Data Collection for Program Evaluation

About the Print Version

The print version of the course includes all the substantive content from each screen, except for the directions for the interactive graphics. It does not include the Check Your Understanding exercises or any of the assessments. The toolkit, which is referenced throughout the course, is available online.

Overview

Program Evaluation

Your local health department recently started a new immunization program. The state health director wants to know how successful the program is. So, how do you discover how well the program is working? How useful is it to those it serves? What difference is it making? How could it be improved? Evaluation can answer these and other questions about a program's performance, quality, and effectiveness.

Program evaluation is a systematic way of collecting information about the characteristics, activities, products, and outcomes of a program. It differs from day-to-day program monitoring in that it involves explicit, formal procedures to inform decisions about the program.

What do we consider a program?

Program: (noun) *a set of activities to achieve a specific result*.

In public health, some programs provide direct services (immunization programs) while others ensure a safe, healthy environment (water quality programs). Still other programs try to influence the knowledge, attitudes, or behaviors of populations (tobacco control programs).

CDC Evaluation Framework

Recognizing the importance of program evaluation, the Centers for Disease Control and Prevention (CDC) developed a general evaluation framework that organizes the essential elements of program evaluation.

Many public health programs have successfully used the CDC framework to guide evaluation efforts. It provides a systematic, six-step approach to program evaluation.

Each step is described in detail in our *Program Evaluation in Public Health* module. This course, Data Collection for Program Evaluation, focuses on step 4—**gather credible evidence**.

The course follows Anita Weber, Coordinator of the Emergency Preparedness Division, at the DeBoma County Health Department as she completes step 4 in her program evaluation. She has two staff, Terry and Sharon, who help carry out the activities of her division. In addition,
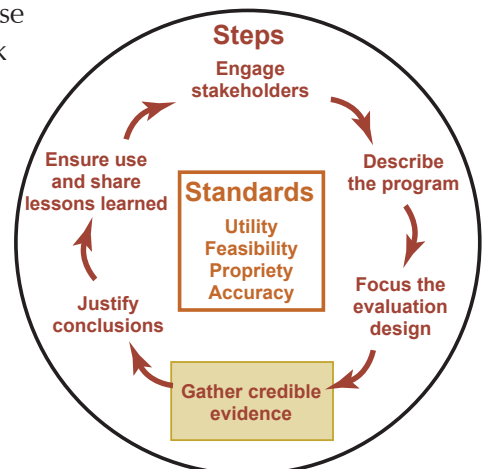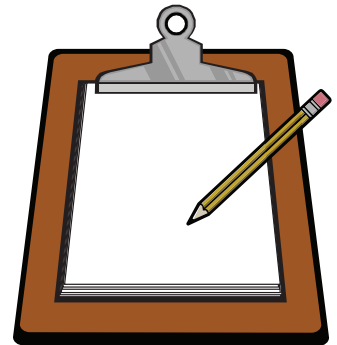
she works closely with Rick Garcia, the Public Information Officer/Health Educator at the DeBoma County Department of Emergency Management.

CDC Framework: Steps 1–3

Before we talk about step 4, let's briefly review steps 1 through 3.

Step 1: Engage Stakeholders People supporting and carrying out the program, decision-makers, and the people the program serves all have a stake in the program, and thus an interest in the evaluation results. Interacting with stakeholders before and during an evaluation helps create trust, sustains interest, and ensures the evaluation meets their unique information needs.

Step 2: Describe the Program Describing the program provides a roadmap for designing an evaluation. Important elements include the context or setting in which the program takes place, the program's objectives, and the population it serves.

A useful way to describe a program is through a logic model. This usually takes the form of a diagram or flowchart that summarizes the program's resources *(funding, materials, personnel, etc.),* activities *(what you do),* outputs *(what is produced such as the number of services provided),* and outcomes *(the changes or impact the program hopes to achieve).*

The ***Program Evaluation in Public Health*** and ***Logic Models and Outcome Measurement*** modules contain information about developing logic models.

Step 3: Focus the Evaluation Design Evaluating every aspect of a program is not necessary or realistic, nor is it the best use of evaluation resources. Focus the evaluation by deciding what elements of the program will be evaluated and the important **evaluation questions** to be answered. The evaluation may include a combination of **process** questions about how the program is operating, and **outcome** questions about what the program is achieving. Each question will be accompanied by **indicators** (or measures) that provide the basis for gathering data. Indicators specify the evidence that will be used to answer each question.

Gather Credible Evidence

Evaluation always involves gathering data. The data you collect and how you collect it will be driven by the evaluation questions and indicators you developed in step 3 as well as the resources available.

Begin step 4, gathering credible evidence, by identifying appropriate data sources. Then decide which data collection methods to use to gather your data.

In this course we will review five data collection methods commonly used in program evaluation:

- Document review
- Observation
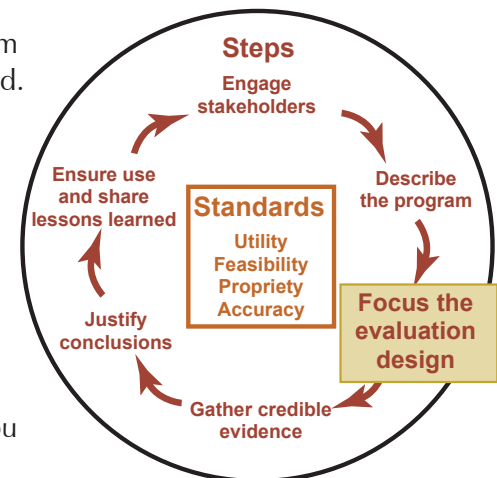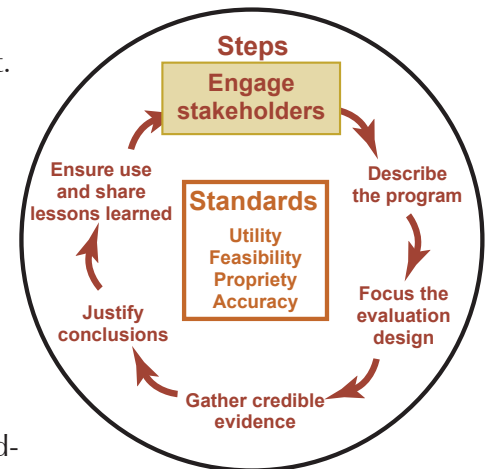
The toolkit provides additional information and resources on each of these topics.

- Survey
- Interview
- Focus group

Case Study

As part of a budget review, the health director for DeBoma County has requested information about the accomplishments of one of the programs that Anita Weber manages as Coordinator of the Emergency Preparedness Division. The Personal Preparedness Program, developed and implemented by Anita and her team members Rick, Sharon, and Terry, is beginning its third year of operation. Although Anita monitors the program by supervising her staff and record keeping, a thorough evaluation of the program has not been done.

Anita understands that the evaluation will give her an opportunity to learn how well the program is performing and believes that information can help strengthen the program. Although she does not have a lot of experience with evaluation, she knows she can find the information she needs and that evaluation assistance is available in the department. Before Anita can get started, she needs to develop a plan.

First, let's learn a little more about the Personal Preparedness Program.

Program Description

The Personal Preparedness Program, active throughout the county, has three primary goals:

1. Provide a personal preparedness **media campaign** including displays at community health fairs and public events.
2. Recruit and support individuals to serve as **volunteer preparedness leaders** within their neighborhoods.
3. Engage public health nurses in implementing a **Brief Preparedness Assessment and Intervention** (BPAI) in conjunction with flu shot clinics and adult screening clinics.

The BPAI began as a pilot program with public health nurses in the county's two public health clinics. If the program proves practical, Anita plans to make the BPAI available to other healthcare providers in the county.

The program will expand this year to include a fourth goal:

4. Offer six, one and a half hour **personal preparedness classes** for adults in conjunction with the local school district and Parent Teacher Student Associations (PTSAs).

Develop the Plan

The following table is a useful tool Anita can use to develop an overall plan for the evaluation. The table contains the basic elements—evaluation questions, indicators, and data sources/methods.

An evaluation usually involves a team, so the plan should also specify the person responsible for each component of the evaluation and the timeline for completion.

A Word template of this worksheet is available to assist in developing your own evaluation plan.

Evaluation Question	Indicators	Data Sources [Method]	Person Responsible	Timeline

Decide on the Methods

Different methods may be used to collect different types of data. Most program evaluations include gathering **quantitative data** and **qualitative data**. How do you decide what data collection methods to use? Considerations include:

- Type of data that will best answer the evaluation questions
- Where the data can most easily be found
- Time and resources the method will require
- Amount of preparation or training staff will need in order to gather the data

Evaluations that use more than one method are generally more effective since they gather data from different sources and thus provide stronger evidence. That said, a general rule of thumb is

> *Use the simplest methods possible that will provide the data you need to reliably answer the evaluation questions.*

Quantitative Data: Things that can be counted or expressed numerically. **Qualitative Data:** Narrative or descriptive information.

Evaluation Plan: Example

In step 2, describe the program, Anita developed a logic model that included the resources, activities, outputs, and outcomes for all four program goals. What step came next?

A.   Decide on the methods

B.   Report the results

C.   Focus the evaluation design

The answer is C, focus the evaluation design. In this step (step 3), Anita worked with Rick and other stakeholders to review the logic model. From the logic model they decided what aspects of the program to evaluate and developed the evaluation questions and indicators.

In step 4, gather credible evidence, she completed the evaluation plan by identifying the data sources and methods as well as the person responsible and timeline for each method.

