Council of State and
Territorial Epidemiologists

Epidemiologic Capacity Assessment Guide

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I. Purpose of Capacity Assessment and of this Guide

An assessment of epidemiologic capacity identifies the specific demonstrated abilities of the organization. The primary purpose is to enable the agency to determine whether its current capacity is sufficient to its expected needs. If the agency determines it needs additional capacity, then the assessment information will provide a sound basis for developing it.

Routine self-assessment is important, and is particularly so when the environment of public health is changing; new ideas are emerging for the deployment of resources in the organization; key staff are changing; and new health threats are emerging or old ones are either re-emerging or proving to be less tractable than thought.

This guide provides step-by-step procedures for collecting specific information that describes the organization's current epidemiologic capacity to meet its objectives. This information then can be reviewed and conclusions reached regarding needed maintenance or strengthening of any of the capacities. The process described in this guide is not intended as an evaluation of individual or organizational effectiveness.

II. The meaning and scope of epidemiologic capacity

An organization's epidemiologic capacity is its ability — due to its human and other resources — to perform those epidemiologic functions necessary to the achievement of its goals and objectives. Three epidemiologic functions are seen by the CSTE as essential to accomplishing state health agency goals:

- Monitoring and assessing the constituency's health status and its determinants.
- Managing health crises by responding to emergencies, outbreaks and other health needs.
- Providing the science for policy decisions related to public health.

Further, the CSTE recommends each agency have appropriate capacity in each of these three areas. The list below, "Twelve Component Epidemiologic Capacities" further details these three groups. The list was derived from groups of related capacities and abilities compiled from the public health literature. It consists of those capacities described by the authors as important to the achievement of the public health goals or programs about which they were writing. The purpose of this grouping and ordering is simply to impose an organization to the capacities so they may be exclusively defined and their performance by an organization measured. There is no implication of a sequence or relative importance among them.

Twelve component epidemiologic capacities and their importance

A. Monitoring and assessing the constituency's health status and its determinants.

1. Conduct surveillance of diseases and conditions related to the agency's mission and objectives.

> To know the current patterns and trends of a health event or risk factor; to identify a need to intervene or to conduct special studies; or to evaluate previously implemented prevention and control measures.

2. Conduct assessments of the status and determinants of the public's health

> To know the prevalence of selected health events or conditions in different population groups, and factors which affect it; to identify priorities for public health action and specific interventions.

3. Evaluate surveillance and assessment activities.

> To know the extent to which surveillance information is accurate, timely, and representative of the health event or risk factor in the population.

B. Managing health crises by responding to emergencies, outbreaks and other health needs.

4. Detect suspected outbreaks or high or increased frequency or prevalence of a health event or risk factor.

> To have the opportunity to investigate and intervene in any increased or elevated risk to any group in the population.

5. Initiate outbreak, crisis or needs response and situation analysis.

> To confirm the existence, magnitude and characteristics of a current or potential problem and to identify practical interventions.

6. Conduct outbreak, crisis, or needs intervention.

> To reduce the population's disease burden and its associated costs, and to increase the quality of life.

7. Conduct internal and public communications and relations.

To alert the community to the actual or potential existence of a problem that could adversely affect their health status; seek their inputs to and support for preferred interventions; and ensure that accurate and timely information is available to those who need it.

8. Conduct post-intervention review of procedures.

To improve the effectiveness of surveillance, investigation and control programs; to accelerate the learning of improved methods by all involved; and to address organizational needs.

C. Providing the science for policy decisions related to public health.

9. Recognize issues for which new or revised policy may be needed.

To assure that current policies are appropriate to the needs of the population and the risks they face, as changes occur in the physical and social environment, resources and knowledge regarding prevention and control; and that health programs are as effective as possible.

10. Assemble and interpret information.

To more fully describe the public health impact and limitations of current policy and to help identify the appropriate characteristics and quantify the potential benefits of proposed changes.

11 Formulate intent, goal and strategy of new policy.

To identify for decision-makers and the public a technically sound and socially acceptable policy that will effectively serve a public purpose.

12. Communicate this information to decision-makers.

To initiate the process of gaining acceptance of the proposed changes.

III. The process of capacity assessment

Once a state health agency has communicated its interest to the CSTE the planning and preparation process is as follows (which is also shown in Table 1):

(1) Planning and preparation. The state health agency and the CSTE further define that interest:
a. Identify as specifically as possible the state's purpose or objectives for the assessment.

b. Determine the scope of the assessment. This mainly involves identifying those organizational units to be included in the review. Ideally, it includes each unit of the organization having any epidemiologic responsibility or capacity. In the infectious/acute disease component of the organization, this would include all of the "categorical" programs as well as the general epidemiology unit. Likewise for the chronic disease, environmental, injury and other intervention programs. Units that provide data or epidemiologic consultation to such units should also be included, for example the laboratory and health statistics units. Since there typically is significant local responsibility for disease surveillance, investigation and control, discussions may include representatives of local health agencies.

c. Establish a timetable for each of the major activities of the assessment

(2) Information collection and interpretation. The state health agency and the CSTE determine the information to be collected about the programs or units included in the assessment. Three types of information are suggested. The first (pre site visit) is mission statements and program descriptions and objectives; organizational charts; and staffing, including the number and type of FTEs.

