

Gather Credible Evidence

Practical Use of Program Evaluation among Sexually Transmitted Disease (STD) Programs

STEP 1: ENGAGE STAKEHOLDERS

- 1.1 Determine how and to what extent to involve stakeholders in program evaluation

STEP 2: DESCRIBE THE PROGRAM

- 2.1 Understand your program focus and priority areas
- 2.2 Develop your program goals and measurable (SMART) objectives
- 2.3 Identify the elements of your program and get familiar with logic models
- 2.4 Develop logic models to link program activities with outcomes

STEP 3: FOCUS THE EVALUATION

- 3.1 Tailor the evaluation to your program and stakeholders' needs
- 3.2 Determine resources and personnel available for your evaluation
- 3.3 Develop and prioritize evaluation questions

► STEP 4: GATHER CREDIBLE EVIDENCE

- 4.1 Choose appropriate and reliable indicators to answer your evaluation questions
- 4.2 Determine the data sources and methods to measure indicators
- 4.3 Establish a clear procedure to collect evaluation information
- 4.4 Complete an evaluation plan based on program description and evaluation design

STEP 5: JUSTIFY CONCLUSIONS

- 5.1 Analyze the evaluation data
- 5.2 Determine what the evaluation findings "say" about your program

STEP 6: ENSURE USE OF EVALUATION FINDINGS AND SHARE LESSONS LEARNED

- 6.1 Share with stakeholders the results and lessons learned from the evaluation
- 6.2 Use evaluation findings to modify, strengthen, and improve your program

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Gather Credible Evidence

The information you gather in your evaluation must be reliable and relevant for your program and stakeholders. Gathering credible evidence means that the data you collect answer the evaluation questions you developed. Step 4 will help you gather credible evidence to strengthen your evaluation findings and the recommendations that follow to improve the program component or activity you are evaluating.

In Step 4 you will:

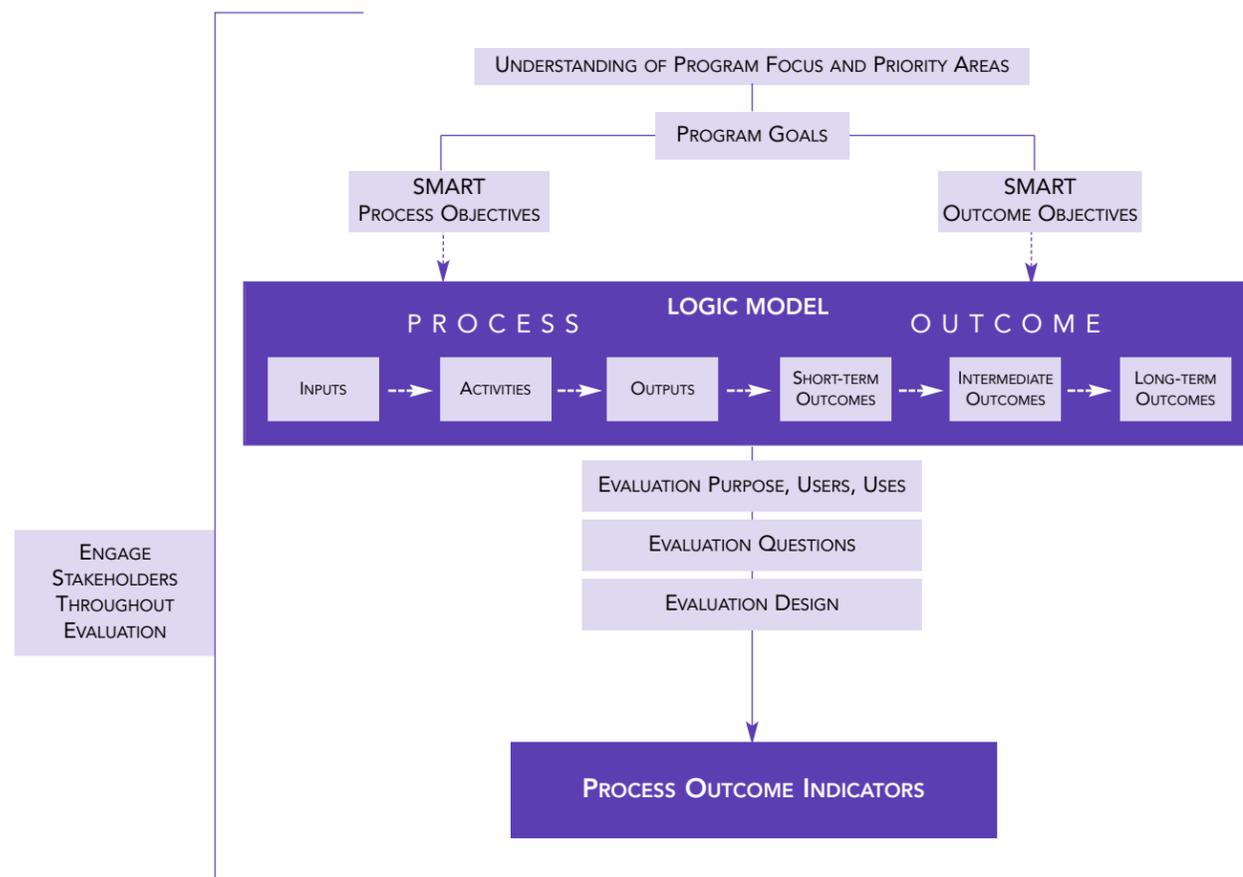
- Choose appropriate and reliable indicators for your evaluation questions (Tool 4.1).
- Determine data sources and methods for indicators (Tool 4.2).
- Establish a procedure to collect the information (Tool 4.3).
- Complete an evaluation plan based on your program description and evaluation design (Tool 4.4).

TOOL 4.1: CHOOSE APPROPRIATE AND RELIABLE INDICATORS TO ANSWER YOUR EVALUATION QUESTIONS

INTRODUCTION

In previous tools, you practiced formulating goals and writing Specific, Measurable, Achievable, Relevant, and Time-bound (SMART) objectives, and developing a logic model to visually describe how your program or program component works. You learned to distinguish between short-term, intermediate, and long-term outcomes, and to develop and prioritize your evaluation questions based on your program and stakeholders' needs and resources available. Also, you learned to articulate the purpose of your evaluation and to identify its uses and users.

The next step in your evaluation is to select the measures (i.e., indicators) you will use to determine the progress your program or activity is making. The flowchart below illustrates where indicators fit into your evaluation planning activities.



REFERENCES

- Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Division of Adolescent and School Health. (2004). *Evaluation steps tools*. Unpublished document.
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LEARNING OBJECTIVES

After completing this tool, you should be able to:

- Develop indicators that you will use to measure the outcomes and process aspects pertaining to your evaluation questions.

WHAT IS AN INDICATOR?

An **indicator** is a specific, observable, and measurable accomplishment or change that shows the progress made toward achieving a specific output or outcome in your logic model. Indicators are markers of accomplishment/progress. Some commonly used indicators include participation rates, attitudes, individual behaviors, community norms, policies, health status, and incidence and prevalence. The indicators you select should answer your evaluation questions and help you determine whether your program objectives have been achieved.

WHAT ARE THE KEY ELEMENTS OF AN INDICATOR?

The indicators you select must be specific, observable and measurable. This means that they can be seen (e.g., observed behavior), heard (e.g. participant responses), or read (i.e., agency records).

- An indicator that is specific provides a clear description of what you want to measure. This is very similar to the “Specific” criterion of SMART objectives discussed in tool 2.2. For example, it is more specific to say “in-school adolescents aged 13-18 who test positive for Chlamydia,” rather than “youth who have an STD”. With the latter example, what is meant by the terms “youth” and “STD” is unclear.
- An indicator that is observable focuses on an action or change. For example, “the proportion of school clinic staff who can identify the risk factors for Chlamydia” will be more difficult to verify than the “proportion of school-clinic staff who can list two risk factors for Chlamydia.” Remember to use verbs that relate to observation of progress, such as “list,” “demonstrate,” “select,” “show,” or “report.”
- An indicator that is measurable quantifies change and is usually reported in numerical terms (count, percentage/proportion, or ratio), which is very similar to the “Measurable” criterion of SMART objectives discussed in tool 2.2.

Example of an indicator:

The proportion of gonorrhea cases among women 14-49 years of age interviewed within 7 days from the date of specimen collection.

- **Specific:** specifies the STD and the target population (gonorrhea cases among women 14-49 years of age)
- **Observable:** indicates the action/change (interviews conducted within 7 days from the date of specimen collection)
- **Measurable:** quantifies change which will be reported as a “proportion of cases” where the numerator will be the total number of gonorrhea cases among women 14-49 years of age interviewed within 7 days from the date of specimen collection and the denominator will be the total number of diagnosed and reported gonorrhea cases among women 14-49 years of age.

WHAT IS THE LINK BETWEEN INDICATORS AND PERFORMANCE MEASURES?

CDC’s Division of STD Prevention (DSTDP) has developed a set of indicators that are referred to as performance measures, and each project area receiving CDC funds is required to report on the indicators that apply to them.

These indicators can be linked to the outputs component of the program logic model(s) that you develop for your overall program (e.g., Comprehensive STD Prevention System-CSPS, Infertility Prevention Program-IPP, and Syphilis Elimination Effort-SEE) and can give you a notion of “where things may stand” and how to improve performance. In Table 1, five of these measures are linked to certain outputs in the generic CSPP program logic model presented in Tool 2.4.

APPENDIX C Six-Month Evaluation Budget

EVALUATION ACTIVITY	COST
College intern stipend (instrument development, data analysis, staff training)	\$ 300.00
Contractor	\$2,000.00
Communications (postage, telephone calls, etc.)	\$ 30.00
Printing and Duplication	\$ 30.00
Supplies and Equipment	\$ 70.00
Indirect Costs	\$100.00
TOTAL	\$2,530.00

APPENDIX B

Projected Timeline for Evaluation Activities

EVALUATION ACTIVITIES	MONTHS					
	1	2	3	4	5	6
Plan evaluation with program staff and stakeholders.						
Develop evaluation data collection instruments, and train data collectors.						
Monitor attendance and participation levels of workshop participants.						
Train clinical staff and collect pre- and post-training survey from them.						
Collect post-workshop performance exercise data from participants.						
Analyze evaluation data						
Report findings.						
Revise program, if needed.						

Table 1: Examples of CSPS Process Outputs Linked with DSTDP Performance Measures (Indicators)

PROCESS OUTPUTS	LINKED DSTDP PERFORMANCE MEASURES (INDICATORS)
Medical and Lab Services <ul style="list-style-type: none"> Female admittees in juvenile detention facilities tested for chlamydia. 	<ul style="list-style-type: none"> Proportion of female admittees to large juvenile detention facilities who were tested for Chlamydia.
Partner Services <ul style="list-style-type: none"> Syphilis cases' partners identified. 	<ul style="list-style-type: none"> Proportion of primary and secondary (P&S) syphilis cases interviewed within 7, 14, and 30 calendar days from the date of specimen collection. Number of associates and suspects tested, per case of P&S syphilis. Number of associates and suspects treated for newly diagnosed syphilis, per case of P&S syphilis. Proportion of 'priority' gonorrhea cases interviewed within 7, 14, and 30 days from the date of specimen collection.

Please note that even though performance measures are indicators, they only partially determine what is going on in a program. Therefore, collecting data on performance measures alone does not constitute evaluation. To have a complete picture of what is happening in your program and answer the 'whys' and 'hows', you will need to conduct evaluation. Table 2 shows how a performance measure (indicator) is combined with other process indicators to measure outputs in an evaluation of County Z's Chlamydia (Ct) screening initiative in juvenile detention centers.

¹Juvenile detention facilities having booked 500 or more adolescent females annually For the purpose of DSTDP reporting, programs with greater than 500 admittees booked must report on all facilities, those with less than 500 may select one or more facilities to report on.

²Priority population(s) is to be locally determined (e.g., pregnant women, women aged 15-19 years, women of child-bearing age, resistant gonorrhea, MSM, etc.).