Personal Preparedness Program Evaluation Plan:

Evaluation Question	Indicators	Data Sources [Method]	Person Responsible	Timeline
1. What is the program's reach?	• No. and type of materials disseminated • No. of households exposed to program messages	Program records **[document review]**	Terry	Sep
2. How practical is the Brief Preparedness Assessment & Intervention (BPAI) to implement?	• Time required to implement the BPAI • Nurses' satisfaction/perceptions of implementation	Clinic visits **[observation]** Public health nurses **[focus group]**	Anita Anita	Oct–Nov Nov
3. What has been the effect in neighborhoods targeted by the program?	• Households taking steps to store and maintain emergency supplies/ equipment • Neighborhood maps/emergency plans in place	Personal preparedness class participants **[surveys]** Volunteer neighborhood leaders **[interviews]**	Rick Sharon	Sep–Oct Oct–Jan

Data Collection Instruments

Now that Anita has identified her data sources and methods, she should develop the forms, or instruments, needed to collect data, such as observation checklists, survey questionnaires, and interview protocols.

Anita may not need to create these instruments from scratch. She can use instruments already developed and tested by others. If necessary, she can modify them to better suit her evaluation needs. In addition to saving time, using instruments that have already been tested may improve the quality of the data collected.

If the data you plan to collect include sensitive or personal information, safeguards must be in place to protect people's privacy and confidentiality, and to ensure security of the data. Collecting information about individuals may require you to check with a local Institutional Review Board (IRB) to ensure that laws and regulations related to "human subjects" are correctly addressed.

Most evaluations, when done for program improvement and used internally, do not require IRB review. However, the line between research and evaluation can be a very fine one. The toolkit has more information and a decision tree developed by the Washington State Department of Health to illustrate the difference between research and non-research. If you have any concern that your evaluation might need IRB approval, it is best to contact someone at your local IRB to discuss your evaluation plans.

Summary

Anita and her team now have a solid plan for how they will go about collecting

the data needed to evaluate their program including the evaluation questions, indicators, data sources/methods, person responsible, and timeline. Now we will look at the individual data collection methods they will use.

Documents and Observation

Document Review

In the Overview we said a general rule of thumb is to use the simplest methods possible that will provide the data you need to reliably answer the evaluation questions. One simple method is to make use of data that are already available by reviewing existing documents. This method can be time consuming, and data you have access to may not be complete, but it is a useful way to understand the history and get an overview of a program.

Examples:

- Workplans
- Activity logs
- Meeting minutes
- Attendance sheets
- Quarterly or annual reports
- Medical records or forms
- Newsletters
- News media
- Program publications
- Existing database records
- Surveillance data reports

Document Review Example

Anita's evaluation plan calls for Terry to conduct a document review to assess the program's reach, indicated by the number and type of materials disseminated and the number of households exposed to personal preparedness messages.

Evaluation Question	Indicators	Data Sources [Method]	Person Responsible	Timeline
1. What is the program's reach?	• No. and type of materials disseminated • No. of households exposed to program messages	Program records **[document review]**	Terry	Sep

A number of documents can provide quantitative data to help answer this evaluation question:

- Staff activity logs (presentations/number of attendees, health fairs and community events attended, number of brochures and *Family Emergency Preparedness Plan* booklets distributed)
- Program Web site data—number of "hits"
- Newspaper articles about the program/circulation numbers
- Radio/TV Public Service Announcement (PSA) broadcast records

- Volunteer leader activity logs/neighborhood maps
- Attendee sign-in sheets from the six personal preparedness classes

Literature Review

In addition, a literature review and search of related Web sites can provide information about similar programs that may be useful to your evaluation. Take advantage of the experience of others to help you design, carry out, and interpret the results of an evaluation.

Observation

Observation gathers information about a program as the program's activities occur—examples include observing services being provided, training sessions, meetings, and special events. Observation done in an unobtrusive manner can provide important information about what really takes place. However, simply having an observer present can influence what is being observed, so multiple observations may be needed.

Anita's evaluation plan uses observation as one method to assess the Brief Preparedness Assessment & Intervention (BPAI).

Evaluation Question	Indicators	Data Sources [Method]	Person Responsible	Timeline
2. How practical is the Brief Preparedness Assessment & Intervention (BPAI) to implement?	• Time required to implement the BPAI	Clinic visits **[observation]**	Anita	Oct–Nov

The BPAI is an important component of the Personal Preparedness Program, and direct observation will help Anita understand how it is being implemented.

Observers

The observer may be someone who is strictly an observer, or someone who actually participates in the process and records observations afterward. Choose someone who is well-matched to the particular program being evaluated. An outside observer may provide more objectivity, but someone involved with the program has the advantage of familiarity with the program and its processes.

Anita scheduled four observation sessions—two on flu shot clinic days and two in conjunction with adult screening clinics. With the patients' permission she will observe their visits. She also will time the BPAI.

Checklists for Observers

Determine in advance what you want to learn from the observations and plan a way to document what is observed. This may be a list or a checklist with space to record notes and other observations.

To facilitate and standardize observations Anita developed the following checklist.

BPAI Observation Checklist	Patient visit 1 (✓ done)	Patient visit 2 (✓ done)	Patient visit 3 (✓ done)	Patient visit 4 (✓ done)	Patient visit 5 (✓ done)
Assessment					
Awareness	☐	☐	☐	☐	☐
Planning	☐	☐	☐	☐	☐
Actions taken	☐	☐	☐	☐	☐
Intervention (key points)					
Emergency/disasters	☐	☐	☐	☐	☐
Local/county response	☐	☐	☐	☐	☐
Personal planning	☐	☐	☐	☐	☐
Supplies/equipment	☐	☐	☐	☐	☐
Written materials provided					
Preparedness Plan booklet	☐	☐	☐	☐	☐
What to Do booklet	☐	☐	☐	☐	☐
Public Info Program card	☐	☐	☐	☐	☐
Emergency phone number card	☐	☐	☐	☐	☐
Patient interest level					
High	☐	☐	☐	☐	☐
Medium	☐	☐	☐	☐	☐
Low	☐	☐	☐	☐	☐
Total time	_____	_____	_____	_____	_____
Notes					

Anita plans to gather additional information about the BPAI directly from the nurses. We will talk about that in the section about focus groups.

Summary

Document review imposes minimal burden on others and involves relatively little cost, but it can be time-consuming and the data gathered may be incomplete. Document review is generally used in conjunction with other data collection methods in evaluating a program.

Method: Document Review	
Use when: program documents or literature are available and can provide insights into the program or the evaluation	
Advantages	**Disadvantages**
• data already exist	• time consuming
• does not interrupt the program	• data limited to what exists and is available
• little or no burden on others	• data may be incomplete
• can provide historical or comparison data	• requires clearly defining the data you are seeking
• introduces little bias	

Observation can provide important information about what really occurs in a program. However, having an observer present can influence what takes place, so multiple observations may be needed.

Method: Observation	
Use when: you want to learn how the program actually operates—its processes and activities	
Advantages	**Disadvantages**
• allows you to learn about the program as it is occurring	• time consuming
• can reveal unanticipated information of value	• having an observer can alter events
• flexible in the course of collecting data	• difficult to observe multiple processes simultaneously
	• can be difficult to interpret observed behaviors

Surveys

Surveys

In the previous module, we talked about looking at documents and using observation to answer evaluation questions. In this module, we will discuss the use of surveys in program evaluation.

Questionnaire

Surveys allow data to be collected from a large group of people and, depending upon how the survey is administered, can allow people to remain anonymous.

Survey instruments or questionnaires ask questions in a standardized format that allows consistency and the ability to aggregate responses. Questions can focus on the collection of either qualitative or quantitative data.

What Do Surveys Tell Us?

Surveys collect data directly from participants, so they can be used to measure or describe participants':

- **Attributes**—who they are, their characteristics, their environment
- **Knowledge**—what they understand or know
- **Attitudes/beliefs**—what they accept as true, their feelings, perceptions, opinions
- **Behaviors**—what they do (now, in the past, in the future)

When Are Surveys Used?

Sometimes a survey is conducted only once. For example, a survey may be used during program design to identify the program features stakeholders believe are needed. In other instances, a survey may be repeated at different points in time to assess the program's progress and results and to identify ways it can be improved.

Often in programs such as trainings, a survey is administered at the beginning and at the end. This pre- and post-survey model helps assess whether the program accomplished its learning objectives.
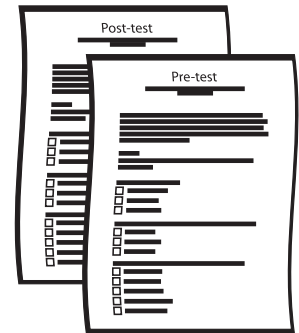
How Are Surveys Given?

In this module we will focus on self-administered questionnaires. These may be administered as a:

- Paper questionnaire (mailed or handed out)
- Web-based questionnaire

Surveys also can be administered by a second party.

- In-person
- By telephone

There are some factors to consider when deciding how to administer a survey.

Survey Type	Time Consuming	No Anonymity	Limited Access to People	Costly for Large Sample Size	Low Response Rates	Follow Up Necessary
In-person	X	X	X	X		
Telephone	X	X	X	X		
Web			X		X	X
Mailed				X	X	X

Be aware that complex questionnaires (e.g., ones that instruct you to skip some questions) or ones targeted to respondents with limited reading skills may require the survey to be administered in-person or by phone.

Anita's evaluation plan calls for a survey of participants in the personal preparedness classes that will be held in the fall.