Second (also pre site visit), using a questionnaire provided by the CSTE (Attachment 1), information is collected about actual recent epidemiologic performance of each of the organizational units. If it is desired, reportable disease surveillance capacity can be more fully assessed using the supplemental guide included as attachment 2. Similarly, data sources and use by non-infectious disease units can be more fully described using the supplemental guide in Attachment 3.

The information provided to the CSTE is organized to allow tentative conclusions about the intended output of the units, and of the sufficiency of their resources for that purpose. The completed questionnaires from all organizational units are then recapitulated for analysis and interpretation, prior to the site visit. This information will also be used to fine-tune the interviews and to identify questionnaire responses for follow-up during the interview.

Third (on-site), interview selected staff of each unit (about an hour and a half is need for each). Following the interviews the site team organizes and interprets all the information obtained (for which approximately one-half day is needed).

(3) Conclusions and recommendations. The summarized and interpreted information and tentative recommendations are reviewed with the state coordinator of the assessment. At this time, additional refinements are made. On the last day of the site visit, the interpretations are discussed collectively with the managers and others involved, in a two to three hour session. The intended outcomes are:

- Validation of the information obtained.
- General concurrence regarding those capacities which are not sufficient to the larger organization's needs, or are vulnerable to loss or diminution.
- The identification of ways the organization can use the results of the assessment to determine whether and how to further strengthen itself.

The validation begins with the review of the assessment of capacities #1 through #12. For each capacity, there are conclusions as to whether current performance by each organizational unit reviewed reflects sufficient capacity for the needs of that unit and of the entire organization. Some capacities may be adequate in a particular unit but missing or insufficient in others. Then the discussion turns to options for strengthening those capacities judged to be insufficient in view of their importance.

Within two to three weeks following the on-site visit a draft report will be prepared and sent to the state contact person for review and comment by those involved. When these comments are received, the final report will be prepared and provided to the state health agency.

(4) Development of strengthened capacity. The state health agency resumes its lead role for this

Table 1.
Overview of the capacity assessment process

Step	A. Pre-site-visit	B. Site visit	C. Post- site-visit
Planning and preparation.	a. The CSTE and the SHA confirm the assessment purpose and objectives and scope. b. Determine preliminary information to obtain (mission and objectives for each unit; organizational charts; completed capacity questionnaires. c. Establish a timetable.	Hold an orientation meeting with all staff to be involved.	
Information collection and interpretation.	Using the preliminary information provided by the state, draw preliminary conclusions about: a. Desired organizational outputs. b. Probable capacity needed. c. Probable current capacity.	a. Conduct interviews; collect additional information. b. Review all information and revise and refine the preliminary conclusions. c. Discuss interpretations and recommendations, first with SHA contact person, then with all staff, and obtain their comments.	Review comments on the draft report.
Conclusions and recommend-ations.		Discuss how to use the data for planned change. Priority-setting exercise.	a. Prepare draft report and send to SHA in 2-3 weeks. b. Review the comments; revise draft; and send final report
Developing epidemiologic capacity for the future.			Priorities and methods to be determined by the SHA and its organizational units.

Attachment 1. Questionnaire for assessment of epidemiologic capacity

Why a questionnaire? The answers you provide on this questionnaire and in the subsequent interview, when combined with the responses from other units, will be the basis of a profile of the current epidemiologic capacity of the organization. The questionnaire is intended to be diagnostic: the way the questions are grouped, the answers will make evident significant likely "missing" or insufficient capacities.

Who should complete it? This questionnaire is to be completed by all organizational units included in the assessment of epidemiologic capacity. If there are subsidiary organizational units containing at least one epidemiologist, each such unit should complete a separate questionnaire for their unit. It should be completed jointly by the director of the unit or program and an epidemiologist in that unit if there is one. If there is more than one epidemiologist in the unit the questionnaire responses should represent a consensus among them. Others having special knowledge can also be invited to participate.

How should it be completed? Each question should be answered unless otherwise indicated. Following each question there is a space to enter your answer. The response to each question should be from the perspective of the specific unit completing the questionnaire, and in the context of the specific capacity being assessed. All questions should be answered with one of the following: **Yes, No, Don't Know, Not Applicable,** or **In Progress.** Some questions also ask for additional information, which can be briefly noted in the space provided or on the back of the page. At several points there is an instruction to skip ahead to a specified question if the previous one was not answered in a certain way.

When the questionnaires have been filled out, they are to be collected and returned to the CSTE.