Table 2: Examples of Indicators and Use of a CDC Performance Measure for Evaluation of a Ct Screening Initiative

PROCESS EVALUATION QUESTION	PROCESS OUTPUTS	PROCESS INDICATORS
As a result of the Ct screening initiative, were adolescent females in juvenile detention center screened, counseled and treated for Ct?	Female adolescents screened, counseled and treated for Ct.	<ul style="list-style-type: none"> • Proportion of female admittees to large juvenile detention centers who were tested for Chlamydia (CDC performance measure). • Proportion of female admittees in large juvenile detention centers who received STD prevention counseling. • Proportion of female admittees to large juvenile detention centers who were treated presumptively • Proportion of female admittees to large juvenile detention centers who were treated as a result of a positive Ct test result.

HOW DO YOU DEVELOP APPROPRIATE INDICATORS?

The following are some steps to guide you in developing indicators.

1. Involve your program’s stakeholders in indicator development.

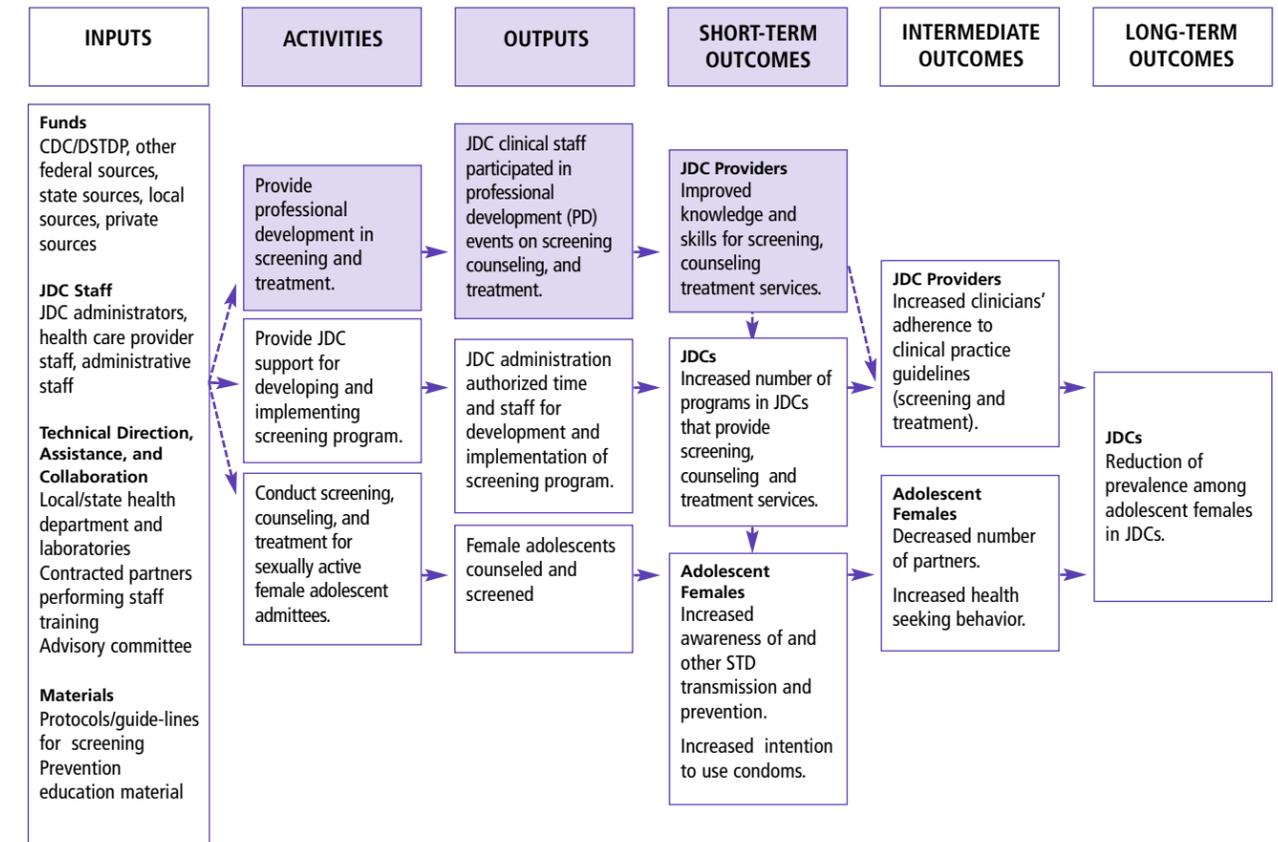
In Tool 1.1 you identified relevant stakeholders to involve in various stages of your evaluation. Bring these individuals together to identify and develop indicators, using the steps outlined below. In this way, they will identify indicators that are meaningful and useful to them. This will help ensure the credibility of, and buy-in for, your evaluation findings.

2. Review your evaluation questions and use your logic model as a template for developing indicators.

If you want your evaluation questions (see Tool 3.3) to answer whether your program is functioning as planned, develop process/performance indicators that are logically related to your logic model outputs (see Tools 2.3 and 2.4). If you want your evaluation to answer whether changes in the target population occurred as a result of your program activities, develop outcome indicators linked with your logic model outcomes. The following matrix can serve as a template for developing indicators based on the identified evaluation questions.

APPENDIX A¹
Evaluation Components Highlighted in the Program Logic Model

Logic Model of Chlamydia (Ct) Screening Program for Adolescent Females in County Z Juvenile Detention Centers (JDCs)



¹ Highlighted boxes indicate program components to be evaluated.

DATA COLLECTION PROCEDURES				DATA ANALYSIS				
EVALUATION QUESTION	INDICATORS	DATA SOURCE(S)	DATA COLLECTION METHODS	PERSON RESPONSIBLE	SCHEDULE	PROCEDURE	TIMELINE	PERSON RESPONSIBLE
Outcome SHORT-TERM OUTCOME EVALUATION OBJECTIVES: <ul style="list-style-type: none"> By (month/year), the medical staff from County X JDCs who participated in the training will demonstrate, in a pre- and post-training questionnaire, an increase in their knowledge of the Ct screening protocols from X% to Y%. By (month/year), the medical staff from County X JDCs who participated in the training will demonstrate, in a pre- and post-training questionnaire, an increase in their knowledge of the Ct counseling protocols from X% to Y%. 								
1. Did medical staff who participated in the training increase their knowledge of related protocols?	Percent of participants who can correctly describe Ct protocols for screening, counseling, and treatment	Individuals (training participants)	Survey (self-administered questionnaire to be completed by participants before and right after the training)	Trainer will oversee participants' completion of surveys.	Before (mm/dd/yy) and immediately after PD workshops (mm/dd/yy).	Compute change difference in pre and post-training score for each participant. Using post-workshop data identify and select those with correct responses for each protocol.	All data will be analyzed by mm/dd/yy. Tables and graphics will be developed by mm/dd/yy.	Program manager will work closely with the college intern.
2. Did medical staff who participated in the training demonstrate an increase in Ct screening, counseling, and treatment skills?	Percent of participants who can demonstrate appropriate skills in conducting Ct screening, counseling, and treatment.	Observations (skills used during training performance exercise)	Observation (trainers will score participants' skills during exercise and record them on skills performance sheets)	Trainers.	By end of trainings (mm/dd/yy).	Compute percentage/proportion of participants who demonstrate low, medium, and high skills (will use a tercile split wherein the lowest one-third is categorized as low skill, middle one-third as medium skill, and top one-third as high skill level).	All data will be analyzed by mm/dd/yy. Tables and graphics will be developed by mm/dd/yy.	Program manager will work closely with the college intern.

PROCESS EVALUATION QUESTIONS	PROCESS OUTPUTS	PROCESS INDICATORS

SHORT-TERM OUTCOME EVALUATION QUESTIONS	SHORT-TERM OUTCOMES	SHORT-TERM INDICATORS

3. When appropriate, use CDC performance measures as process indicators linked with your logic model outputs.

While you are required to report on relevant CDC performance measures for your funded program, these measures can be used as process indicators in your evaluation of a specific program component or activity if applicable.

4. Review your indicators to ensure they are specific, observable, and measurable.

Be sure your indicators are focused and clearly written, and that they measure progress related with the program component or activity you are interested in.

5. Include an indicator related with data of previous year/months/weeks, etc. for inputs and outcomes intended to achieve change (e.g., increased adherence of clinical staff to STD guidelines, decreased prevalence of Chlamydia among adolescent females in juvenile detention facilities).

It is important to have baseline data when a program wants to measure change. If this is not included, change cannot be quantified/measured.

6. Determine whether the indicators:

- Provide useful information that can measure your outcomes or process aspects and answer your evaluation questions.
- Are feasible in terms of whether the data are available, can be made available, or can be collected in a timely manner with the resources you have.
- Are adequate to capture the measure you need. Depending on how each output/outcome is phrased, you may need to develop more than one indicator to describe completely what is being measured by that output or process aspect and/or outcome. Remember that while multiple indicators are sometimes needed for tracking the implementation and effects of a program, defining too many indicators can detract from the evaluation's goals.

SUMMARY CHECKLIST: Selecting Indicators

<input type="checkbox"/> Involve your stakeholders in the development of and selection of indicators.
<input type="checkbox"/> Review your evaluation questions and use your logic model as a template for developing indicators. The indicators should relate to the outputs and the short-term, intermediate, and long-term outcomes of your logic model.
<input type="checkbox"/> When appropriate, use CDC performance measures as indicators linked with your logic model outputs.
<input type="checkbox"/> Review your indicators to ensure they are specific, observable, and measurable.
<input type="checkbox"/> Include indicators related with data of previous year/months/weeks, etc. for inputs and outcomes intended to achieve change.
<input type="checkbox"/> Ask yourself if the indicators: <ul style="list-style-type: none"> • Provide useful information. • Are feasible. • Are adequate in number.

Evaluation Plan Matrix

EVALUATION QUESTION	INDICATORS	DATA SOURCE(S)	DATA COLLECTION METHODS	DATA COLLECTION PROCEDURES			DATA ANALYSIS		
				PERSON RESPONSIBLE	SCHEDULE	PROCEDURE	TIMELINE	PERSON RESPONSIBLE	
<p>Process Evaluation Objective: By (month/year), contracted organization (X) will conduct (#) professional development events with (#) medical providers in juvenile detention centers (JDCs) in County Z on appropriate Chlamydia (Ct) screening, counseling, and treatment with female adolescents.</p>									
1. How many PD workshops were offered by the contracted organization?	Number of PD workshops implemented by the contracted organization.	Documents (workshop planning log to verify if (#) workshops were delivered in a timely manner)	Document Review (program manager will complete workshop planning log)	Program manager and trainers.	All evaluation instruments will be completed at the time of individual trainings (mm/dd/yy).	Frequency (count) of number of workshops conducted.	All data will be analyzed by mm/dd/yy. Tables and graphics will be developed by mm/dd/yy.	PERSON RESPONSIBLE	PERSON RESPONSIBLE
2. How many medical staff attended each workshop?	Number of medical staff who attended each workshop.	Documents (workshop attendance roster)	Document Review (trainers will provide workshop attendance roster and all completed implementation logs to the program manager)			Count of workshop attendees.			
3. Was the workshop content delivered as planned?	Number of content topics addressed during training.	Documents (training implementation log maintained by workshop trainers)	Observation (college intern will complete a checklist to record how well trainers follow the script)			Code themes from program implementation log and observation checklist for each session.			
4. Were participants satisfied with the training they received?	Percent of participants satisfied with the training.	Individuals (training participants)	Survey (self-administered post-training survey)			Compute percentages.			

(continued)

Evaluation Plan Narrative (continued)

STEP	APPLICATION
List individuals and roles on the evaluation team.	<ul style="list-style-type: none"> • Project director: Oversees all evaluation activities. • Project manager: Develops timeline; hires and trains; supervises data collection and handling; reviews all components of evaluation and final report; disseminates findings. • College intern: Develops evaluation instruments in consultation with project manager and trainers; trains program staff in data entry; analyzes data. • Contractor (X) training staff: Develops, staffs, and implements training for JDC medical staff; administers pre- and post-training questionnaire and performance exercise; completes skills performance sheet for each training participant; analyzes data; drafts final report. • STD program administrative assistant: Maintains confidential files of completed evaluation tools; conducts data entry of evaluation data.
List the users and uses of the evaluation findings.	<ul style="list-style-type: none"> • Implementers (JDC medical staff, JDC administrators, STD program trainers): Determine the effectiveness of the workshop in changing knowledge and skills of participants. Use evaluation findings to improve future workshops. • Decision makers (STD program director and manager, Correction System Director): Ensure the quality of the larger Ct screening initiative in JDCs; demonstrate the value of PD to stakeholders. • Partners (JDCs and community representatives): Encourage in-service PD for JDC staff in the future; ensure that detainees are receiving quality care.
List the approach to disseminating the evaluation findings to appropriate users.	<ul style="list-style-type: none"> • Funders: Written report. • Other STD programs: Presentation and Written Report for Program Development and Support Branch (PDSB) Thursday Report, presentation at National STD Prevention Conference • JDC staff and detainees: Report and presentation • Advocacy group: Use of media (radio, newspaper) • Scientific community: Manuscript publication.
Attach the timeline for completing the evaluation.	See Appendix B.
Attach the evaluation budget.	See Appendix C.