Evaluation Question	Indicators	Data Sources [Method]	Person Responsible	Timeline
3. What has been the effect in neighborhoods targeted by the program?	• Households taking steps to store and maintain emergency supplies/ equipment	Personal preparedness class participants **[surveys]**	Rick	Sep–Oct

Rick Garcia will be the class instructor, and he and Anita are working together to design three questionnaires.

- **Pre-survey**—administered on paper at the beginning of the class to collect baseline data about participants.
- **Post-survey**—administered on paper at the end of the class to gather perceptions of the class and assess if the learning objectives were met.
- **Follow-up survey**—administered electronically (via the Web) two months after the class to assess its impact on personal preparedness behaviors or actions.

Key Design Elements

What should you consider when designing a survey?

Why	Be clear about the purpose of the survey
	What evaluation questions do I expect the survey to answer? Why is a survey the best method to use?
Who	Identify the best sources
	Who are the people I should survey in order to get the information I need?
How	Decide how you will go about it
	How should I administer the survey? How much will it cost in resources and time?

Then you'll be ready to determine

What	Design and test the instrument
	What are the specific questions I should ask?
How Many	Identify the best sources
	How many people will you survey and how will they be selected?

Involve others in developing questionnaires to get ideas and opinions. Expect to go through several drafts before the questions and the format are finalized. Careful attention to the construction of the questionnaire is the best safeguard to ensure that you collect useful data.

Reliability and Validity

Because Anita is spending valuable time and resources on evaluating her program, she wants to make sure that she collects credible data. Therefore, she needs to make sure her data are reliable and valid.

Reliability: (noun) the consistency of measurement or the degree to which results obtained by a survey instrument can be reproduced.

Example: if a person is asked the same question two times and they respond the same both times, the question is probably reliable.

Validity: (noun) the degree to which a survey instrument measures what it is intended to measure.

Example: if a survey question and another method such as observation produce the same results, the survey question is probably valid.

There are many survey questions and instruments available that have been developed and tested for validity and reliability that may be suitable for your program evaluation. If designing your own survey, pay close attention to what the instrument is intended to measure and whether you are confident it will do so consistently.

Planning for Analysis

It is helpful to think ahead to how you will manage survey data once it has been collected. Knowing how the data will be aggregated and analyzed can influence how questions are designed.

You will likely collate qualitative responses and review them for key points and major themes. For quantitative data, you will probably count the number of each type of response and calculate percents or averages. If more complex statistical analyses are needed, you may need to consult a statistician or data analysis expert to help you determine how you will compute your results.

Designing Surveys

Now we'll focus on how to design **self-administered questionnaires** like the ones Rick and Anita will use. Constructing a good questionnaire is a complex process, and poorly designed questions can result in misleading data.
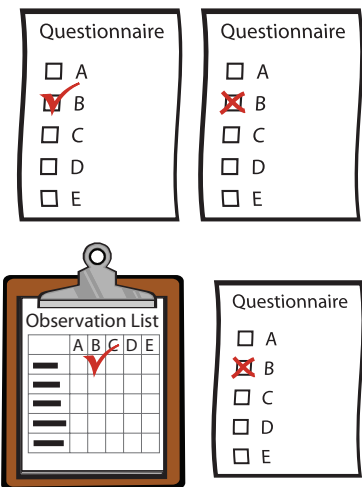
Remember to check for what others have developed that you might adopt or modify. As you develop questions, keep in mind who will be completing the questionnaire. Questions should be tailored to the group's characteristics (e.g., age, culture, language) and written at a reading level that is appropriate. Do not use unfamiliar terms or acronyms (e.g., BPAI).

Avoid wording or response options that might skew or bias responses by implying the desired response. For example, questions starting with phrases like "Don't you agree..." or "What do you see as the benefit of..." are leading questions. Another type of biased question is "The BPAI is modeled on one of the most successful programs in the country. What is your opinion of this program?"

Negatively worded questions are often confusing because responding "no" creates a double negative. The negatively worded question "Should the health department not schedule an immunization clinic the same week bad weather is expected?" would be better worded as "Should the health department schedule an immunization clinic the same week bad weather is expected?"

Now let's look at some specific types of questions that Anita and Rick might include. We will focus on two main categories:

- **Closed-ended questions**
- **Open-ended questions**

Closed-ended Questions

Closed-ended is a broad category of questions that provide a set of possible responses from which to choose. This type of question allows for uniform data that can be analyzed *quantitatively*—that is, data that can be aggregated and converted to numbers and percentages. Three major types of closed-ended questions that we will review are

Response option	No.	%
Fire Department	12	25%
Human Services Department	4	8%
Total	48	
No response	2	

- Ordered response (including rating scales)
- Unordered response
- Partially closed-ended

A question should ask just that—**one question**. For example, you should not ask, "Did the class help you understand the importance of personal preparedness and the steps you can take to prepare for an emergency?" "**Understand the importance**" and "**understand the steps you can take**" are separate concepts so should be asked as separate questions.

Ordered Responses

Ordered response questions provide a set of possible responses from which to choose. The response options follow a sequence or order.

Two simple examples of ordered response questions are

- **Yes or No**
- **True or False**

Closed-ended questions: questions that provide a predetermined set of options from which people can choose.

Open-ended questions: questions that ask people to write answers in their own words rather than choose from a predetermined set of options.

The toolkit in this module includes templates for the types of questions we will discuss.

Ordered response questions sometimes offer response options that answer, "how much," "how often," or "how many."

Each response option in the sequence should be separate and distinct from the others, without overlap. Otherwise, the respondent could have difficulty determining which option represents their answer.

An example of a poorly designed question in which the response options overlap is

How much, how often, and how many.

What is your age?

☐ Under 20

☐ 20–30

☐ 30–40

☐ 40–50

☐ 50 or older

If you were 30 years old, would you select the second or the third response option? A better way is to design the response options so they do not overlap.

What is your age?

☐ Under 20

☐ 20–29

☐ 30–39

☐ 40–49

☐ 50 or older

Ordered Response Example

The following are two examples of ordered response questions that Anita and Rick might include in the pre-class questionnaire to gather data about participants' households and current practices.

Questions can be formatted vertically as shown in the first example below. This question assesses **attributes**. If there are similar items with the same response options, they can be grouped together.

How many people currently live in your household?

☐ 1

☐ 2

☐ 3-4

☐ 5-6

☐ More than 6

In the following example, although the response options represent an approximation, none of the options overlap. This question assesses behaviors.

"Yes or No" responses are considered ordered responses because they are usually coded as No=1 and Yes=2 (and therefore have an order).

"True or False" responses are considered ordered responses because they are usually coded as False=1 and True=2 (and therefore have an order).

Attributes: who people are, their characteristics, and their environment.

Choose the answer that **best** represents how often you check the following equipment and emergency supplies in your home. *(Put an X in the appropriate box.)*

	Not appli-cable—do not have	Every 3 months	Every 6 months	Every 9 months	Once a year	Less than once a year
Smoke alarm	☐	☐	☐	☐	☐	☐
Fire extinguisher	☐	☐	☐	☐	☐	☐
Flashlight	☐	☐	☐	☐	☐	☐
Emergency radio	☐	☐	☐	☐	☐	☐
First aid kit	☐	☐	☐	☐	☐	☐
Emergency food supply	☐	☐	☐	☐	☐	☐
Emergency water supply	☐	☐	☐	☐	☐	☐

To accommodate people who may not have all the items listed, Anita and Rick included a *"not applicable / do not have"* response option.

Rating Scales

Another type of ordered response question asks people to answer using a specific rating scale. Rating scale questions can take many forms.

A common example of a rating scale asks people the extent to which they agree or disagree with a statement.

☐ Strongly agree

☐ Agree

☐ Disagree

☐ Strongly disagree

Another response example scale asks people to rate the quality of something.

☐ Excellent

☐ Very Good

☐ Good

☐ Fair

☐ Poor

When using a rating scale, make sure the stem of the question matches the format of the response options. For example, if you ask, "To what extent do you **agree** with X?" the responses (known as the response scale) should focus on levels of agreement (e.g., strongly agree, agree, disagree, strongly disagree). If the question asks about their level of **interest**, the options might be "very interested," "interested," "somewhat interested," and "not at all interested."

Unipolar and Bipolar Rating Scales

It is important that the rating scale you construct be balanced with an equal number and intensity of response options on either side of the middle. An unbalanced scale will skew the results.

There are generally two ways to balance a rating scale. One is to use a sequence or continuum of extremes (unipolar scale). The other uses opposite concepts that span a neutral point (bipolar scale). Here are examples to clarify this distinction.

Unipolar Scale (continuum)	Bipolar Scale (opposite concepts)
Always	Very satisfied
Often	Somewhat satisfied
Sometimes	Neither satisfied or dissatisfied
Rarely	Somewhat dissatisfied
Never	Very dissatisfied

Mid-point → (points to "Sometimes" row)

Neutral ← (points to "Neither satisfied or dissatisfied" row)

You may have an even or odd number of responses. In a scale containing an even number of options the mid-point or neutral position is implied. Here are two frequently used examples:

4-point Unipolar scale: Very good, Good, Fair, Poor

4-point Bipolar scale: Strongly agree, Agree, Disagree, Strongly disagree

In deciding whether to include a **neutral** response in a bipolar scale as illustrated in the table above (Neither satisfied nor dissatisfied), consider the nature of the question and what you want to learn from the results.

No neutral option—forces the person to take a stand and choose a non-neutral response.

