Data accuracy (or measurement validity) means that the data measure what you intend them to measure.^{6,10} Data reliability means that the data provide consistent measurements over time.^{6,20}

To ensure the quality of your data, it is important to train your data collection staff.⁶ The level of training needed will vary according to the complexity of your data collection methods and the experience of your data collectors. At minimum, a data collector training should include the following elements¹⁰:

- An orientation to the evaluation that describes the purpose of the evaluation and explains how the findings will be used.
- Logistical details associated with data collection (e.g., location of data collection instruments, any informed consent statements or approvals that must be obtained, dates and times for data collection, instructions for operating audio recorders, procedures for handling and storing data).
- Detailed information on the data collection methods and techniques to be used. This should include a thorough review of data collection instruments to make sure that data collectors understand the questions to ask and how to record information objectively, consistently, and carefully.
- Opportunities to practice administering data collection instruments.

Ensuring data quality involves checking for the following²⁰:

- Accuracy
- Reliability
- Completeness
- Precision
- Timeliness
- Integrity

Next: Data Analysis and Reporting

In the next section, you will find guidance to help you:

- Prepare for data analysis of quantitative and qualitative data.
- Ensure use and sharing lessons learned.

Tools and Templates

Data Collection Plan Template

Tips for using the template:

A data collection plan is a tool that can help you organize data collection activities, engage stakeholders involved in data collection, and ensure consistency and fidelity in data collection activities. Your data collection plan should be developed with your stakeholders' input. The template has been partially completed for illustrative purposes and can be tailored for your evaluation needs. Refer to Step 4 in the toolkit for more information.

Data Source (existing/new)	Related Evaluation Questions	Data Collection Method/Description	Timing	Person(s) Responsible	Quality Assurance	Notes
Interviews with clinical service providers (new)	<p>What best practices are used by providers to incorporate WISEWOMAN protocols into practice workflows?</p> <p>Have our program activities with providers contributed to changes in protocols for providing services for all women?</p>	Evaluation consultant will conduct 30-minute telephone interviews with clinical site program coordinators using a semi-structured interview guide. Interviewers will take notes during the discussion and all interviews will be digitally recorded.	February 2014	Evaluation consultant team	Interviews will be audio recorded to allow the evaluation consultant to verify notes for analysis	Designed in such a way to address both evaluation questions and thus eliminate the need to interview providers multiple times.

Data Source (existing/new)	Related Evaluation Questions	Data Collection Method/Description	Timing	Person(s) Responsible	Quality Assurance	Notes
Pre-post Lifestyle Program participant surveys (existing)	Does participation in the evidence-based lifestyle program contribute to participant outcomes related to physical activity, sodium intake, and tobacco cessation?	Electronic pre-post survey data for WISEWOMAN participants in the XYZ Lifestyle Program for Program Year 2 will be submitted in a comma delimited file for secondary data analysis	August 2015	Will W., Lifestyle Program Coordinator and Nora R., Program Epidemiologist	Nora R. will review data file for missing data and inconsistencies and consult with Will W to clean the data file	The lifestyle program developed the instrument but they will provide the data for WISEWOMAN participants. Both the pretest and the posttest contain 20 close-ended items and 2 open-ended items.

Qualitative Data Codebook Template

Tips for using the template:

The codebook should specify how your data will be used in the evaluation and should align with the evaluation indicators you identified in Step 3. It is recommended that codebook development occur prior to data collection. Codes should align with the variables that you have identified for each evaluation question as shown below.

Code	Description	Examples or Comments
CBR	Description of community based resources used by WISEWOMAN participants	Example: I started swimming at the Y once or twice a week for one of their classes. The flyer about the class was in a resource packet that the nurse gave me when she came to talk to me about my tests, but the lady who leads the Healthy Living Workshops is the one who really encouraged me to try it.
Partner	Names of partners and description of their roles WISEWOMAN program	American Heart Association -provides information for annual needs assessment

Evaluation Budget Worksheet

Income & Expense Projections	2013-2014
Income	
Income - General	\$10,000.00
Income - Grants	\$5,000.00
Sub Total Income	\$15,000.00
In-Kind Donations - Goods	\$500.00
In-Kind - Services	\$3,000.00
Total In Kind Donations	\$3,500.00
Total Income	\$18,500.00
Expense	
Consultant costs	\$8,000.00
Student worker	\$2,000.00
Total Salaries and Wages Expenses	\$10,000.00
Travel	\$1,000.00
Supplies and Materials	\$500.00
Postage	\$200.00
Printing and copying	\$250.00
Dues and Subscriptions	\$325.00
Office Supplies	\$200.00
Staff Training	\$1,200.00
Total Operations Expense	\$3,675.00
Total Expenses	\$17,350.00
Excess Funds	\$1,150.00