CONCLUSION AND NEXT STEPS

Gathering credible evidence is essential for a good evaluation. As you plan and conduct your evaluation, strive to collect information that is relevant and convincing. In this tool you learned how indicators can help you measure progress toward your program goals and objectives, and how to develop them (specific, observable, and measurable).

Indicators are used as the starting point for designing data collection and reporting strategies. The next tool (4.2) will help you determine which data sources and methods you will use to gather information for measuring your indicators.

ACRONYMS USED IN THIS TOOL

CDC – Centers for Disease Control

CSPS – Comprehensive STD Prevention System

Ct – Chlamydia trachomatis

DSTD – Division of STD Prevention

IPP – Infertility Prevention Program

MSM – Men who have sex with men

SEE – Syphilis Elimination Effort

SMART – Specific, Measurable, Achievable, Relevant, and Time-bound

STD – Sexually Transmitted Disease

KEY TERMS

Indicator: A specific, observable, and measurable accomplishment or change that shows whether progress has been made toward achieving a specific program output or outcome.

Outcome indicators: These measure whether progress was made toward achieving your short-term, intermediate, or long-term outcomes.

Performance measures: A set of indicators developed by CDC's Division of STD Prevention with input from members of NCSD, state representatives of NCSD member grantees, and seven project areas where the measures were pilot-tested. Each project area receiving CDC funds is required to report on the measures (indicators) that apply to them.

Process indicators: Indicators that measure whether progress is made toward achieving implementation fidelity by your program. These indicators measure whether your program is functioning as planned, and relate to the outputs in your program logic model.

EXERCISE: DEVELOPING INDICATORS

Listed below are the evaluation questions and the logic model outputs and short-term outcomes that you and your stakeholders want to address in a process and outcome evaluation of a syphilis media campaign targeting men who have sex with men (MSM) in City Y.

Process evaluation questions:

- Were the campaign activities implemented as planned?
 - Were press releases written and sent to media outlets?
 - Were posters created and distributed to MSM business venues?
 - Were educational pamphlets developed and distributed to MSM?

Process Outputs:

- Press releases written and sent to media outlets
- Posters created and distributed to MSM business venues
- Educational pamphlets developed and distributed to MSM

Short-term Outcome Evaluation Questions:

- As a result of the syphilis media campaign, were MSM reached?
- As a result of the campaign, did MSM become aware of the syphilis outbreak?
- As a result of the campaign, did knowledge of syphilis prevention increase among MSM?

Short-term Outcomes:

- MSM reached with prevention messages
- Awareness of syphilis outbreak among MSM as a result of the campaign
- Knowledge of syphilis prevention among MSM as a result of the campaign

Review your evaluation questions and corresponding logic model components to develop appropriate indicators. Develop at least one indicator per process output or short-term outcome. Your developed indicators need to be relevant to the STD program goals and objectives of the syphilis elimination campaign. Determine if the developed indicators:

Evaluation Plan Narrative

STEP	APPLICATION
List the STD program activity to be evaluated.	<ul style="list-style-type: none"> • Program activity to be evaluated: PD workshops in Ct screening offered to JDC medical providers in County Z. • Stakeholders involved in the evaluation: Program staff, County and State agency assisting with PD workshops, STD clinical staff participating in the workshop. • Rationale for selecting the program activity: PD activities are the foundation for providing the necessary knowledge and skills to implement appropriate Ct screening, counseling, and treatment protocols. High-quality PD workshops should lead to consistency in implementation of the recommended screening, counseling, and treatment protocols • Purpose of the evaluation: To evaluate the implementation and effectiveness of PD workshops.
List stakeholders (agency) involved in the evaluation.	
List the rationale for the STD program activity to be evaluated.	
List the purpose of the evaluation.	
List the goal(s) and objectives that relate to the program component/activity to be evaluated.	<p>GOAL: Reduce STD rates among adolescent females in JDCs in County Z.</p> <p>PROCESS OBJECTIVE:</p> <ul style="list-style-type: none"> • By (month/year), contracted organization (X) will conduct (#) professional development events with (#) medical providers in JDCs in County Z on appropriate Ct screening, counseling, and treatment for female adolescents. <p>SHORT-TERM OUTCOME OBJECTIVES:</p> <ul style="list-style-type: none"> • By (month/year), the medical staff from County X JDCs who participated in the training will demonstrate, in a pre- and post-training questionnaire, an increase in their knowledge of the Ct screening protocols from X% to Y%. • By (month/year), the medical staff from County X JDCs who participated in the training will demonstrate, in a pre- and post-training questionnaire, an increase in their knowledge of the Ct counseling protocols from X% to Y%. • By (month/year), the medical staff from County X JDCs who participated in the training will demonstrate, in a pre- and post-training questionnaire, an increase in their knowledge of the Ct treatment protocols from X% to Y%. • By (month/year), the medical staff from County Z JDCs who participated in the training will demonstrate, in a performance exercise, an increase in their skills in conducting Ct screening from X% to Y%, as recorded in a skills performance sheet. • By (month/year), the medical staff from County Z JDCs who participated in the training will demonstrate, in a performance exercise, an increase in their skills in conducting Ct counseling from X% to Y%, as recorded in a skills performance sheet. • By (month/year), the medical staff from County Z JDCs who participated in the training will demonstrate, in a performance exercise, an increase in their skills in providing Ct treatment from X% to Y%, as recorded in a skills performance sheet.
Attach appropriate logic models.	See Appendix A.

continued

Pre/post design: A non-experimental design where measures (data collection) are taken from the target population(s) before and after the activity/intervention.

Stakeholders: Individuals or organizations directly or indirectly affected by your STD program and/or the evaluation results (e.g., STD program staff, family planning staff, representatives of target populations).

Survey: A method of collecting information that can be self-administered, administered over a telephone, administered using a computer or administered face-to-face. Surveys generally include close-ended questions that are asked to individuals in a specific order and provide multiple choice or discrete responses (e.g., “Have you been tested for syphilis in the last 6 months?”).

CASE SCENARIO

The following is an example of an evaluation plan for assessing a professional development (PD) component of a larger Chlamydia (Ct) screening initiative that the STD Program plans to conduct in juvenile detention centers (JDCs) in County Z. The example provides both the evaluation plan narrative and matrix based on all the steps detailed in this evaluation tool. This evaluation plan is not exhaustive and is provided only to illustrate a sample evaluation plan.

- Are specific, observable and measurable;
- Provide useful information that can measure your process and outcomes aspects and answer your evaluation questions;
- Are feasible in terms of whether data is available or can be collected in a timely fashion with the resources you have available; and
- Are adequate to capture the measure you need.

Put the information provided above in the corresponding columns in the templates below. This will help you identify and develop the appropriate indicators. The completed templates are presented at the end of this tool. *[Note: This exercise only includes short-term outcomes since measuring longer term outcomes may require more time and resources than are available in a typical four-year grant period. Tool 4.2 will discuss the sources and methods for collecting indicator information.]*

PROCESS EVALUATION QUESTIONS	PROCESS OUTPUTS	PROCESS INDICATORS

SHORT-TERM OUTCOME EVALUATION QUESTIONS	SHORT-TERM OUTCOMES	SHORT-TERM INDICATORS

REFERENCES

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ACRONYMS USED IN THIS TOOL

- CSPS** – Comprehensive STD Prevention Systems
Ct – Chlamydia trachomatis
JDC – Juvenile Detention Centers
STD – Sexually Transmitted Disease
PD – Professional Development
PDSB – Program Development and Support Branch
SMART – Specific, Measurable, Achievable, Relevant, and Time-bound

KEY TERMS

- Evaluation plan:** A document that includes what an evaluation consists of (i.e., purpose/uses/users of the evaluation, program goals and objectives related with the evaluation, logic model, evaluations questions and design, data collection sources and methods, and dissemination plan) and the procedures that will help guide the implementation of evaluation activities to be undertaken by your program.
- Goal:** A broad statement related to the purpose of your program that states what your program will accomplish (the desired result).
- Indicator:** A specific, observable, and measurable accomplishment or change that shows whether progress has been made toward achieving a specific program output or outcome.
- Logic model:** A picture of how a program/component/activity is supposed to work.
- Objectives:** Measurable statements that describe the manner in which your program goals will be achieved.
- Post-only design:** A non-experimental design where measures (data collection) are taken from the target population(s) after the activity/intervention. Since this is a non-experimental design, it does not involve comparison/control groups.

CONCLUSION AND NEXT STEPS

A completed evaluation plan will address most steps from CDC's program evaluation framework. The plan will include narrative and matrix components to provide a comprehensive picture of the rationale of, and approach to, the evaluation. This Tool has shown you how to consolidate the evaluation information into one plan.

Now that you have an evaluation plan, it is time for you to implement your evaluation. In Tool 5.1 (Analyze the Evaluation Data), you will learn how to manage, analyze, and synthesize your evaluation data.

SUMMARY CHECKLIST: Analyze the Evaluation Data

- Gather relevant documents from the various meetings you have had with program staff and stakeholders.
 - CSPS grant application
 - Meeting minutes
 - Documents such as logic models, evaluation budget and evaluation timeline
- Sort and organize relevant documents for the narrative and matrix components of the evaluation plan, to reflect the flow of these components in the evaluation plan.
- Complete the narrative component of the evaluation plan. Include:
 - STD program or activity to be evaluated
 - Rationale for evaluating this STD program or activity
 - Purpose of the evaluation
 - Program goal(s) and objectives to be addressed through the evaluation
 - Logic model(s)
 - Individuals and their roles in the evaluation team
 - Users and uses of evaluation findings
 - Approach to disseminating evaluation findings to appropriate users
 - Timeline for completing the evaluation
 - Evaluation budget
- Complete the matrix component of the evaluation plan. Include:
 - Evaluation questions
 - Indicators
 - Data sources
 - Data collection procedures
 - data collection methods
 - person(s) responsible
 - schedule
 - Data analysis
- Update the evaluation plan (e.g. logic model, staff, timeline, etc.) if needed.

ANSWER KEY FOR EXERCISE

PROCESS EVALUATION QUESTIONS	PROCESS OUTPUTS	PROCESS INDICATORS
Were the campaign activities implemented as planned?		
<ul style="list-style-type: none"> • Were press releases written and sent to media outlets? 	Press releases written and sent to media outlets	# of press releases written # of press releases sent to media outlets # of media outlets receiving press releases
<ul style="list-style-type: none"> • Were posters created and distributed to MSM business venues? 	Posters created and distributed to MSM business venues	# of posters created # of posters distributed to MSM business venues # of MSM business venues accepting posters
<ul style="list-style-type: none"> • Were educational pamphlets developed and distributed to MSM? 	Educational pamphlets developed and distributed to MSM	# of educational pamphlets designed # of educational pamphlets distributed to MSM # of MSM receiving educational pamphlets

SHORT-TERM OUTCOME EVALUATION QUESTIONS	SHORT-TERM OUTCOMES	SHORT-TERM INDICATORS
As a result of the syphilis media campaign, were MSM reached?	MSM reached with prevention messages	% of MSM who recall seeing information (i.e., via brochures, posters, press releases developed for the campaign) on syphilis prevention.
As a result of the campaign, did awareness of the syphilis outbreak increase among MSM?	Awareness of syphilis outbreak among MSM as a result of the campaign	% of MSM who recall the main message(s) of the campaign corresponding to the syphilis outbreak
As a result of the campaign, did knowledge of syphilis prevention increase among MSM?	Knowledge of syphilis prevention among MSM as a result of the campaign	% of MSM who can describe at least two methods of preventing syphilis transmission.