Neutral option included—allows people who are truly neutral to respond accurately. (Note: if not given a neutral option these people may skip the question or be forced to exaggerate their opinion.)

The following three examples are rating scale questions that Anita and Rick might use in their post-survey. These questions assess people's attitudes.

How satisfied were you overall with the personal preparedness class?

☐ Very satisfied

☐ Somewhat satisfied

☐ Neither satisfied nor dissatisfied

☐ Somewhat dissatisfied

☐ Very dissatisfied

To what extent do you agree with each of the following statements about the class? *(Put an X in the appropriate box.)*

	Strongly Agree	Agree	Disagree	Strongly Disagree
The instructor was knowledgeable	☐	☐	☐	☐
The training materials were useful	☐	☐	☐	☐
The right amount of information was provided	☐	☐	☐	☐

How interested would you be in serving as a volunteer leader in your neighborhood?

☐ Very interested

☐ Interested

☐ Somewhat interested

☐ Not interested

☐ Unsure

Because they expected that some respondents might be uncertain, Anita and Rick included an "unsure" option.

Numeric Rating Scales

Rating scales also can be constructed using a number scale. Usually a scale with 5–7 options is used (although experts debate about how many response options to include). Attach labels at key points on the scale to define what they represent.

For example, a question which asks a person what priority they would give a series of items using a five-point scale looks like this:

	Low 1	2	Medium 3	4	High 5
Having a preparedness kit in the car	☐	☐	☐	☐	☐
Practicing drills with the family every 6 months	☐	☐	☐	☐	☐
Store a three-day supply of non-perishable food	☐	☐	☐	☐	☐

Designing Surveys: Unordered Responses

Like ordered response questions, unordered response questions offer more than one response option, but the options do not follow a sequence or order.

Each response option should contain only one element. For example, if you ask the respondent to check the steps they have taken to prepare their household for an emergency, you might construct a response option, *"Posted emergency numbers by the phone and taught my children how to use 911."* Data from this response would be difficult to interpret since one, but not both, of these actions may have occurred. Therefore, *"posted emergency numbers"* and *"taught children to use 911"* should be listed as separate responses for the question.

Here is an example of an unordered response question that Anita and Rick might use. This question assesses knowledge.

> Which of the following agencies has primary responsibility for personal preparedness education in DeBoma County?
>
> ☐ Fire Department
>
> ☐ Sheriff's Department
>
> ☐ Public Health Department
>
> ☐ Department of Emergency Management
>
> ☐ Human Services Department

The following unordered response question allows more than one response. Be sure to instruct participants to check all options that apply to them. Notice that the response options contain only one element each. This question assesses behaviors.

> Which of the following items do you currently have in your household emergency supplies? *(Check all that apply.)*
>
> ☐ Water
>
> ☐ Ready-to-eat foods
>
> ☐ First-aid kit
>
> ☐ Emergency radio
>
> ☐ Flashlight
>
> ☐ Extra batteries
>
> ☐ Fire extinguisher
>
> ☐ No household emergency supplies

Partially Closed-ended Responses

A partially closed-ended question is formatted the same as the questions we just discussed, but adds an open-ended option. This allows the person to choose one of the response options you offer, or to write in a different response via "Other (specify) _____."

This question format is useful when you don't know what all of the possible responses are, or when there are a large number of possible responses and it is practical to list only those you think will be most common.

The following are two examples of partially closed-ended questions that Anita and Rick might use. These questions assess people's attributes.

Where did you first hear about the personal preparedness class?
(Check only one.)

☐ PTSA meeting

☐ TV

☐ Radio

☐ Newspaper

☐ Program poster

☐ Web site

☐ Family or friend

☐ Other *(please specify)* ——————————————————

Where do you have smoke alarms located in your house?
(Check all that apply.)

☐ No smoke alarms

☐ Bedroom

☐ Living room

☐ Dining room

☐ Kitchen

☐ Garage

☐ Basement

☐ Other *(please specify)* ——————————————————

Matching Responses

Another type of closed-ended question is a matching question. This type of question displays paired lists and the respondent is asked to correctly identify or match the items. A matching question is useful in testing knowledge. Here is a sample matching question that Anita and Rick might use.

Match each of the following types of fires with the appropriate class of fire extinguisher you would use to put out the fire.

1. ——— Electrical fire   a. Class A

2. ——— Ordinary combustibles (wood, paper, etc.)   b. Class B

3. ——— Flammable or combustible liquids (gasoline,   c. Class C
         kerosene, grease, etc.)

Open-ended Questions

What if there is no clear set of response options, or important information might be missed by limiting the answer choices? Open-ended questions stimulate free thought by asking people to write their answer **in their own words** rather than choosing from a predetermined set of response options.

Open-ended questions in self-administered questionnaires should require only brief responses. If a more in-depth response is needed or if there are many open-ended questions, a self-administered questionnaire may not be the best method to use. We will talk about this later in the section on interviews.
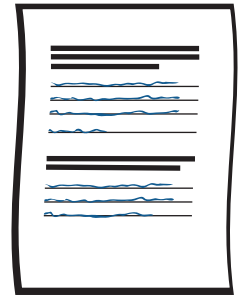
Formatting Surveys

How long should Anita and Rick's questionnaires be? Because the class is only 90 minutes, they don't want the questionnaires to take up too much time.

How much time a questionnaire will require to complete is an important consideration. Decide how many questions to include based on the context in which the survey is being administered. Balance your need for data with the burden you can reasonably place on the people responding.

A general rule is to limit questions to those that you **need to know** in order to answer your evaluation questions and avoid questions that would merely be **nice to know**. Limiting the number of open-ended questions also will speed up completion. The more quickly and easily a questionnaire can be completed the more likely that people will respond and complete the entire questionnaire.

Design Tips

A well organized, user friendly, and visually appealing questionnaire will influence people's willingness to participate.

The following is the final pre-class questionnaire that Anita and Rick designed. Click the exclamation points to reveal additional elements of design and formatting that help make a good questionnaire.

Personal Preparedness Class

Jackson Elementary School   September 19, 2009
Pre-course questionnaire

Thank you for completing the following questionnaire.
Your responses will provide the class designers and instructors with feed-
back regarding the class so they may continue to improve the program.
Your participation in this survey is completely voluntary,
and all responses are confidential.

Directions
Please **mark only one** answer for each question unless otherwise
requested. Please turn in the questionnaire before the class begins.

Tell us about you:
1. What is your home zip code? _____

2. How many people currently live in your household?
    ☐ 1
    ☐ 2
    ☐ 3–4
    ☐ 5–6
    ☐ More than 6

3. How many children under age 18 currently live in your
    household? ____

4. Where did you **first** hear about the Personal Preparedness Class?
    ☐ PTSA meeting
    ☐ TV or radio
    ☐ Newspaper
    ☐ Program poster
    ☐ Web site
    ☐ Family or friend
    ☐ Other (please specify) _____

5. Which of the following items do you currently have in your
    household emergency supplies? *(Check all that apply)*
    ☐ No household   ☐ Emergency radio
       emergency supplies   ☐ Flashlight
    ☐ Water   ☐ Extra batteries
    ☐ Ready-to-eat foods   ☐ Fire extinguisher
    ☐ First-aid kit

Questionnaire content

Questionnaire format

Clear statement of the purpose, how the data will be used, and the extent to which data will be confidential.

Clear instructions (how to complete the questionnaire, what to do when finished).

Questions listed in logical order, begin-ning with the least sensitive and grouping questions on the same topic together.

Visually appealing with plenty of white space.

Questions presented in a consistent way.

An attractive, readable font size (e.g., Times New Roman 12, Arial 11).

All parts of a question appear on the same page.

Pilot Testing

Now that Anita and Rick have developed their questionnaire, they need to test how well it will work.

Conducting a pilot test is an important part of finalizing a questionnaire. To do this, administer the questionnaire to a small number of people who are similar to, or part of, the group you intend to survey and get their feedback. Pilot testing provides valuable information about:

- How long it takes to complete the questionnaire
- Whether the instructions and the questions are clear
- Whether questions are well suited (e.g., appropriate terminology and reading level) to the group being surveyed
- How easy it will be to implement

Data from the pilot test should not be included in the final survey data unless the pilot testers are part of the sample group and no significant alterations (such as rewording a question or adding new response options) are made to the questionnaire after pilot testing.

Sampling

In Anita and Rick's class, every participant will be asked to complete the questionnaires. However, in other situations, how do you know how many people to include in a survey?

The number of people you survey, the sample size, depends on the level of detail you are interested in, as well as the level at which you want to be able to draw conclusions. For instance, if your program affects the entire county you may have a very large sample size, although proportionally it is a small percent of the total county population. In the case of programs that affect a limited number of people (like Anita and Rick's class), you may survey 100% of those affected.

You need a certain minimum amount of data when the goal is to detect changes produced by a program. In general, detecting small degrees of change requires larger sample sizes. Consult a sampling expert if you intend to statistically measure the significance of change in the population.

The following are three common ways of selecting a sample:

Simple Random Sample: Each member of a population has an equal chance of being chosen.

Systematic Sample: Names are chosen from a list by starting from some randomly selected point and selecting names at a standard interval. In this example, they are selected by choosing every 3rd name.