Please note that you should always use your logic model as a template for developing the indicators. Remember that if you want your evaluation questions to answer whether your program is functioning as planned, you need to develop process or performance indicators that are logically related to your logic model outputs. If you want your evaluation to answer whether changes in the target population occurred as a result of your program activities, you need to develop outcome indicators linked to your logic model outcomes.

Tool 4.2 will assist you in determining which data sources and methods will be used to gather information on indicators.

Table 2: Evaluation Plan Matrix⁶

EVALUATION QUESTION	INDICATORS	DATA SOURCE(S)	DATA COLLECTION METHODS	DATA COLLECTION PROCEDURES			DATA ANALYSIS ¹	
				PERSON RESPONSIBLE	SCHEDULE	PROCEDURE	TIMELINE	PERSON RESPONSIBLE
<ul style="list-style-type: none"> Develop and prioritize each evaluation question with input from stakeholders. Link each evaluation question with the goals and objectives of your program and the purpose of your evaluation. Verify that the questions reflect the key elements of your program logic model that your evaluation will address, and that they can be addressed using the resources available at hand, i.e. budget, staff, and staff time. Verify that the findings generated from the questions will be useful 	<ul style="list-style-type: none"> For each evaluation question, create an indicator to reflect achievement (e.g. number of staff trained, percent of health clinics implementing a policy, etc.). If needed, you may use more than one indicator per question. 	<ul style="list-style-type: none"> For each evaluation question, indicate what source(s) has the information to answer the question (i.e., individuals, observations, or documents). A single data source can provide information on more than one evaluation question. 	<ul style="list-style-type: none"> For each data source, identify and list the best method to gather data (e.g., use of telephone rather than mail survey for a certain target group). More than one data collection method may be used to gather information from one data source.) 	<ul style="list-style-type: none"> For each data collection method, identify roles and responsibilities of ALL individuals involved. This will allow you to estimate the workload of each individual, maintain a suitable staffing level, and develop a reasonable timeline for data collection. 	<ul style="list-style-type: none"> For each data collection method, fill in the data collection schedule (e.g., baseline survey data will be collected by mm/dd/yy; follow-up survey data will be collected by mm/dd/yy). 			

⁶ This plan needs to incorporate the data analysis component which will be discussed in Tool 5.1.

Table 1: Guidance for completing the evaluation plan narrative (continued)

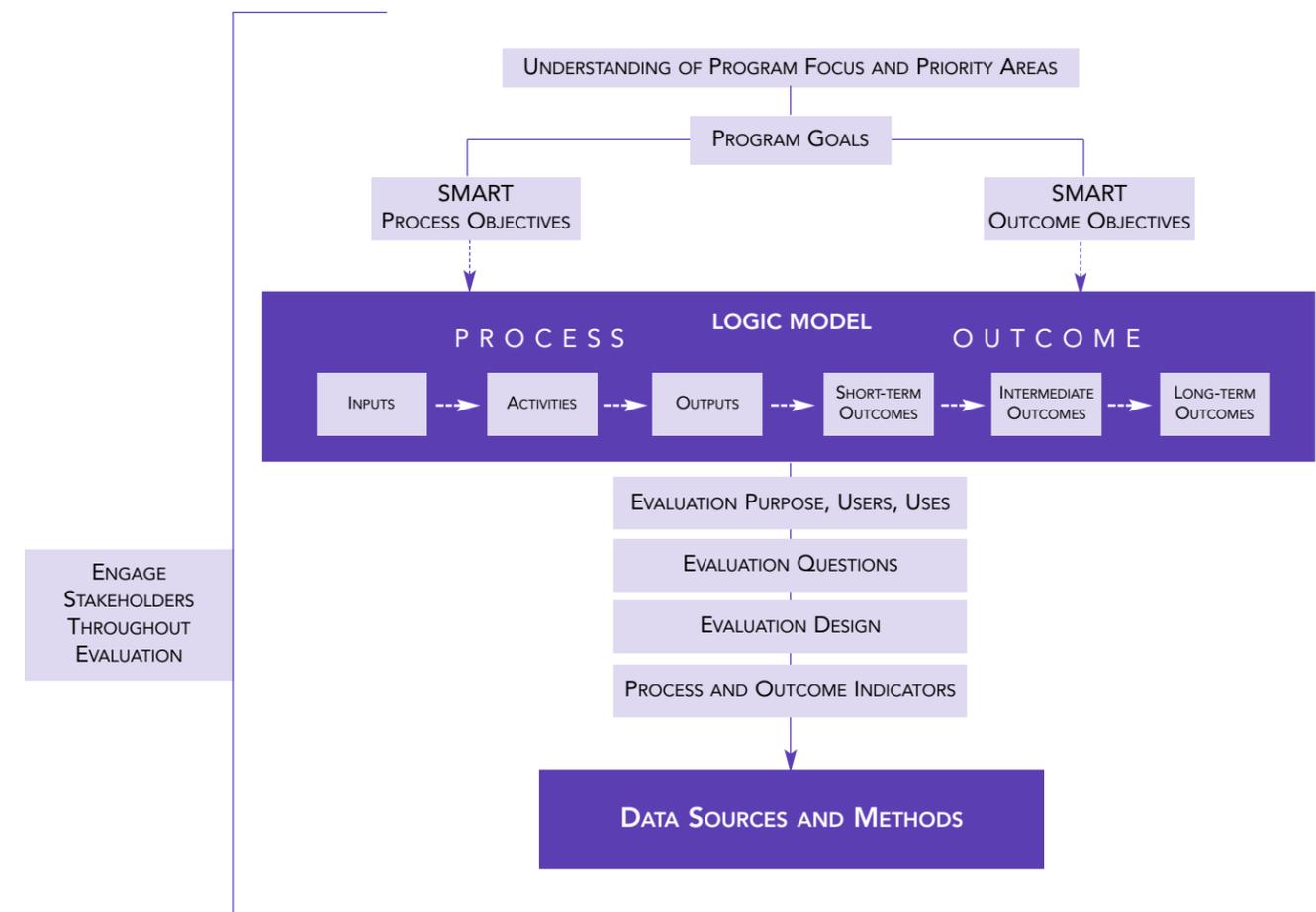
OUTCOME	GUIDELINES
List the goal(s) and objectives that relate to the program component/activity to be evaluated.	Your CSPS grant application includes your program goals and objectives. In this section, list only those goals and objectives that are related with the program component or activity you want to evaluate. Make sure that your objectives are "SMART" (i.e. Specific, Measurable, Achievable, Relevant, and Time-bound). Also make sure that they are articulated as process or outcome (short-term, intermediate, or long-term) objectives (refer to Tool 2.2). Example: You may be implementing a Ct screening initiative throughout your project area with one component being PD workshops on Ct screening for clinical staff. Since you have decided to evaluate the effectiveness of the PD workshops in increasing participants' knowledge and skills, and not other parts of the initiative, include only the objectives related to the PD workshops.
Attach appropriate logic models.	Make sure you include a logic model of the program component or activity you want to evaluate (refer to Tool 2.4). Keep in mind that the logic model is a work in progress. Highlight the specific components of the logic model you intend to evaluate.
List individuals and their roles in the evaluation team.	Staff your evaluation with individuals who are well-qualified and available for the job (refer to Tool 3.2). Identifying all members (including stakeholders) and their roles will allow you to proceed smoothly. This will also allow you to assess the need for requesting technical assistance from DSTDP and/or hiring external evaluation consultants.
List the users and uses of the evaluation findings.	Identify all stakeholders (i.e., implementers, decision makers, participants, and partners) interested in the evaluation findings and how they would intend to use them (refer to Tools 1.1 and 3.1).
List the approach to disseminating the evaluation findings to appropriate users.	Describe how the evaluation findings will be presented to (method of delivery such as full report, short report, manuscript, presentation, etc.) and shared (mailed report, discussion, etc.) with appropriate users.
Attach the timeline for completing the evaluation.	The timeline should reflect the entire evaluation timeframe; from discussion of evaluation questions with stakeholders to dissemination of results (refer to Tool 4.3).
Attach the evaluation budget.	The evaluation budget should include the direct and indirect costs of your evaluation. If you are working with an external contractor, the cost for the contractor can be broken out by consultant's salary, fringe benefits, and non-personnel costs (refer to Tool 4.3).

5. Update the evaluation plan, as needed.

Changes may need to be made in parts of your evaluation plan due to changes in the program component or activity you are evaluating, field conditions of the evaluation or other practical considerations. Update your logic model, staff information, the timeline, or other aspects of the plan, as needed.

TOOL 4.2: DETERMINE THE DATA SOURCES AND METHODS TO MEASURE INDICATORS**INTRODUCTION**

In Step 3, you learned how to (1) focus your evaluation, (2) identify the resources and personnel that are available for the evaluation, and (3) develop and prioritize evaluation questions based on your program's and other stakeholders' needs and resources. In Step 4, you have begun to examine various processes for gathering credible evidence. Tool 4.1 outlined strategies for choosing appropriate and reliable indicators for your evaluation questions. Tool 4.2 will provide you with strategies for determining data sources and methods for measuring your indicators. The flowchart below provides a description of where data sources and methods fit within your evaluation activities.



LEARNING OBJECTIVES

Upon completion of this tool, you will be able to:

- Determine data sources for each indicator.
- Identify data collection methods that are appropriate for indicators and data sources.

WHAT DATA SOURCES COULD YOU USE?

The first task in this tool is to decide from where/whom you will get the data to measure each indicator and what you should consider when selecting these data sources. When choosing data sources, make sure the data from the chosen source will actually answer your evaluation questions. For example, surveillance data can tell you how many Ct cases you have, but not how many people you screened to get that number of cases. Balance the need for data that can be considered useful against data that is critical with budgetary constraints. You should consider the following questions as you consider your data sources:

- What do you need to know?
- When do you need the data?
- Are the data available from the program and from other sources?
- How often do you need to collect the data?
- What indicators require collection of new data?
- Will the data be compared with data from elsewhere? If so, will it be similar to the other data?
- Are the data credible?
- How much money do you have to spend and how costly will it be to collect the data from a prospective source?

Some of the data sources that you might consider using are presented in Table 1.

2. Organize and sort the relevant materials.

Divide the materials into two groups. The first group will include all the information you will need to complete the narrative component of the evaluation plan. The second will include all the information you will need to complete the evaluation matrix. Next, sort the materials in each group to match the sequence of items in the narrative and matrix components.

3. Complete the narrative component of the evaluation plan.

The guidelines presented in Table 1 will help you to complete the narrative evaluation plan.

4. Complete the matrix component of the evaluation plan.

Table 2 provides you with guidance for completing each column in the evaluation plan matrix. The plan that is presented does not include information on data analysis. Specifics on this can be found in Tool 5.1 (Analyze the Evaluation Data).

Table 1: Guidance for completing the evaluation plan narrative

OUTCOME	GUIDELINES
List the STD program activity to be evaluated.	<p>Based on your CSPA grant application and per your discussion with the stakeholders, indicate the program activity that you plan to evaluate as well as the purpose and rationale for evaluation of the program activity (refer to Tools 1.1, 2.1, and 2.2).</p> <p>For example: Program activity to be evaluated: Chlamydia (Ct) screening training workshops.</p> <p>Stakeholders involved in the evaluation: Program staff, external evaluator, County STD clinic directors and staff, State STD program staff, professional development organizers and implementers.</p> <p>Rationale for selecting the program activity: Based on the findings from the needs assessment, the program staff and stakeholders decided that clinician training on Ct screening would increase appropriate diagnosis and treatment of Ct infections. It was agreed that screening, treatment, and diagnosis protocols should be consistently implemented, and that since professional development (PD) is the foundation for the implementation of a quality screening initiative, it is important to assess its effectiveness.</p> <p>Purpose of the evaluation: Evaluate the extent to which PD workshops led to clinical staffs' increased knowledge and skills for screening, counseling, and treatment protocols.</p>
List stakeholders (agency) involved in the evaluation.	
List the rationale for evaluating this STD program activity.	
List the purpose of the evaluation.	

continued

The *evaluation matrix* of an evaluation plan includes the following:

- Evaluation questions
- Indicators
- Data sources and data collection methods
- Data collection procedures
 - Person(s) responsible
 - Schedule
- Data analysis (see Tool 5.1 for more details)

This evaluation plan reflects most of the steps in CDC's *Framework for Program Evaluation in Public Health*¹, and thus serves as a valuable resource for planning and implementing your evaluation. As you noticed, most of the evaluation plan components have already been addressed and built in the previous tools (1.1, 2.2, 2.4, 3.1, 3.2, 3.3, 4.1, 4.2, 4.3). Tool 4.4 compiles the work done up to this point.

HOW DO YOU CONSTRUCT AN EVALUATION PLAN?

Following are some suggested steps to help you construct your evaluation plan.

1. Gather all relevant materials.

It is likely that you have had several meetings with program staff and stakeholders to discuss elements of the evaluation, taken minutes of these meetings, and developed several documents essential to constructing your evaluation plan.

Prior to developing the evaluation plan, make sure you have:

- reviewed your Comprehensive STD Prevention Systems (CSPS) grant application
- gathered all the documents that describe which STD program component or activity will be evaluated and why
- determined the goals and objectives pertaining to the program component or activity to be evaluated
- determined who will be involved in the evaluation, who will use the evaluation findings and how they will use them
- the final version of the logic model(s)
- the list of evaluation questions and corresponding indicators, data sources, data collection methods, ideas on how you may want to analyze the data
- available resources and staffing for the evaluation

¹ Centers for Disease Control and Prevention. Framework for Program Evaluation in Public Health. MMWR 1999; 48 (no. RR-11)

Table 1: Advantages and Disadvantages of Possible Data Sources

EXAMPLES	ADVANTAGES	DISADVANTAGES
Data Source: Documents		
<ul style="list-style-type: none"> • Grant proposals • Administrative records • Registration/enrollment forms • Surveillance reports • Database records • Web pages • Minutes of meetings • Brochures 	<ul style="list-style-type: none"> • The data are available and accessible. • You may know how the data were collected if gathered by your program. 	<ul style="list-style-type: none"> • The value of the data depends on how accurately and consistently it was recorded. • Existing records may not have the data collected in the format you need. • Existing records may not contain all the data that you need for your evaluation. • Due to privacy considerations, the program may not have permission from clients to use the information in their existing records for this purpose.
Data Source: Individuals		
<ul style="list-style-type: none"> • STD clients' or former clients' knowledge, attitudes, or skills during and after an activity. • Target population(s) perception and/or acceptability of a new modality (e.g., partners therapy) • Changes in STD clients' behavior 	<ul style="list-style-type: none"> • These are data your program directly collects from the target population(s) (primary data). 	<ul style="list-style-type: none"> • Reports from individuals and self-report data may be unreliable. However, when a combination of data sources is used (e.g. individuals and data records), the combined set of data can provide useful information. • When obtaining information directly from individuals (e.g., face-to-face interviews) be aware of the possibility of receiving socially desirable responses. For example, a client who has several sexual partners may report in an interview that s/he only has one sexual partner because s/he feels that is the more acceptable response.

(continued)

Table 1: Advantages and Disadvantages of Possible Data Sources (continued)

EXAMPLES	ADVANTAGES	DISADVANTAGES
Data Source: Observations		
<ul style="list-style-type: none"> • Meetings • Client encounters • Data observed by you or by a trained observer on indicators related to behavior, facilities, and environments among others. 	<ul style="list-style-type: none"> • The data provide information on verbal/non-verbal behavior and skills. • The data can be used to supplement self-report information. 	<ul style="list-style-type: none"> • The value of the data depends on the training and skills of the observer, and the specificity of the instrument used to rate the observations. • Ratings may vary if there is more than one observer.

WHAT DATA COLLECTION METHODS COULD YOU USE FOR YOUR INDICATORS ACCORDING TO YOUR RESOURCES?

Once you have decided where or from whom you want to obtain the data for each of your indicators, you are ready to decide which data collection methods to use. The data collection methods to be discussed in this tool include: surveys, interviews, focus groups, observation, and document review. Their advantages and disadvantages are discussed in Table 2. You should consider the following questions when choosing a data collection method.

Purpose of the evaluation: What method seems most appropriate for the purpose of your evaluation and the evaluation questions that you want answered?

Users of the evaluation: Will the method allow you to gather information that can be analyzed and presented in a way that will be seen as credible by your stakeholders?

In Tool 4.4, you will learn how to organize all this information into a comprehensive evaluation plan. The flowchart on the previous page provides a description of where an evaluation plan fits in with your past evaluation planning activities.

LEARNING OBJECTIVE

Upon completion of this tool, you will be able to:

- Develop an evaluation plan to guide the planning and implementation of a program evaluation.

WHAT IS THE PURPOSE OF AN EVALUATION PLAN?

An evaluation plan gives you the opportunity to verify that you have addressed all the elements required to implement and complete a successful evaluation. An evaluation plan also helps program staff to understand stakeholder perspectives on the evaluation process and to clarify stakeholder expectations of program results.

WHAT ARE THE COMPONENTS OF AN EVALUATION PLAN?

An evaluation plan has two main components: (1) a narrative component and (2) a matrix, both of which enable you to operationalize the evaluation.

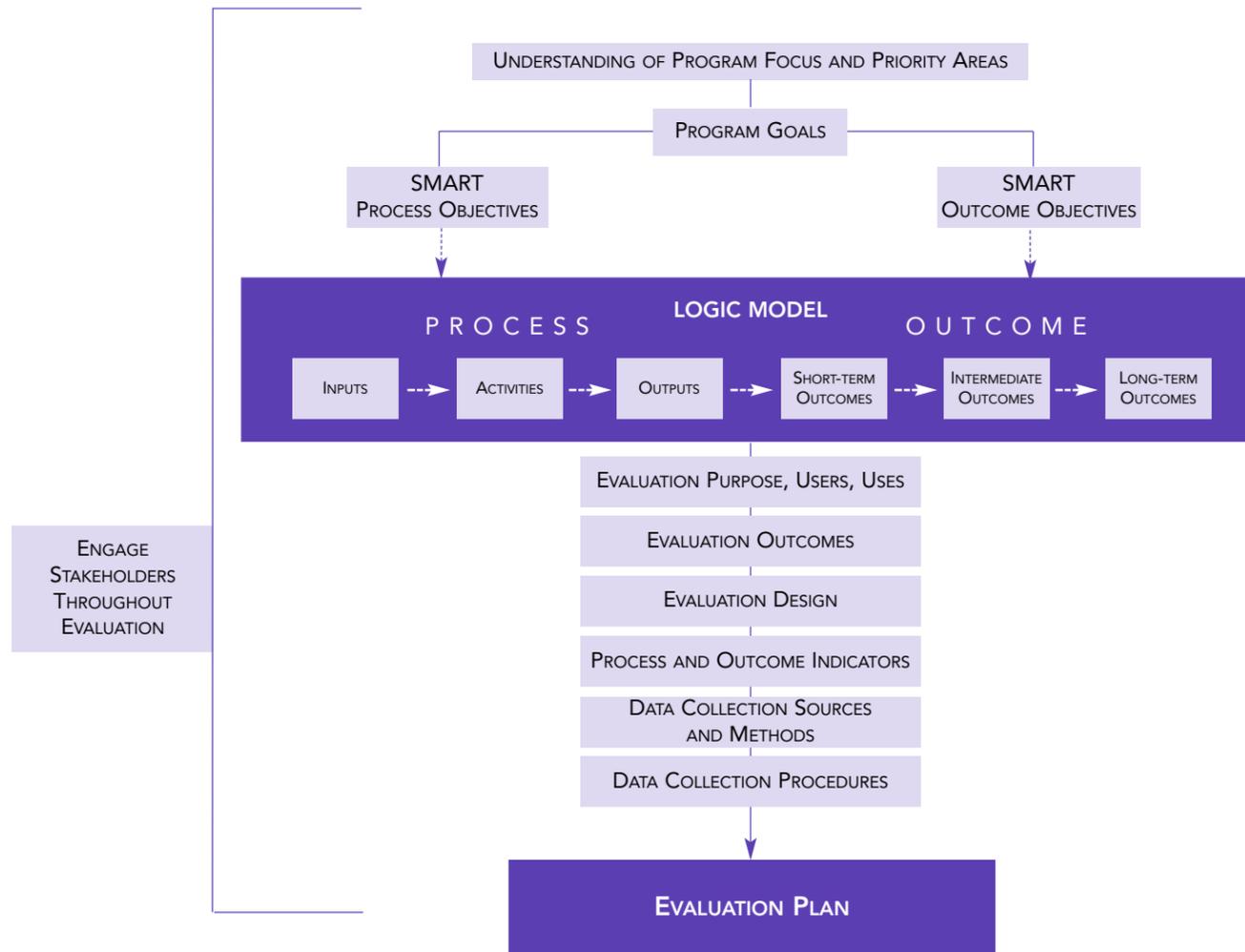
The *narrative component* of an evaluation plan includes the following:

- Sexually Transmitted Disease (STD) program component or activity to be evaluated
- Rationale for evaluating this STD program component or activity
- Purpose of the evaluation
- Goal(s) and objectives that relate to the program component/activity to be evaluated
- Logic model(s)
- Individuals and their roles in the evaluation team
- Users and uses of evaluation findings
- Approach to disseminating evaluation findings to appropriate users
- Timeline for completing the evaluation
- Evaluation budget

TOOL 4.4: COMPLETE AN EVALUATION PLAN BASED ON PROGRAM DESCRIPTION AND EVALUATION DESIGN

INTRODUCTION

You learned how to describe your program through well-written goals and SMART objectives (Tool 2.2) and developed logic models (Tool 2.4) — all with input from program staff and stakeholders. You also learned how to select program evaluation questions (Tool 3.3) and identify corresponding indicators for each question (Tool 4.1). Further, you learned how to select appropriate and feasible data collection methods suitable for each source of data, as well as data collection procedures (Tools 4.2 and 4.3).



Respondents from whom you will collect the data: Where and how can respondents best be reached? What is the culturally and linguistically appropriate method to use? Is conducting a personal interview or a survey more appropriate for certain target populations? Do you need a representative sample, a convenient sample, or the universe?

Resources available (time, money, volunteers, travel expenses, supplies): Which method(s) can you afford and manage? What resource allocation is feasible? Consider when results are needed, your own abilities, costs of hiring a consultant, and other resource issues.

Degree of intrusiveness: Will the method disrupt the program or be seen as intrusive by the respondents? Also consider issues of confidentiality if the information that you are seeking is sensitive.

Type of information: Do you want representative information that applies to all participants (standardized information, such as from a survey that will be comparable across locations)? Or, do you want to examine the range and diversity of experiences, or tell a story about your target population(s) or a program component (e.g., case study)?

Advantages and disadvantages of each method: What are the key strengths and weaknesses of each? Consider issues such as time and respondent burden, cost, necessary infrastructure, and access to records. What is most appropriate for your evaluation needs?

Data collection methods you might consider using include surveys, interviews (e.g. individual, focus groups), observations, and document reviews. The advantages and disadvantages of these methods are summarized in Table 2.

Table 2: Advantages and Disadvantages of Possible Data Sources

METHOD	ADVANTAGES	DISADVANTAGES
Surveys	<ul style="list-style-type: none"> • Anonymous completion possible • Can administer to groups of people at the same time • Can be efficient and cost effective 	<ul style="list-style-type: none"> • Forced choices may miss certain responses from participants • Wording may bias responses • Impersonal
Interviews (individual/ in-depth)	<ul style="list-style-type: none"> • Can build rapport with participant • Can probe to get additional information • Can get breadth or depth of information 	<ul style="list-style-type: none"> • Time consuming • Expensive • Interviewing styles and wording may affect responses
Focus Groups	<ul style="list-style-type: none"> • Can get common impressions quickly • Can be an efficient way to get breadth and depth of information in a short time frame 	<ul style="list-style-type: none"> • Need experienced facilitator • Can be difficult and costly to schedule a group of 6-8 people • Time consuming to analyze responses
Observation	<ul style="list-style-type: none"> • Can view program operations as they occur 	<ul style="list-style-type: none"> • Difficult to interpret observed behaviors • My influence behaviors of program participants • May be expensive and time consuming to record each individual event.
Document Review	<ul style="list-style-type: none"> • Can document historical information about your program • Does not interrupt program or client routine • Information already exists 	<ul style="list-style-type: none"> • May be time consuming • Available information may be incomplete • Gathering information is dependent on quality of records kept

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APPENDIX B

Training Data Collectors

More than one person may be involved in your data collection effort. The level and extent of training they need depends on the complexity of the data collection method and the individuals' skills.