Stratified Sample: The population of interest is divided into subgroups based on characteristics (e.g., gender, age, geography, participant, eligible but not participating) and randomly selected from each strata. This method is used when you have specific subgroups that you want to balance, or when you want to compare data from different subgroups.
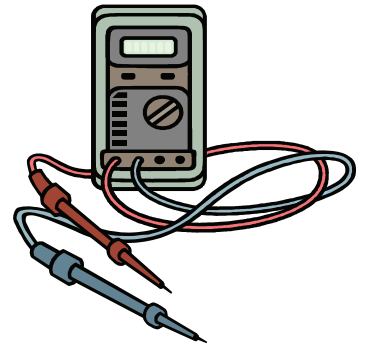
References in the toolkit provide more information about sampling, including links to sampling tables that can help you select an appropriate sample size for different population sizes.

Response Rates

The response rate is the percent of people that complete and return the questionnaire. In the case of a questionnaire, it is calculated by dividing the number of returned questionnaires by the total number distributed. For example, if 100 questionnaires were distributed and 71 were returned, that would be a 71% response rate.

$$\frac{71}{100} \times 100\% = 71\%$$

Strive for the highest response rate possible. In some cases 80% or more can be expected, while in others 65% may be adequate. Discuss the acceptable rate with stakeholders in advance based on the nature of the sample, past experience, the method of administering the questionnaire, and other relevant factors. In general, a response rate of less than 60% should be of concern.

You may use one or more follow-up reminders or resend the questionnaire in order to increase the response rate. Most commercial, Web-based surveys (e.g., SurveyMonkey) have an email reminder feature built in. If you expect a poor response rate, it may be necessary to increase the sample size or to offer an incentive for completing the questionnaire.

By handing out the pre- and post-questionnaires during the class, Anita and Rick expect at least a 90% response rate.

Analyzing Survey Data

Anita and Rick administered the pre- and post-questionnaires during the class sessions and the follow-up questionnaire is ready to be sent out electronically in a few weeks. In the meantime, they will begin to analyze the data collected from the first two questionnaires.

The analyses they will do require only a few basic skills and a computer spreadsheet program. Let's take a look at how they will organize the data and do these basic calculations.

Quantitative Data

The most frequently used calculations for analyzing quantitative data from program evaluations are averages, weighted averages, percentages, and frequency distributions. In most instances these are adequate to understand the results.

A simple spreadsheet program like Microsoft Excel is a useful tool in analyzing quantitative data. A spreadsheet can be used to tally responses and simple formulas can be inserted to calculate averages and percents. Although statistical software packages including SAS, STATA, and SPSS allow high level statistical analyses, special expertise is needed to use these programs.

Averages

An average, or mean, is a value often used to describe the central tendency of a data set. For example, if a survey asks the respondent's age, the data can be used to calculate the average age of all respondents.
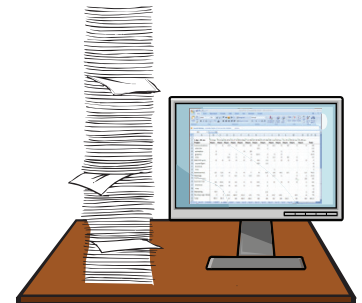
$$\frac{\text{sum of all responses}}{\text{total number of responses}} = \text{average}$$

Weighted averages can be useful in analyzing rating scale questions when you want to compare the ratings given a set of items. This calculation involves assigning a value to each response option in the scale and calculating an overall numeric value or average score for each item in the set.

Example: One of the questions on the post questionnaire for the personal preparedness classes asked respondents to rate the importance of conducting a family drill every six months. The following table shows of the 50 respondents, how many chose each option in the rating scale for this item.

	Low 1	2	Medium 3	4	High 5	Weighted Average
Store at least a three-day supply of nonperishable food	0	1	7	18	24	4.3
Conduct family drill every six months	4	8	9	15	14	

To calculate a weighted average for "Conduct a family drill every six months" (click each step to see how it is done):

Response option	Value		Number responses		Weighted number responses	
1 (low)	1	x	4	=	4	**1** Multiply the option's assigned value (weight) by the number of times the option was selected.
2	2	x	8	=	16	
3 (medium)	3	x	9	=	27	
4	4	x	15	=	60	
5 (high)	5	x	14	=	70	
Total			50		177	**2** Add the total (value multiplied by the number of responses) for all options.

3 Divide that total by the total number of responses.

$$\frac{177}{50} \text{ respondants} = \textbf{3.5 weighted average score}$$

for conducting a family drill every six months.

This weighted average score can then be compared to the weighted averages of the other items listed to determine their relative importance to respondents.

Percents

Percents, which are easy to calculate, are useful because they allow you to show relationships and make comparisons. Frequency distributions use percents to show what proportion of respondents chose each response option for a question.

   Example:

>   Which of the following agencies has primary responsibility for
>   personal preparedness education in DeBoma County?
>
>   ☐   Fire Department
>
>   ☐   Sheriff's Department
>
>   ☐   Public Health Department
>
>   ☐   Department of Emergency Management
>
>   ☐   Human Services Department

   The following table shows the **frequency distribution** of responses to this question. You will see that of the 50 people in the personal preparedness class, 2 people did not respond to this question. Therefore, percents for the response options were calculated using 48 (total number of responses) as the denominator. For example:

$$\frac{12}{48} \times 100\% = 25\%$$ of respondents chose "fire department" as their response.

Frequency distributions: a tabulation of the possible values for a variable (e.g., levels of satisfaction) and the number or range of observations that fall into each of the possible value categories.

Response option	No.	%
Fire Department	12	25%
Sheriff's Department	12	25%
Public Health Department	11	23%
Department of Emergency Management	9	19%
Human Services Department	4	8%
Total	48	
No repsonse	2	

} frequency distributions

Here is another example of a frequency distribution.

	Strongly Agree	Agree	Disagree	Strongly Disagree
The instructor was knowledgeable	54%	44%	2%	0%
The training materials were useful	38%	50%	10%	2%
The amount of information provided was appropriate	32%	60%	8%	0%

Qualitative Data

Responses from partially closed-end *(Other, please specify)* or open-ended questions can be typed and analyzed for patterns, themes, and key points. Analysis of qualitative data will be discussed more in the course sections related to interviews and focus groups.

Refer to the toolkit for additional resources about analyzing qualitative data.

Summary

Surveys are an effective way to quickly collect data directly from groups of people. They can be administered by paper, Web, or a second party either in-person or by phone.

Method: Survey

Use when:
you want information directly from a defined group of people to get a general idea of a situation, to generalize about a population, or to get a total count of a particular characteristic

Advantages

- many standardized instruments available

- can be anonymous

- allows a large sample

- standardized responses easy to analyze

- able to obtain a large amount of data quickly

- relatively low cost

- convenient for respondents

Disadvantages

- sample may not be representative

- may have low return rate

- wording can bias responses

- closed-ended or brief responses may not provide the "whole story"

- not suited for all people—e.g., those with low reading level

The questions in a survey instrument can be closed- or open-ended. Each question should ask one question, and response options should be separate and distinct without overlap. Word questions carefully to avoid a biased response.

More information is provided in the tool-kit accompanying this module about designing and administering surveys.

Closed-ended	Broad category of questions providing a set of possible responses from which to choose
• Ordered response	Multiple response options that follow a sequence or order; or provide a rating scale
• Unordered response	Multiple response options that **do not** follow a sequence or order
• Partially closed-ended	Response options include space to record a response "other" than those offered
• Matching	Displays paired lists and the respondent is asked to correctly identify, or "match" the items
Open-ended	Asks for a response in the person's own words

Pilot test a questionnaire before it is administered to help ensure the best quality data. Your sample size will depend on the level of detail you want, as well as the level at which you want to be able to draw conclusions. Finally, be sure your analysis includes quantitative and qualitative data.

Interviews

Interviews

So far we've covered reviewing documents, observing particular aspects of programs, and conducting surveys as methods for gathering data for your program evaluation. In this module, we will cover interviews, including who to interview, types of questions to ask, and analysis of the data.

Conducting interviews is a method that, like open-ended questions in a questionnaire, allows you to obtain an individual's response in their own words. Interviews differ from questionnaires in that they elicit more detailed **qualitative** data and allow you to interact with the person to better understand their response. Interviews may be conducted in-person or over the phone.

When Are Interviews Used?

Interviewing is useful when you want more in-depth information about a person's attributes, knowledge, attitudes/beliefs, or behaviors. An interview allows you to probe for additional details or to ask for clarification. The interviewer also has the flexibility to explore interesting or unexpected themes or ideas that may come up in the course of the interview.

Interviewing is an excellent method for capturing the "story" of the program—understanding how people perceive a program and how it has affected them. Additionally, interviews allow you to gather suggestions to guide new programs or program improvements. During an interview, you can explore what people
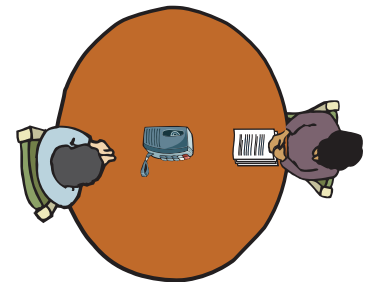
view as the strengths of a program, as well as any problems or challenges, why they may be occurring, and how they could be resolved.

What Are the Challenges?

Interviewing has some drawbacks. It can be time-consuming and requires a certain level of skill and experience. There is a risk that an unskilled interviewer may influence the informant's responses, thus generating unreliable data. Finally, analyzing and summarizing large amounts of qualitative data can be challenging. The evaluator must extract the key points and themes: "Given all these words, what did we learn?"

Planning Stages

Interviews will be conducted as part of the Personal Preparedness Program evaluation. Sharon will interview a sample of volunteer preparedness leaders to gather information about the program's effect in their neighborhoods.

Evaluation Question	Indicators	Data Sources [Method]	Person Responsible	Timeline
3. What has been the effect in neighborhoods targeted by the program?	• Neighborhood maps/emergency plans in place	Volunteer neighborhood leaders [interviews]	Sharon	Oct–Jan

   The interviews will be scheduled in advance and conducted by telephone. Data from the interviews will be handled confidentially; that is, the responses will be aggregated for analysis and no individual's name or identifying information will be linked to their response.

Develop the Instruments

The interview itself may be highly structured or somewhat informal, but you need clear goals for the interview and an instrument that outlines the key topics and questions.
   When developing an interview instrument:

• Avoid wording or probes that might bias responses.
   How did you like the class?" suggests that they should like it.
   Tell me what you thought of the class." is a better question.

• Include probes to help draw out details if needed.
   Could you give me an example of _____?"

• Avoid yes/no or single word answer questions.

   Although interview questions are generally open-ended, you may include a limited number of:
• Closed-ended questions
   "Which of the following...?"

- Rating scale questions
  "On a scale of 1 to 5 with 5 being the best, how would you rate...?"

Use Probes

Anita's team developed an interview protocol outlining the questions that will be asked, along with probes, that may be used if needed.

Probes: follow up questions designed to elicit further information.

The following are some of the questions included in the volunteer leader interview protocol. Remember that the evaluation question these interviews seek to answer is, "What has been the effect in neighborhoods targeted by the program?"

- "Tell me about your neighborhood."
  Probes: location, size, residential/business, types of housing, new versus long-time residents

- "Have you created a neighborhood map? If so, what features of the neighborhood are included?"
  Probes: streets, houses, vulnerable residents, equipment/supplies, special skills, utilities

- "What, if any, plans are in place to help the neighborhood cope in the event of an emergency or disaster?"
  Probes: phone tree, neighborhood gathering center, neighborhood care center, assigned roles

  Listen to the audio clips below for an example of using probes in an interview.

Bad example:

Sharon: Of the things you've done as the neighborhood leader, what do you think has been most useful in helping people learn about personal preparedness?
Neighborhood leader: hmmmm... (long pause) ... um ...
Sharon: Ok, let's move on to the next question. What did you think about...

Good example:

Sharon: Of the things you've done as the neighborhood leader, what do you think has been most useful in helping people learn about personal preparedness?
Neighborhood leader: hmmmm... (long pause) ... um ...
Sharon: As an example, have you received any feedback about your efforts from your neighbors?
Neighborhood leader: Oh, yeah, now that you mention it. We did a neighborhood mapping project and we marked all homes that had young children in them...

Identify Interviewees

Anita has a very clear group of people to interview—the volunteer neighbor-hood leaders. In other instances, it may be less clear who would be the best informants.

Choose people who you think will be well informed and good sources of the information you need. Depending upon the range of perspectives you want, the people you interview may represent only one group or multiple groups (e.g., program participants, staff, managers, general public, other agencies, funders, public officials, and other types of interested or involved parties).

One sampling method is to start with a core group of people to interview and ask them for the names of other knowledgeable people whom you might talk to. If you have only a limited list to start with, this **snowball sampling** procedure can help you expand the sample.

Snowball sampling: recruiting evaluation participants by identifying someone who meets the criteria for participating and asking him or her to suggest the names of other people who might participate.

Number of Interviewees

Because interviewing is labor intensive, it generally involves a more limited sample than a survey. The number of interviews you conduct will depend in part on how many different types or groups of informants you are interviewing or how diverse their opinions may be. Strive to interview enough people from each group to be representative of the group as a whole and provide a range of perspectives.

For Anita's evaluation, she has selected a sample of 12 (50%) of the current 24 volunteer leaders to interview. She made sure that those selected represented different neighborhoods and locations throughout the county.

Identify Who Will Conduct the Interviews

Who has the skills and the ability to relate well to the group being interviewed? Who can remain neutral without introducing their own bias? Who has the time that will be required? Having some background or knowledge of the program is an advantage and can minimize the amount of preparation or interviewer training required. However, care must be taken that the interviewer does not introduce bias. For example, if an interviewer becomes too sympathetic to the problems and conditions of the respondent, it can affect the conduct of and results obtained from the interview. The interviewer should maintain objectivity.

For Anita's evaluation, she selected Sharon to do the interviews. Although Sharon does not have primary responsibility for the volunteer leaders, she is very familiar with the program. She also attends the orientation sessions, so has already met those she will be interviewing.

Pilot Testing

Fine tune your questions and gauge how long the interview takes by doing a pilot test with mock interviews. If there will be more than one interviewer, have them rehearse together to ensure that questions will be asked in a consistent

way. Also, review the data after the first few interviews are completed to make sure you are getting the information you need.

Sharon did a practice interview with Terry role-playing the volunteer leader. In addition, she set up a meeting with Anita and Terry after completing the first two interviews to review how they went and to examine the results to make sure she is getting useful data.

Sharon and Terry are pilot testing their interview instrument. Let's listen and see how the pilot test is going.

Sharon: What is your level of education?

Terry (playing neighborhood leader): Well, I have a few semesters of college... You know Sharon, I don't think this is a good question to start off the interview. It might make some people feel defensive. Do you have something more neutral you could start with?

Sharon: Oh, you're right! I hadn't thought of that. Let's rearrange things a bit. I could start out with...
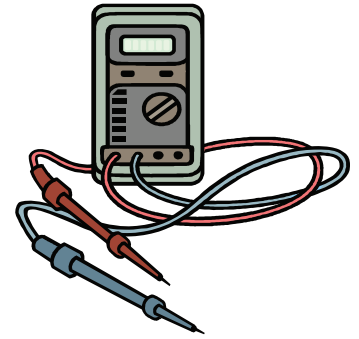
Document Responses

Document the interview by having the interviewer take notes or (with permission) record the interview for transcription or later review. You may choose to have two people, an interviewer and a separate note taker, conduct each interview. This is particularly useful for in-person interviews so that the interviewer can maintain eye contact with the person being interviewed.

Because the interviews are being done by phone, Sharon is able to take good notes during the interview. Later she will type her notes for analysis. If the interview is not recorded, the interviewer or note taker should type up notes immediately after the interview. Cleaning up notes while the conversation is still fresh allows the note taker to add clarification or missing information. A lot of the richness of the data can be lost if the note taker waits to do this.

Conducting Interviews

Sharon is ready to conduct her interviews. She has pre-tested the interview protocol and compiled contact information for the people she will interview. Here are a few tips she found on conducting interviews.

Leading Up

Leading up to the interview, you should:

- Schedule it when the person being interviewed can devote adequate time and attention. Make sure they know how long to expect the interview to last.

- For in-person interviews, identify a location that will be comfortable and convenient for the person being interviewed.

- It may be helpful to send the topics or basic questions in advance so the person has time to think about their responses.

Sharon calls everyone three days ahead of their scheduled interview to

remind them about the interview. She just left a message in a volunteer leader's voicemail box. Let's listen to the information she gives them:

Sharon: "Hi, this is Sharon from DeBoma County Health Department. I'm calling to remind you that we have an appointment tomorrow to talk about your experiences as a neighborhood leader. I'll call you at one, and we'll talk for about an hour. I sent the list of questions to you last week. If you didn't receive the document, please call me. Thank you!"

The Interview

During the interview, you should:

Explain the purpose and the terms of confidentiality.

Bad example:

Sharon: Hi Brad, I'm Sharon. It's nice to meet you. Thanks for agreeing to meet with me. Let's get started. How long have you lived in this neighborhood?

Good example:

Sharon: Hi Brad, I'm Sharon. I'm here to learn more about your experiences as a neighborhood leader. This interview will help the Health Department learn how the preparedness program is working, and how it can be improved. Your answers to these questions will be kept confidential. At any time during the interview you may choose not to answer a question. Do you have any questions before we get started?

Assume a conversational, natural manner (interviews are not an interrogation).

Bad example:

Sharon: Well, I'm very surprised by your answers. None of the other neighborhood leaders have complained about the program. Don't you think you just took on too many responsibilities?

Good example:

Sharon: I see, so it sounds like some aspects of being a neighborhood leader have been more difficult for you than you expected. What do you think the county Health Department could do to help?

Start with an "ice breaker" question that is factual or general in nature.

Bad example:

Sharon: So Janice, how well do you think you've prepared your neighborhood for an emergency?

Good example:

Sharon: Janice, how long have you lived in the Rolling Hills neighborhood?

Be patient; allow them time to think about their response.

Sharon: What has been the most challenging aspect of being a volunteer leader?

Volunteer leader: um... well... I think the most challenging aspect has been trying to get the whole neighborhood involved.

You should also **be an active listener** (that is, listen to what the person means), and **be flexible** in how you cover the topics. It is OK if they answer question 6 in the course of answering question 2.

Before you conclude, **recap** what you've heard to make sure it is accurate and allow them an opportunity to elaborate or clarify. Ask if they have any final comments or any questions for you. Also, consider whether it is appropriate to send a brief thank you note or email following the interview.

Analyzing Interview Data

After Sharon types up her notes, she is ready to analyze the data.

Analyzing qualitative data from interviews involves careful review to identify the key points and themes that will answer your evaluation questions.