Your training should include:

- An *orientation* on the purpose of the evaluation and how the information will be used.
- *Logistical details* involved in data collection, including where the forms/instruments are obtained, what to do with them when completed, any approvals that must be obtained, calendar and timing considerations, and safeguarding confidentiality of information and information sources.
- *Data collection methods and techniques* (e.g., personal interviews, focus groups, review of program /clinical records, and/or observation techniques). For example, if you are conducting interviews, your interviewers should fully understand the questions being asked, when to probe for an expanded response or for clarification, how to carry out the interview, and how to record the data objectively, consistently, and carefully.
- *Opportunities to practice* administering the instrument (e.g., questionnaire, interview guide, observation log). Practice makes perfect and increases the quality of the evaluation data.

HOW DO YOU IMPLEMENT A MIXED APPROACH?

In reviewing which sources or method(s) to use, keep in mind that you can use a mixed approach to answer evaluation questions and measure indicators. This involves using more than one source (e.g., individuals and documents) and/or different methods (e.g., survey and focus groups). With mixed methods, you can obtain different sets of data that have the potential to produce similar results and therefore add credibility to your findings. Mixed methods can also allow you to examine different facets of the same phenomenon and add breadth and depth to your findings.

An example of a mixed method approach would be conducting both a focus group and a survey with sexually active men and women aged 15-19 years to understand their sexual history. The survey would provide numeric data on average number of sex partners, frequency of condom use, and other information. The focus group could provide in-depth information on these same variables, and detailed data on “why” members of the target population have multiple sex partners and their views on condom use. Generally, it is best to use some combination of quantitative and qualitative methods to obtain the most comprehensive information to measure your indicators. Be aware that in some instances, the results you obtain from your mixed methods instruments may seem to produce conflicting results. For example, your survey of sexually active men and women aged 15-19 years, may indicate that they do use contraception while your focus group indicates that condoms are not widely used. In this example, the results from the survey would appear to contradict the results from the focus group. In this situation (resources permitting) conduct a focus group or interviews of surveyed participants. This may help you reconcile the original results of the focus group and survey.

A valuable source of feedback for decisions on selecting data collection methods is someone with experience using the various methods you are considering. This person may be a staff member of your program or from other programs at the Department of Health, a consultant from a local college or university, your program consultant or evaluation staff from CDC's Division of STD Prevention (DSTDP). Their input regarding the feasibility and cost of these data collection methods can be invaluable to you and your STD program as you choose the data collection method(s) for your indicators.

WHAT IS THE RELATIONSHIPS AMONG EVALUATION QUESTIONS, INDICATORS, AND, DATA SOURCES AND METHODS?

Following are two tables that examine the relationship among evaluation questions, indicators, and data collection methods for an evaluation of a professional development workshop on chlamydia screening protocols. The information you obtained in previous evaluation tools will complement the information presented in Tables 3 and 4. These will help you (1) review what process or outcome information should be collected based on the evaluation questions and (2) determine appropriate data sources and collection methods accordingly.

APPENDIX A

Suggested Skills and Qualities of Data Collectors

- Organizational skills.
- Good memory and an eye for details. These skills are most critical when gathering data through observation and reviewing records.
- Familiarity with program activities to be evaluated (e.g., knowledge on social marketing for a condom campaign).
- Experience with the data collection methods selected for the evaluation.
- Cultural competence and experience in data collection with the populations the program works with.
- Communication skills, including being a good listener and communicating concepts clearly.
- People skills, such as being respectful (not condescending) and the ability to start and maintain conversations with individuals they do not know. These skills are particularly important when interacting directly with the target population(s) (e.g., interviews and focus groups).
- Ability to refrain from expressing one's own opinions, attitudes, and ideas because this may influence individuals' responses.
- Flexibility in adapting to changes in the way and the number of questions to ask (e.g., you may need to revise your data collection instruments by adding/deleting/rewording questions).
- Dependability.

DATA COLLECTION PROCEDURES:

Supervisors who are trained in the use of a Ct screening observation instrument will observe each trained clinical staff person and complete an observation instrument for each person within one month of the training. To test the reliability and validity of the observation instrument, it will be pre-tested with a sample of clinical staff who are conducting Ct screening, but did not attend the training that is being evaluated. To ensure confidentiality of the data, the supervisor will create a unique code number for each completed instrument. (Staff X) will collect all completed observation instruments from supervisors, check for the completeness of the instrument and place them in locked file drawers in the office of the STD Director. Only evaluation staff will have key access to the file drawers.

TEMPLATE FOR EXERCISE

				DATA COLLECTION PROCEDURES			
OUTCOME	INDICATORS	DATA SOURCE	DATA COLLECTION METHOD	SCHEDULE	RESPONSIBILITY	LOGISTICS/ CONFIDENTIALITY	DATA QUALITY CONTROL

Table 3: Example of data collection sources and methods used to measure indicators and to answer process evaluation questions for an evaluation of a professional development workshop on Chlamydia screening protocols.

OVERARCHING PROCESS EVALUATION QUESTION: What was the quality of the professional development workshop the STD clinic staff received?			
EVALUATION QUESTIONS	INDICATORS	DATA SOURCE	DATA COLLECTION METHODS
<ul style="list-style-type: none"> Out of the six objectives listed, how many were covered by the facilitator(s)? 	<ul style="list-style-type: none"> Number of professional workshop objectives met during the implementation of the STD workshop 	Documents (facilitators' training implementation log)	Document review.
<ul style="list-style-type: none"> What barriers or facilitators to workshop implementation were evident? 	<ul style="list-style-type: none"> Barriers and supports for conducting the workshop or for staff to attend. 	Individuals (facilitator of the workshop, STD program staff who organized the event)	Interview (with facilitators and program staff)
<ul style="list-style-type: none"> Was the facilitator knowledgeable about workshop content? 	<ul style="list-style-type: none"> Percent of participants who thought the facilitator was knowledgeable about the workshop content 	Individuals (workshop participants)	Survey (at the end of the workshop)
<ul style="list-style-type: none"> Was the information presented in a culturally appropriate manner? 	<ul style="list-style-type: none"> Percent of participants who felt the facilitator presented information in a culturally and linguistically appropriate manner. 		
<ul style="list-style-type: none"> Did participants understand the material that was presented? 	<ul style="list-style-type: none"> Extent to which participants felt the materials provided were understandable 		
<ul style="list-style-type: none"> Did participants feel that the material that was presented was culturally appropriate? 	<ul style="list-style-type: none"> Extent to which participants felt the materials were culturally appropriate. 		

Table 4: Example of data collection sources and methods used to measure indicators and to answer outcome evaluation questions for an evaluation of a professional development workshop on Chlamydia Screening Protocols.

OVERARCHING OUTCOME EVALUATION QUESTION: How did the professional development workshop on STD screening protocols impact the STD clinic staff Ct screening practice?			
EVALUATION QUESTIONS	INDICATORS	DATA SOURCE	DATA COLLECTION METHODS
<ul style="list-style-type: none"> What proportion of the clinical staff who attended the workshop apply prescribed screening protocols in all clinical encounters? 	<ul style="list-style-type: none"> Percent of STD clinic staff who attended the workshop who follow the STD screening protocols in patient encounters. 	<ul style="list-style-type: none"> Documents (patient records) 	<ul style="list-style-type: none"> Document review
		<ul style="list-style-type: none"> Individuals (patients, clinicians) 	<ul style="list-style-type: none"> interview (with patients and clinicians)
		<ul style="list-style-type: none"> Observations (on the job performance observations) 	<ul style="list-style-type: none"> Observation

SUMMARY CHECKLIST: Determine the Data Sources and Methods for Indicators

- Select potential data sources for each indicator.
- Consider the advantages and disadvantages of each data source.
- Select your data collection method(s) by considering the:
 - purpose of the evaluation
 - users of the evaluation
 - characteristics of the respondents from whom you will collect the data
 - resources available (time, money, volunteers, travel expenses, supplies)
 - degree of intrusiveness
 - type of information needed
 - advantages and disadvantages of each method
- Link your data sources and data collection methods to the indicators and evaluation questions.

EXERCISE

County Z STD program staff and stakeholders have decided to evaluate the Chlamydia (Ct) training that the health department conducted for clinical staff in the juvenile detention center. They have developed a logic model for the training program, specified indicators, and identified the data collection methods they will use based on available resources. They are now identifying the data collection procedures.

Based on the information below, complete the template with information about the outcome, indicators, data source and method, and corresponding data collection procedures. In summarizing data collection procedures, specify the schedule for data collection, who is responsible for data collection, the logistics/confidentiality, and data quality control. [Note: The completed template is provided at the end of this tool—Table 1.]

OUTCOME:

Increased adherence of clinical staff to Ct clinical guidelines.

INDICATORS:

- (1) Percent of trained clinical staff who can correctly apply Ct screening and treatment protocols with patients before the training.
- (2) Percent of trained clinical staff who can correctly apply Ct screening and treatment protocols with patients 30 days following the training.

DATA SOURCE:

Trained clinical staff

METHOD:

Observation (i.e., Ct screening observation instrument)

CONCLUSION AND NEXT STEPS

Data collection procedures involve administering instruments, gathering responses, and organizing responses before the data can be analyzed. This tool has presented information on various factors and issues to consider when developing your data collection procedures to ensure the quality and accuracy of the information collected.

Next, in Tool 4.4 (*Complete an Evaluation Plan Based on Program Description and Evaluation Design*), you will learn how to develop an evaluation plan that your program can easily follow.

ACRONYMS USED IN THIS TOOL

Ct – Chlamydia trachomatis

DIS – Disease Intervention Specialist

MIS – Management Information System

STD – Sexually Transmitted Disease

OMB – Office of Management and Budget

KEY TERMS

Code book: A document detailing instructions on how the data for a specific evaluation is coded. It describes each code so that codes are applied to the data in a standardized way.

Coding: In quantitative analysis this is the process of arranging the data so that the computer can “read” the code and perform an analysis (e.g., if one of the variables is “sex” you might code this as 1 for “female” and 2 for “male”). In qualitative analysis, coding is used to reduce the data by organizing the text (data) into categories/themes. The codes are applied to text segments that match the theme(s) associated with the code.

Data collection: The process of administering instruments and gathering responses.

Reliability: The consistency of a measure or question in obtaining very similar or identical results when used repeatedly.

Validity: The extent to which a question actually measures what it is supposed to measure. For example, a question that asks how often an individual uses a condom is valid if it accurately measures the actual level of condom use; it is not valid if instead it measures the extent to which an individual realizes that s/he should wear a condom.

CONCLUSION AND NEXT STEPS

In this tool you have learned the advantages and disadvantages of data sources and data collection methods from which you can gather information on your indicators. You have also learned about the issues and factors to consider as part of the process of selecting this information.

Next, based on the data sources and data collection methods you have chosen for your evaluation, you will learn how to effectively collect your data. Tool 4.3 (*Establish a Clear Procedure to Collect the Information*), will help you establish a clear procedure for the data collection phase of your evaluation design, and address factors that may affect the quality of the information you gather.

ACRONYMS USED IN THIS TOOL

CDC – Centers for Disease Control

Ct – Chlamydia trachomatis

DSTDP – Division of STD Prevention

JDC – Juvenile Detention Center

SMART – Specific, Measurable, Achievable, Relevant, and Time-bound

STD – Sexually Transmitted Disease

KEY TERMS

Focus Group: A qualitative method used to collect data from a group of people (about 6 - 11) who meet for 1-2 hours to discuss their insights, ideas, and observations about a particular topic with a trained moderator. Participants are selected because they share certain characteristics (e.g., individuals who have been tested for syphilis, women in detention facilities) relevant to the evaluation.

Indicator: A specific, observable, and measurable accomplishment or change that shows whether progress has been made toward achieving a specific program output or outcome.

Individual interview: A data collection method which involves dialogue with individuals who are carefully selected for their personal experience and knowledge with the issues at hand. Since these interviews are conducted individually, they are useful when anonymity is an issue or when asking about sensitive topics so participants can feel free to express their ideas.

Mixed-method design: A methodological approach where you collect data from more than one source and/or through different methods. The advantages of using mixed methods include: increasing the cross-checks on the evaluation findings, examining different facets of the same phenomenon, and increasing stakeholders' confidence in the overall evaluation results. An example of mixed methods is using both a focus group and a survey to understand a target population's reluctance to use condoms.