There are several computer programs designed specifically for analyzing qualitative data (e.g., Atlas.ti, Nudist), but these require some formal training. The pages that follow illustrate a simple way to aggregate and analyze qualitative data from a limited number of interviews using a program like Microsoft Word.
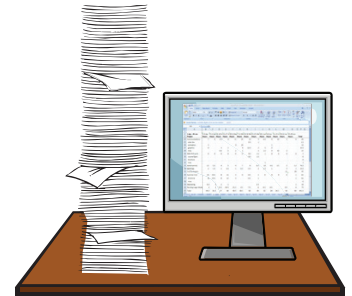
Entering Data

First, create a table that allows you to sort responses either by individual person interviewed, or individual interview question. Assign each person interviewed an identification number (ID No.) and each question in the interview protocol a question number (Q. No.). For example, the following table would be used to record the responses to a five question interview with the person with ID No. 01.

After the interview, type the individual's responses corresponding to each question into the last column. Tables from multiple interviews can then be copied and pasted together (aggregated) into a single table in one document.

ID No.	Q. No	Question (key words)	Response
01	1	Why attended	
01	2	How benefitted	
01	3	How will apply	
01	4	Satisfaction	
01	5	How to improve	

After the interview, type the individual's responses corresponding to each question into the last column. Tables from multiple interviews can then be copied and pasted together (aggregated) into a single table in one document.

Sorting Data

After multiple interviews are aggregated into one table, the "Sort" feature in the "Tables" Microsoft Word menu allows you to sort by either:

- Column 1 (ID No.) to look at all responses given by a single person interviewed, or
- Column 2 (Q. No.) to look at all responses to a single question.

ID No.	Q. No	Question (key words)	Response
10	1	Why attended	
11	1	Why attended	
12	1	Why attended	
10	2	How benefitted	
11	2	How benefitted	
12	2	How benefitted	
10	3	How will apply	
11	3	How will apply	
12	3	How will apply	
10	4	Satisfaction	
11	4	Satisfaction	
12	4	Satisfaction	
10	5	How to improve	
11	5	How to improve	
12	5	How to improve	

The "Highlight" feature in Microsoft Word is useful to flag key points or code themes from responses across all interviews. The "Find" feature in the "Edit" menu allows you to search for key words or phrases that repeat and also can be helpful in identifying themes.

Summary

Interviewing allows you to gather in-depth information about how people perceive a program and how it has affected them. During an interview you can explore how the program might be improved. However, interviewing can be time-consuming and requires a certain level of skill and experience.

Method: Interview	
Use when: you want to understand impressions and experiences in more detail and be able to expand or clarify responses	
Advantages	**Disadvantages**
• often better response rate than surveys	• time consuming
• allows flexibility in questions/probes	• requires skilled interviewer
• allows more in-depth information to be gathered	• less anonymity for respondent
	• qualitative data more difficult to analyze

Focus Groups

Focus Groups

Conducting a focus group is the last method for collecting data that we will cover in this course. So far, you have learned about reviewing documents (such as annual reports and activity logs), observing particular programs, giving self-administered questionnaires, and interviewing people involved in your program. Now we will talk about **focus groups**.

Like an interview, a focus group allows you to collect qualitative data. However, unlike interviews, in which data are collected by one-on-one interactions, focus groups provide data about a particular topic through small group discussions.

Focus groups are an excellent method for obtaining opinions about programs and services. They produce information from multiple people in a short period of time, so can be an effective method when information is needed quickly. The purpose is not to reach consensus or to make decisions, but rather to understand people's experiences—what they think and how they feel. A focus group can be used as a group interview to find out opposing attitudes or beliefs about a program, product, or public health issue. The dynamic of a group setting can stimulate ideas that might be missed in individual interviews.

Focus group: a group selected for its relevance to an evaluation that is engaged by a trained facilitator in a series of discussions designed for sharing insights, ideas, and observations on a topic of concern to the evaluation.

When to Use Focus Groups?

When should you use a focus group? Focus groups are appropriate only when
1. you have a specific question or topic to explore, and

2. a clear idea of the information you need.

   For instance, if your department is evaluating a program you could conduct three focus groups of stakeholders (practitioners, potential target group representatives, community leaders) to get their perceptions of the services and potential barriers to people accessing the services. Doing more than one focus group is recommended, and the responses of one group can help guide questions or probes for subsequent groups.

   While focus groups are an effective way to explore people's perceptions, they may not provide sufficient data to evaluate a program, so are often used in conjunction with other evaluation methods. Also, this is not the best method to use if the topic or information you seek might be uncomfortable to discuss in a group setting. People may be reluctant to share their perceptions about sensitive issues in the presence of others.

What Is Required?

A focus group has a particular composition and set of procedures. It requires careful planning that includes identifying and recruiting participants, and assuring skilled facilitation. A skilled facilitator is essential in ensuring the objectives are met. Having clear objectives for the focus group will help you in developing your discussion guide. Know what you want to learn and what decisions will be influenced by the results. You will also need to plan for logistics. The discussion is generally taped or video recorded for later analysis, but you may also have a designated note taker.

   There may be expenses associated with providing a location, hiring a facilitator, or providing food and beverages. Also, to encourage people to attend and to show that you value their time, participants' expenses (transportation, childcare) are often reimbursed and/or incentives are provided (gift cards, financial compensation). In general, however, focus groups can be less expensive than conducting individual interviews.

Planning

Anita will be conducting focus groups with public health nurses to learn about their experience implementing the Brief Preparedness Assessment & Intervention. The information will be used to help determine if the program should be replicated in other health care settings.

Evaluation Question	Indicators	Data Sources [Method]	Person Responsible	Timeline
2. How practical is the Brief Preparedness Assessment & Intervention (BPAI) to implement?	• Nurses' satisfaction/perceptions of implementation	Public health nurses **[focus group]**	Anita	Nov

Now let's look at some decisions Anita will make and some steps she will need to take to plan and conduct the focus groups.

Recruiting

In Anita's program, the focus group participants are well defined because a limited number of nurses are involved in the BPAI pilot. She plans to conduct two focus groups, one at each of the two county public health clinics.

Selecting participants is rarely as simple as in Anita's evaluation, yet it is a crucial aspect of planning a focus group. What is the population you are interested in hearing from? People selected for a group should have similar demographics or a similar relationship to the program so that they regard each other as equals. Groups ideally consist of 6 to 8 people, but should not be fewer than 4 or more than 12. You may want to recruit one or two additional people in the event there are cancellations or no-shows.

Recruit participants at least two weeks before the focus group and confirm the details of the session—including a map or directions if needed. Selecting participants may require some screening questions when they are contacted to make sure they have the background or knowledge needed to participate. Be sure to call or send an email reminder one to two days before the session.

Facilitation

In addition to planning the logistics and recruiting participants, Anita needs to identify a facilitator. Since a focus group typically lasts only one and a half to two hours, she will need a facilitator who can guide the discussion to get the data needed in that short amount of time. This should be someone who not only is very skilled in leading discussions, but also able to be objective. The facilitator is not there as an expert and should avoid expressing personal opinions on the topic. However, the facilitator should be knowledgeable about the project. He or she can be a staff member, volunteer, or member of a committee or task force. In choosing the facilitator, Anita must consider whether there is anything about him or her that might make participants uncomfortable. For example, Anita should not select the agency's executive director to facilitate the discussion about the BPAI implementation issues and challenges because she wants the nurse participants to feel free to answer the questions openly.

Anita has asked a colleague in the department who has previous experience with focus groups to conduct the groups for her.

Discussion Guides

Next, develop a discussion guide based on the objectives of the focus group. A guide for a one-and-a-half to two-hour focus group generally includes no more than 12 questions and allows the facilitator flexibility in moving the discussion forward. Involving the facilitator in developing the guide helps ensure that they understand the type of information you are seeking. Some of the same principles apply as in an interview protocol:

- Avoid yes/no questions
- Arrange the questions in a logical order starting with less sensitive questions
- Group questions on the same topic
- Include probes to be used if needed

   Based on the guidelines above, what could Anita do to improve her discussion guide for her focus groups?

Anita's Discussion Guide

Administering the BPAI
- What aspects of administering the BPAI have worked well?
- Now that you have had some experience with the BPAI, what do you think would be good settings for administering it? What type of staff do you think could administer it? (probes: locations, seasons)
- What have been the difficulties or challenges in administering the BPAI?

BPAI Content
- Thinking now about the content of the BPAI, what do you think is the most useful component? The least useful?

Patient Opinions
- In general, how receptive have patients been to this brief discussion of personal preparedness?

Logistics

Planning the location of the focus groups requires careful consideration. The site should be centrally located and accessible by public transportation with adequate parking (including parking for participants with disabilities). If the session is to be held after work hours, provide easy access to the room in which the focus group will be held.

   The setting is important as well. The room should be large enough to accommodate all participants and **accessible** to participants with disabilities. Place tables in a U-shape with the facilitator at the open end. If you have invited observers, arrange seating for them around the perimeter of the room.

   Anita uses the checklist below for other logistics to consider when planning her focus group:

- What is the timeline?
- How many focus groups are needed?

Examples of **accessible** features include reserved parking, no stairs, doors that are wide enough and can be used by a person with disabilities, barrier-free rooms, an assistive listening system, and restrooms that accomodate a person with disabilities.

- What type and how many people will you include?
- How will they be recruited?
- What incentive, if any, will you offer?
- Where will the session be held and what materials will be needed (e.g., tape recorder, name tags/tents, note pads, pencils)?
- What will you provide as refreshments?
- How will you reimburse participants' expenses (e.g., travel, childcare, personal care assistance)?
- Will you need to hire a translator or interpreter for foreign languages or American Sign Language?