Observation: A data collection method in which you take field notes on the behavior and activities of individuals or describe the environment while observing these in the field. For example, you might take notes on the behavior of gay men in bath houses as part of your data collection procedures, or take notes on how patients are treated by clinic staff, and use such information to further develop or improve your program.

Primary data: Data directly obtained by your program (e.g., surveillance, number of sex partners of syphilis cases collected through DIS interviews).

Qualitative methods: Data collection methods used to gather narrative data to better understand the experiences of the target population and how a program activity works.

Quantitative methods: Data collection methods that are used to collect numerical data. An example is the use of a survey that queries respondents about their sexual history using closed-ended questions in which numbers can be assigned to responses (e.g., number of sexual partners, frequency of condom use).

SUMMARY CHECKLIST: Establishing Clear Procedures for Data Collection

- Use data collection instruments that will contribute to the quality of data collected.
 - Try to use existing instruments that have been pre-tested to produce valid and reliable data.
 - If possible, discuss the strengths and weaknesses of existing data instruments with individuals who have used the instrument previously.
 - When developing new data collection instruments:
 - you may want to obtain advice from individuals who have experience developing evaluation instruments;
 - field-test the instruments and modify based on feedback.
- Determine the timing/frequency/schedule of your data collection activities. Consider:
 - When will the information you need be available?
 - When will you have appropriate resources to collect the data?
 - How long will it take to collect the data?
- Establish who will be responsible for which data gathering activities (e.g., program staff, other staff, paid consultants, volunteers).
 - What skills and qualities should the data collectors have?
 - How will these requirements be met? What are the training and/or recruitment procedures?
 - How will you assure that data collectors collect data in a standardized way?
- Determine what administrative or logistical issues need to be addressed.
 - Do you need to obtain OMB approval?
 - Do you need to obtain approval from any board or agency?
 - Are informed consent procedures needed?
 - What rules and regulations apply to your data collection activities?
 - How will you address security and confidentiality related to data collection, entry, and storage?
 - How will you develop your codebook for the data collection instruments?
 - How will you assure the completeness of your data collection instruments?
- Establish procedures for monitoring, reviewing, and revising your data collection efforts to identify problems you encounter.
 - How will you address problems related to personnel and other resources, logistics, and reliability and validity of instruments?
 - How will you address problems related to how the data collection process is perceived by stakeholders?

While data collection procedures are designed to maximize your success with data collection, they do not guarantee that your experience will be trouble-free. Despite all your planning, you may discover that data collection is not going exactly according to plan. This is not unusual, and you can learn from any problems that you encounter. These problems may relate to logistics (e.g. lack of child-care services for women of childbearing age participating in a focus group); personnel (e.g., some staff are not correctly completing client files); or the instruments themselves (e.g., question is being consistently misinterpreted). It is important to identify issues early on and to determine the actual source of the problem in order to correct it. Pilot testing is a way of identifying data collection issues at an early stage and we recommend that data collection instruments be piloted and revisions made before instruments and data collection procedures are used for the actual evaluation.

Secondary Data: Information your program can use that has been collected by someone else (e.g., national data). This may include epidemiological data, socio-demographics, health risk behaviors and health policies.

Stakeholders: Individuals or organizations directly or indirectly affected by your STD program and/or the evaluation results (e.g., STD program staff, family planning staff, representatives of target populations).

Surveillance data: Data collected in an ongoing, systematic way regarding agent/hazard, risk factor, exposure, or health event. Surveillance data are essential for the planning, implementation, and evaluation of public health practice.

Survey: A method of collecting information that can be self-administered, administered over a telephone, administered using a computer or administered face-to-face. Surveys generally include close-ended questions that are asked to individuals in a specific order and provide multiple choice or discrete responses (e.g., “Have you been tested for syphilis in the last 6 months?”).

**EXERCISE:
SELECTING DATA SOURCES AND
COLLECTION METHODS**

Listed below in Tables 5 and 6 are the evaluation questions and indicators that you and your stakeholders want to address in a process and outcome evaluation of a Chlamydia screening program in female juvenile detention centers (JDCs) in County Z. Based on the information you have learned in this tool, as well as the information listed in the tables, complete the tables by specifying the data sources and collection methods you would use as well as the rationale for source/method selection.

Note: The completed tables are presented at the end of this tool.

Table 5: Provide data sources, data collection methods and rationale for their selection.

PROCESS EVALUATION QUESTION	INDICATORS	DATA SOURCE	DATA COLLECTION METHODS	RATIONALE FOR SOURCE/METHOD SELECTION
What were the barriers and facilitators of implementing Ct screening in JDCs?	<ul style="list-style-type: none"> • Extent to which STD program leadership identifies project as a priority. • Percent of JDCs that formally adopt the Ct screening project. • Percent of trained medical providers retained in project. • Percent of trained medical providers who are committed to the objectives of the project. 			

sure that you identify how the tapes will be stored, who will transcribe the tapes, and when will the tapes be destroyed.

- *Development of a codebook for questions included in the data collection instruments.* A codebook is a document detailing instructions on how to code the data so that each data element is coded in a standardized way. In quantitative data, it specifies a brief name and description for each item or question in a data collection instrument. In qualitative data, coding is used to reduce the data by organizing the text (data) into categories/themes. The codes are applied to text segments that match the theme(s) associated with the code. You do not have to wait until the data are collected to develop a codebook. You can start working on this for quantitative data once you finalize the instrument so that you can design the program to be applied in analysis ahead of time. For qualitative data, you can start this coding process by determining main themes based on the questions in the instrument. Then you will modify the code scheme during and after data collection.
- *Completeness of data collection instruments.* Before turning over the completed data collection instruments to those who will be entering, managing and analyzing the data, it is important that you carefully check each instrument to assure its completeness. If certain items or questions have not been completed, your data collectors should try to retrieve this information and/or clarify any responses that may not be clearly written.

6. Monitoring, Reviewing, and Revising Procedures.

During data collection, consider what is going well, what is not going as expected, and what needs to be modified for the next data collection. Revise your data collection design and methods as needed, based on your resources (financial and human), how the data collection process is received by clients, and how it is perceived by your stakeholders, especially with respect to the usefulness of the information you are collecting.

5. Dealing with administrative/logistical Issues.

Your data collection procedures should also address certain administrative or logistical issues that may affect your data collection practices, and thus the quality of your data.

- Independent oversight and compliance with existing regulations.*
Depending on the nature of the evaluation planned, the methods of obtaining data, or the evaluation questions posed, you may need to submit your evaluation proposal and data collection instruments to an institutional review board (IRB) to assure the protection of the rights of human subjects and the use of informed consent, if needed. To do this you should understand the approval process required by the IRB. Policies for the approval of data collection activities vary across states and local jurisdictions. It is important to understand the rules and regulations that apply to your target population.

Also, note that if you are planning a data collection that it is federally sponsored and it involves 10 or more respondents, you need to obtain OMB (Office of Management and Budget) approval. For more information on what would required OMB approval and the process please refer to <http://intranet.cdc.gov/od/ocso/osrs/omb/OMBQ&A.pdf> or <http://intranet.cdc.gov/od/ocso/osrs/omb/OMB%20Paperwork%20Reduction%20Act%20Fact%20Sheet.pdf>.

- Security and confidentiality of the information being collected.*
Ensuring the privacy of your program clients in an evaluation should be an important element of your design. You can help maintain confidentiality by stripping any identifiers from the data gathered and making sure it is stored in a secure place.

Your data security and confidentiality procedures should extend to data entry and management. For example, decide how the information will be transferred from the data collectors to those responsible for entering data. How will the information be computerized in a way that security and confidentiality of the data are maintained?

Your procedures should identify the physical location for storing the data collected. In the case of focus groups, the discussions are often tape recorded and transcribed. Make

Table 6: Provide data sources, data collection methods and rationale for their selection.

OUTCOME EVALUATION QUESTION	OUTCOMES	INDICATORS	DATA SOURCES	DATA COLLECTION METHOD	RATIONALE FOR SOURCE/METHOD SELECTION
As a result of the Ct screening initiative, did more JDCs screen and treat adolescent females for Ct.	Increased number of JDCs that provide Ct screening, counseling and treatment services for adolescent females.	Percent of JDCs that provide Ct screening, counseling, and treatment services for adolescent females 3 months before and 3 months after the initiative.			
As a result of participating in the Ct screening initiative, were more adolescent females in JDCs screened and treated for Chlamydia?	Increased number of adolescent females in JDCs who are screened and treated for Ct.	<p>Increased number of adolescent females in JDCs who are screened and treated for Ct</p> <p>Percent of females in JDCs who were screened for Ct 3 months before and 3 months after the initiative.</p> <p>Percent of screened females with positive Ct results in JDCs who were treated 3 months before and 3 months after the initiative.</p>			

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4. Determining who will be responsible for collecting the evaluation data you need.

First, determine if your program staff have the specific skills/qualities you need (e.g., experience/training in moderating focus groups, speak the language of the target population). In Appendix A you will see suggested skills and qualities of data collectors. Please note that the data collection expertise may be found in most state/local health departments in Assessment Sections, DIS staff (interview skills), and Epidemiology Units.

If you lack staff resources with the required skills, then you need a plan for meeting those requirements. Having trained/skilled individuals to collect your data affects the quality of your data. In-service training can address some of the skills you need to build/strengthen among the STD staff (see Appendix B for advice on what information to cover when training data collectors). In other cases, you will need to do outreach and recruitment to identify individuals with the skills you need. Consider contacting your DSTDP program consultant or evaluation staff who can refer you to local resources (see Tool 3.2). Take steps to include training plans or recruitment efforts in your data collection procedures.

Along with the skills and qualities of your data collectors, you should consider the types of evaluation data each is collecting. If collecting information involves direct interviews with STD program staff, then someone outside the program should undertake this task to help assure frank responses. If a data collection method involves record reviews (e.g., meeting minutes, patient records), program staff may do this.

Keep in mind that if your evaluation design calls for aggregating data across sites (e.g., STD clinics) or if more than one person is collecting the data, it is crucial that data be collected in the same way. This standardization of data collection will allow you to aggregate the data and/or make comparisons.

3. Determining when you need to collect data.

You need to determine when and how frequently to collect the data you need. Will you be collecting data before and/or after a particular intervention (e.g., screening, health education, testing, and media campaign)? Will you be collecting data at one particular time in your program (e.g., quarterly)? Your evaluation design should provide guidance as to when to collect certain data. Let's assume that you are evaluating a gonorrhea prevention media campaign and one of the outcomes you are measuring relates to increased awareness of the gonorrhea outbreak in your target population. Since you have to compare changes in the target population's awareness as a result of the media campaign, you may want to collect information from them before and immediately after the intervention.

Consider the following questions to determine when and at what intervals you need to collect data:

- When will the information be available? For example, if you are using STD surveillance data from your state health department, find out when the information is available and plan accordingly.
- When collecting primary data (e.g., focus groups) try to collect the information from your sources when it is the most convenient and the least disruptive to them.
- When will you have appropriate resources to collect the data (e.g., availability of staff at particular times, need for technical assistance)?
- How long will it take to collect the data? This is particularly important in determining when your data collection efforts will start and end. Be sure to allocate sufficient time to each data collection task (e.g., completing 50 interviews with inmates: arranging interview space to facilitate inmate input, timing the interview during the field-test to determine the range of completion times; allowing for transition of inmates in and out of the interview space). When determining how much time to allocate for interviews, estimate the amount of time it will take a respondent to complete the interview, the number of interviewers available, and the number of interviews they can do in a day/week (given other responsibilities, availability of respondents, etc.).

Table 5: Process evaluation question, indicators, data source, data collection method and rationale for source/method selection

PROCESS EVALUATION QUESTION	INDICATORS	DATA SOURCE	DATA COLLECTION METHODS	RATIONALE FOR SOURCE/METHOD SELECTION
What were the barriers and facilitators of implementing Ct screening in JDCs?	<ul style="list-style-type: none"> • Extent to which STD program leadership identifies project as a priority. 	<ul style="list-style-type: none"> • Documents (Program reports and budget) 	<ul style="list-style-type: none"> • Document review 	These methods will provide the most comprehensive and complete data in order to answer the evaluation question.
		<ul style="list-style-type: none"> • Individuals (Program leadership & Ct screening implementer) 	<ul style="list-style-type: none"> • Interviews 	
	<ul style="list-style-type: none"> • Percent of JDCs that formally adopt the Ct screening project. 	<ul style="list-style-type: none"> • Documents (Program reports) • Observation at JDCs 	<ul style="list-style-type: none"> • Document review • Observation 	
	<ul style="list-style-type: none"> • Percent of trained medical providers retained in project. 	<ul style="list-style-type: none"> • Documents (program reports) 	<ul style="list-style-type: none"> • Document review 	
	<ul style="list-style-type: none"> • Percent of trained medical providers who are committed to the objectives of the project. 	<ul style="list-style-type: none"> • Individuals (medical providers) 	<ul style="list-style-type: none"> • Interviews (with medical providers) 	

Table 6: Outcome evaluation question, outcomes, indicators, data sources, data collection method, and rationale for source/method selection.

OUTCOME EVALUATION QUESTION	OUTCOMES	INDICATORS	DATA SOURCES	DATA COLLECTION METHOD	RATIONALE FOR SOURCE/METHOD SELECTION
As a result of the Ct screening initiative, did more JDCs screen and treat adolescent females for Ct?	Increased number of JDCs that provide Ct screening, counseling and treatment services for adolescent females.	Percent of JDCs that provide Ct screening, counseling, and treatment services for adolescent females 3 months before and 3 months after the initiative.	• Documents (detainees' medical records)	• Document review	Source/method is low-cost; is easy to complete; provides needed evidence for stakeholders
			• Individuals (medical staff)	• Interviews (focus groups)	Source/method are medium-cost; help validate record data; provides in-depth information on process and impacts
As a result of participating in the Ct screening initiative, were more adolescent females in JDCs screened and treated for Chlamydia?	Increased number of adolescent females in JDCs who are screened and treated for Ct.	<p>Increased number of adolescent females in JDCs who are screened and treated for Ct</p> <p>Percent of females in JDCs who were screened for Ct 3 months before and 3 months after the initiative.</p> <p>Percent of screened females with positive Ct results in JDCs who were treated 3 months before and 3 months after the initiative.</p>	• Documents (detainees' medical records, surveillance reports).	• Document review	Source/method are low-cost; easy to abstract data; highly credible with stakeholders; provide required evidence

- When you conduct interviews it is important to document what the interviewees say, their body language, and the surrounding environment (e.g., interview took place in a noisy area and this interfered with the interview) since these factors may affect the quality of the responses. It is recommended, with participants' permission, to tape the interviews and to take detailed notes, in case technology fails.
- **Observation** is a useful evaluation method to document adherence to a protocol, but it can be very difficult to conduct without using a structured instrument because the lack thereof may affect the focus of the observer. Your instrument can be a checklist that indicates the actions/behaviors that the observer should record. Field-test it with your trained observers. The parameters/criteria identified in your checklist should be clear and unambiguous.
- When using **Document Review**, develop a checklist that includes the information you need to abstract in a logical way. Also train those who will conduct chart abstraction. Keep in mind that for medical records, you may need individuals with clinical background to abstract the information, and you will need to become familiar and follow the confidentiality procedures/protocols of the agency that you will be collecting the data from.
- **Coding** is also an important part of the data collection process. Coding can be initiated as part of the data collection design when developing your evaluation questions (both close-ended and open-ended), or once the instrument is developed. You should note that if coding issues are not thought through early on in the design process, data may not be appropriately coded. Be aware that a code-book should be drafted early in the data collection process. The data coding process is discussed in further detail in Tool 5.1.

After developing a questionnaire or survey, you will want to pilot test it. Pilot testing will assist you in determining:

- How long it takes to complete the questionnaire.
- Whether the order of the questions flow well.
- Whether ample space is provided for responses.
- Whether the directions, as well as the questions are understood.
- Whether your questions are both reliable (i.e., obtains very similar or identical results when used repeatedly) and valid (actually measures what is supposed to measure).

Another advantage to pilot testing is the opportunity to check the responses you obtain against the major evaluation questions or issues you're exploring. Are patterns beginning to emerge? Are there identical responses showing up in the "Other (Please Specify)" category?

You will want to pilot test your instrument on people who resemble your program participants. You also want to administer the instrument under conditions similar to those you'll be using in gathering your data. Before pilot testing, ask some of your colleagues to review the questionnaire, particularly those who have interest or experience in evaluation or who may be familiar with the program or audience you're examining.

- **Interview** guides for use in one-on-one interviews and focus groups should include open-ended questions.² The guide should allow some flexibility for the interviewer to probe and ask follow-up questions that can add depth to the information to be collected. Develop an interview guide that is clear and easy to follow by the interviewer. Field-test it with the interviewers and among individuals with similar characteristics to the target population(s) and modify accordingly. The effectiveness of interviews depends on the skill of the interviewer. Thus, it is critical to either have experienced interviewers or to train staff on interviewing skills. DIS can be a great resource in this process.

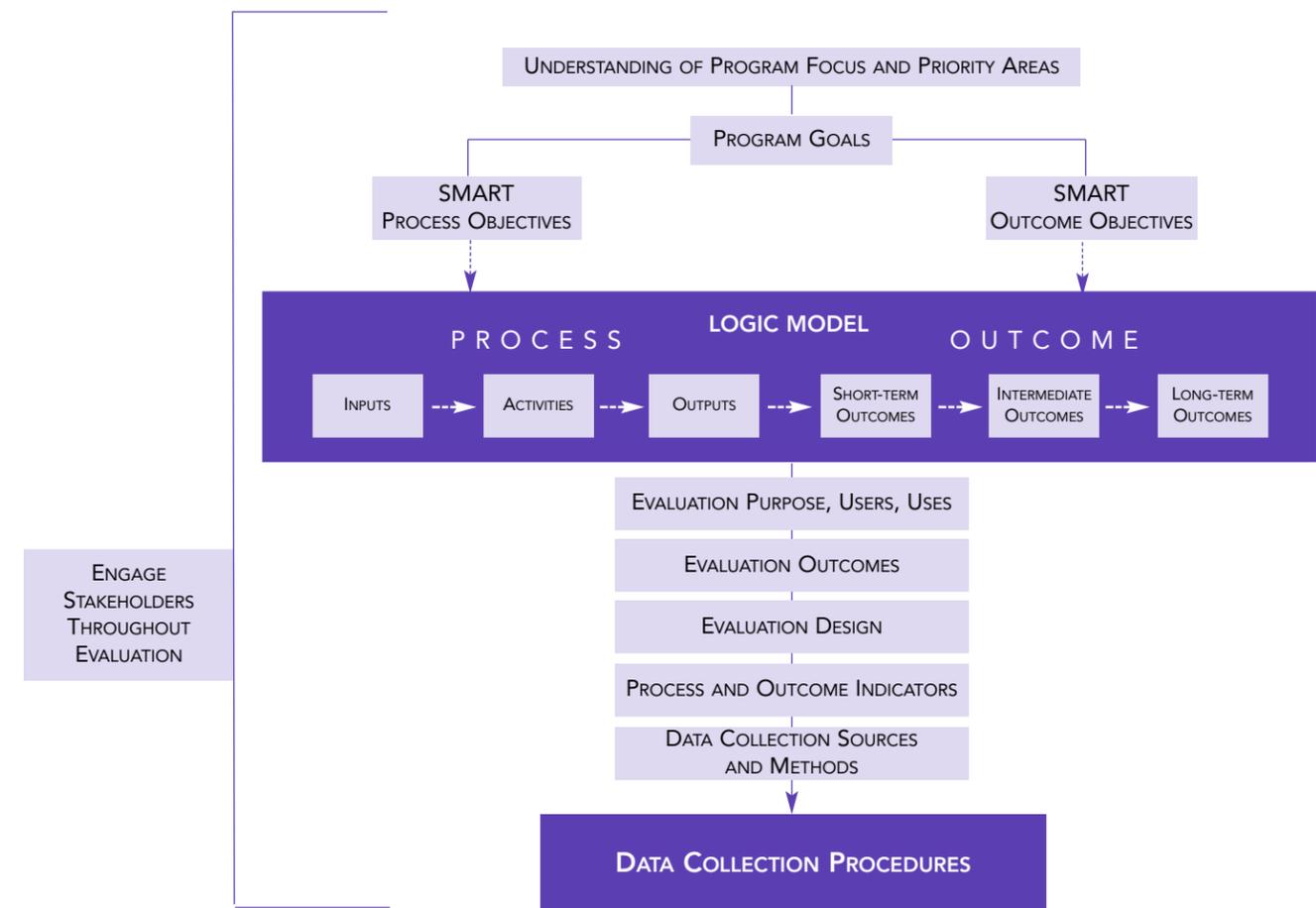
² Morgan, D.L. and Krueger, R.A. (1998). The focus group kit. Thousand Oaks, CA: Sage Publications.

Tool 4.3: ESTABLISH A CLEAR PROCEDURE TO COLLECT EVALUATION INFORMATION

INTRODUCTION

You have identified the outputs and outcomes you want to measure, selected indicators, identified data sources and the methods you will use to collect data, and determined the resources you can devote to the evaluation. Now it is time to collect the data to answer your evaluation questions.

This evaluation tool will help you establish a clear procedure for the data collection phase of your evaluation design and address factors that may affect the quality of the information you gather. The completeness and quality of the information gathered during data collection will determine whether your evaluation generates practical, accurate, and useful information. The flowchart below illustrates where establishing clear procedures to collect the information fits in with your other evaluation activities.



LEARNING OBJECTIVES

After completing this tool, you will be able to:

- Develop data collection procedures.
- Establish and implement quality control procedures for data collection and management.

WHAT FACTORS DO YOU NEED TO CONSIDER WHEN DEVELOPING DATA COLLECTION PROCEDURES?

Data collection involves administering instruments, and gathering and organizing responses before analysis. A number of factors can affect the quality, and thus the credibility, of the information you assemble. Some of these factors include how you design data collection instruments; forecasting when data should be collected; determining who will be responsible for collecting and entering data; and ensuring organizational requirements are met (e.g., informed consent procedures, OMB approval, confidentiality concerns, or departmental approvals).

Your data collection procedures should contribute to the reliability and validity of the data collection methods and measures you use. Methods are reliable if they obtain similar or identical results when used repeatedly. For example, if you repeated a blood test three times on the same blood sample, the test would be reliable if it generated the same results each time. Valid methods/measures are those that actually measure what they are supposed to measure. For example, a question that asks sexually active adolescents how often they use a condom is valid if it accurately measures their actual frequency of condom use. It is not valid if instead respondents interpret that they are being asked how frequently they should use condoms.

Consider the following factors when developing the data collection procedures.

1. Using existing data systems.

You have the option of using existing data systems (e.g., Disease Intervention Specialist (DIS) interviews, surveillance systems, Sexually Transmitted Disease [STD]/Management Information Systems [MIS]). An advantage of this is that the instruments may have been pre-tested to produce valid and reliable data. Be aware that if you use another existing data base to inform aspects of your evaluation, you may need to add specific questions to meet

your evaluation needs. Although existing data systems may collect data routinely, they may have little flexibility with regard to the questions asked in the instrument. If the existing data systems in your project area can't answer your evaluation questions, you will need to design your own evaluation instruments.

2. Designing Data Collection Instruments.

The design of your data collection instruments is an important factor that influences the quality of your data.

If you are designing your own data collection instruments: 1) you may want to obtain advice from individuals who have experience developing evaluation instruments (e.g., STD program or health department staff, CDC evaluation staff); and 2) build in enough time into your evaluation timeline to field-test the instruments and modify them accordingly.

When developing **questionnaires**¹, keep them simple, short, focused, and easy for respondents to complete. Use culturally appropriate language, and very precise instructions. Questionnaires generally include close-ended questions with multiple answers. Don't combine two questions in one. For instance, "What do you think about the Chlamydia counseling you received today and the services you have received at this clinic?" This question asks about multiple issues. The first half has to do with opinions about the Chlamydia counseling, and the other half has to do with opinions about the services received at the clinic. The latter can still be broken-down into different questions by asking about specific services. The problem with this question is that you do not know which of the multiple questions the respondent is answering, which may create confusion and affect the validity of the responses. Also, consider whether the questionnaire will be completed with the aid of a computer, self-administered (paper-pencil), or administered by another person either face-to-face or by telephone.

¹ Fowler, F.F. (2002). Survey research methods (3rd ed.) California: Sage Publications.