Documentation

Plan how the session will be recorded or documented. If you are making a video or audio recording the session, get permission from participants ahead of time. Test any equipment before the session begins and make sure there is no background noise in order to have a clear recording. If you take notes, arrange for a skilled note taker to sit in on the session.
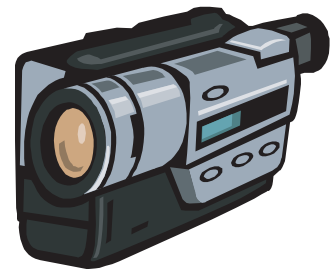
Conducting Focus Groups

Anita's first focus group is today. She will use the following checklist to make sure the session begins smoothly.
Beginning the session:

- Arrive at least 20 minutes ahead to greet any early arrivals
- Start on time
- Provide a general welcome. Thank the participants and begin introductions
- Clarify the topic of the focus group as well as what participants can expect during the session. Tell participants how the focus group information will be used and how confidential their responses are.
- Assure participants that there are no right or wrong answers
- Create a comfortable atmosphere by starting with an easy, interesting question as an ice-breaker

During the Session

During the session the facilitator should attend to participants' comfort level (e.g., room temperature, break to use the restroom). He or she will need to ensure the session stays focused on the information needed, probe important points or ideas, and monitor the time so all critical questions are covered. The facilitator must also be able to deal tactfully with outspoken group members, ensure that all participants have a chance to contribute, and maintain a respectful environment for sharing opinions. Another key part of the facilitator's job is making sure the session ends on time. At the end of the session, the facilitator

should recap key points and invite comments.

Anita will be observing the focus groups and will not participate in any way.

After the Session

Immediately after the session the facilitator(s) should write down any useful observations about the group, such as nature of the participation of group members, generalizations about group interactions, and any surprises or unanticipated outcomes from the session. With co-facilitators, the opportunity to share observations can be similar to a debriefing session.

After the focus group session, Anita makes sure to:

- Hold a debrief session with the facilitator and observers/note-takers.
- Capture important themes, surprises.
- Identify possible changes needed to the discussion guide before the next focus group.
- Send a brief thank you note or email to participants.
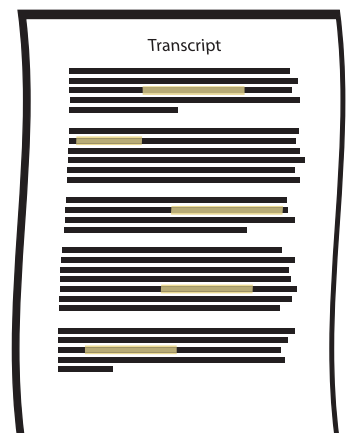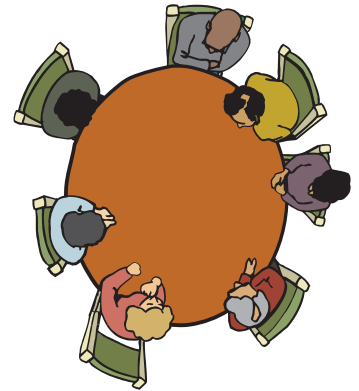
Analyzing Focus Group Data

Anita feels a little overwhelmed at the amount of data the focus group sessions generated. Yet she knows careful analysis is necessary in order for conclusions to be **reliable** (another team member analyzing the same data would reach essentially the same conclusion) and **valid** (results reflect what participants actually meant).

Analyzing the large volume of words and thoughts gathered during a focus group can be challenging. In conducting the analysis, let the words speak for themselves—that is, avoid hearing just what you want to hear as you review the discussion.

Process

Having a written transcript of the group discussion will make the analysis phase easier and quicker. If you are unable to produce a transcript, written notes are a very good alternative method for recording and analyzing responses. A common method of analysis is to first organize the transcript by marking comment sections related to each objective. Next review the transcript and "code" individual comments according to key concepts or phrases. After coded comments are sorted into their respective groups, interpret their meaning by asking:

- What themes emerged—how often was something mentioned and by how many people?
- What was the intensity—how much feeling or emotion was expressed in the comments?
- What were the "big ideas?"—Were there any big surprises? How did participant responses compare to my ideas? What did I learn that I didn't know before?

If conducting multiple focus groups, data from each should be analyzed separately. Then, merge the findings to draw final conclusions. Have more than one person involved in analyzing focus group data to check that the data are interpreted accurately.

Required Software

The analysis process can be conducted on paper, although it is much more efficient to organize and sort data contained in transcripts or notes using the computer. A Microsoft Word table like the one discussed in analyzing interview data can be useful in sorting and analyzing coded comments. More sophisticated software programs for analysis of qualitative data are available, but require special training to use.

The toolkit contains resources with additional information about conducting focus groups and analyzing data.

Summary

Focus groups allow you to gather information from multiple people at the same time. They are useful in understanding people's experiences, and having the discussion take place in a group can stimulate ideas that might be missed in individual interviews. Remember, an effective focus group requires a skilled facilitator.

Method: Focus Group	
Use when: you want to collect in-depth information from a group of people about their experiences and perceptions related to a specific issue	
Advantages	**Disadvantages**
• collect multiple viewpoints in one session	• requires skilled facilitator
• allows in-depth discussion	• limited number of questions can be asked
• group interaction can produce greater insight	• group setting may inhibit or influence opinions
• can be conducted in short time frame	• data can be difficult to analyze
• can be relatively inexpensive compared to interviews	• not appropriate for all topics or populations

Next Steps

In this module we have discussed gathering credible evidence (step 4 of the CDC framework) that will allow decisions to be made about a program. Data then must be carefully analyzed and interpreted in order to understand their significance and justify conclusions (step 5). As in earlier steps, you may want to involve stakeholders in drawing conclusions and making recommendations.
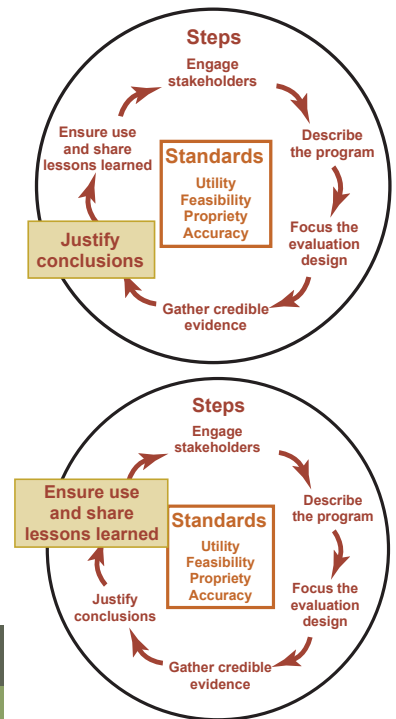
Ensure that the data you collected are used. Disseminating the right findings

to the right people in the right way will help complete the final step (step 6) of the CDC framework, ensure use and share lessons learned. This is the culmination of your hard work and this step warrants thoughtful communication with stakeholders, as well as follow-up over time to ensure evaluation findings are not only useful, but used.

Course Summary

We have reviewed five methods of data collection: **document review, observation, survey, interview,** and **focus group.** The method you select will depend on many variables. These include the evaluation questions you want to answer, the data you need, and your time and resources.

Using more than one method often provides more reliable data. Collecting and analyzing both **quantitative** and **qualitative** data also can increase the accuracy of your measurement and conclusions. The following table reviews when each method might be used and some of the advantages and disadvantages of each.

Method: Document Review	
Use when: program documents or literature are available and can provide insights into the program or the evaluation	
Advantages	**Disadvantages**
• data already exist	• time consuming
• does not interrupt the program	• data limited to what exists and is available
• little or no burden on others	• data may be incomplete
• can provide historical or comparison data	• requires clearly defining the data you are seeking
• introduces little bias	

Method: Observation	
Use when: you want to learn how the program actually operates—its processes and activities	
Advantages	**Disadvantages**
• allows you to learn about the program as it is occurring	• time consuming
• can reveal unanticipated information of value	• having an observer can alter events
• flexible in the course of collecting data	• difficult to observe multiple processes simultaneously
	• can be difficult to interpret observed behaviors

Method: Survey

Use when:
you want information directly from a defined group of people to get a general idea of a situation, to generalize about a population, or to get a total count of a particular characteristic

Advantages	Disadvantages
• many standardized instruments available	• sample may not be representative
• can be anonymous	• may have low return rate
• allows a large sample	• wording can bias responses
• standardized responses easy to analyze	• closed-ended or brief responses may not provide the "whole story"
• able to obtain a large amount of data quickly	• not suited for all people—e.g., those with low reading level
• relatively low cost	
• convenient for respondents	

Method: Interview

Use when:
you want to understand impressions and experiences in more detail and be able to expand or clarify responses

Advantages	Disadvantages
• often better response rate than surveys	• time consuming
• allows flexibility in questions/probes	• requires skilled interviewer
• allows more in-depth information to be gathered	• less anonymity for respondent
	• qualitative data more difficult to analyze

Method: Focus Group

Use when:
you want to collect in-depth information from a group of people about their experiences and perceptions related to a specific issue

Advantages

- collect multiple viewpoints in one session
- allows in-depth discussion
- group interaction can produce greater insight
- can be conducted in short time frame
- can be relatively inexpensive compared to interviews

Disadvantages

- requires skilled facilitator
- limited number of questions can be asked
- group setting may inhibit or influence opinions
- data can be difficult to analyze
- not appropriate for all topics or populations

For additional information about these and other data collection methods, refer to the toolkit accompanying this module.