PART I. IDENTITY AND FOCUS OF THE ORGANIZATIONAL UNIT:

1. State: 2. Unit's name: _____

3. Completed by: Manager:_____. Epi:_____ Date:

4. What is this unit's most important objective? _____
_____

5. What are the three most important products or services of this unit? _____
_____
_____

6. Who are the three most important users or consumers of this unit's products or services?
_____
_____

PART II. HUMAN AND EQUIPMENT RESOURCES AVAILABLE TO THE ORGANIZATIONAL UNIT:

1. In your unit is there a person having a Masters degree or higher in epidemiology? ___
Name(s):

2. In your unit are there others without such a degree whose function is mainly epidemiologic?
Name(s):

3. Does an epidemiologist as defined above, but located anywhere in the organization, make substantive contributions to grant applications affecting your unit? ___ . Name(s):

4. Does your unit obtain epidemiologic consultation or services:
   a. from an epidemiologist elsewhere within the Department who is specifically designated to be routinely available to your unit? ___ . Name(s):
   b. From CDC? ___ . Name(s):
   c. Under contract? ___ . Name(s):
   d. Other sources (internal or external to the Department)? ___. Name(s):

5. In your unit is there a statistician, with Master's level degree or higher in statistics?
Name(s):

6. If #5 is "no", does your unit obtain statistical consultation or services elsewhere? Name(s):

7. In your unit is there a computer support person? Name(s):

8. If #7 is "no", does your unit obtain computer support elsewhere? Name(s):

9. If you answered "Yes" to question 1,2 or 5, is it part of your unit's mission to provide epidemiologic or statistical consultation to other units of the Department? ___.

10. If you answered "Yes" to question 1 or 2, does each epidemiologist have a 486 or better personal computer with a modem in his/her office that is connected to a letter-quality printer? ___ .

11. Is software available for:
   a. accessing WONDER?
   b. statistical analysis? __
   c. word processing? ___.

12. Is there a means of systematically identifying and up-grading state and local staff's epidemiologic and data-handling skills? ___ .

PART III. EPIDEMIOLOGIC PRACTICES OF YOUR UNIT DURING THE PREVIOUS 24 MONTHS:

A. MONITORING AND ASSESSING THE CONSTITUENCY'S HEALTH STATUS AND ITS DETERMINANTS.

CAPACITY 1. Conduct surveillance of diseases and conditions related to the agency's mission and objectives.

#1. Is your unit responsible for monitoring any reportable conditions? . Name them:

#2. Does your unit routinely collect for surveillance purposes any other information that is not officially reportable? ___ . Please describe:

{If you did not answer "yes" to #1 or #2, skip to #31}.

#3. Is systematic under-reporting of some kind possible? Please describe:

#4. Is there a written statement of the purpose of your surveillance?

#5. Is there a written description of the sources of information and methods and frequency of collection?

#6. Is any laboratory testing done of specimens related to your surveillance activities? Please describe:

#7. Are results available in time to be useful in the follow up investigation of the case? ___

#8. Are all reported cases for which you are responsible reviewed to:
   a. Ensure they met the surveillance case definition? ___.
   b. Identify any requiring follow-up? ___ .

#9. At least annually, does anyone in this unit meet with major professional groups (e.g., state or local medical society, APIC) to support and improve surveillance? Please describe:

#10. Does your unit epidemiologically organize the collected information at established intervals? At what frequencies: daily? ___ ; weekly? ___ ; monthly? ___ ; quarterly? ___ ; other? ___

#11. Does your unit prepare a written epidemiologic analysis of these data at least annually?

{If you did not answer "Yes" to #11, skip to #15}

#12. Does this analysis include the calculation of population-based incidence or prevalence rates?

#13. Have target groups and purposes of dissemination to each been specified? Please describe:

#14. Do the contents and format vary according to the user's needs? Please describe:

#15. Is there a current protocol to guide case-finding, case and suspect investigation, and case and contact

management? ___
#16. Are all surveillance and investigation staff at the state and local levels periodically oriented to the protocol, and their questions and concerns addressed? ___ .

Has this unit conducted any individual follow-ups of reported cases?

{If you did not answer "Yes" to #17, then skip to #23}

#18. Is each case that is to be followed up on referred immediately and directly to the individual responsible for that follow-up? ___ .

#19. Is each referred case tracked to confirm appropriate, timely, and complete follow-up?

#20. If the condition is transmissible, are the majority of follow-ups initiated within two incubation periods of the onset of illness of the case? ___ .

Are completed case investigations reviewed and evaluated by a trained epidemiologist?

#22. Is an evaluation of each investigation provided to the investigator?

CAPACITY 2. Conduct assessments of the status and determinants of the public's health.

#23. Does your unit now have a systematic data set, for one or more of the health-related conditions this unit is responsible for, describing the status of the population?

Are there other conditions for which similar data are needed?

Has any proposal been made for conducting such an assessment?

If yes, what is the status of that proposal?

CAPACITY 3. Evaluate surveillance and assessment activities.

#27. Has there been any evidence that the surveillance system is not sufficiently sensitive, representative or timely? ___ . Please describe:

Were any proposals subsequently made to evaluate your surveillance system?

{If you did not answer "Yes" to #28, then skip to #31}

#29. Were any of those proposals implemented? Please describe:

#30. Were any conclusions reached regarding the limits to the data, or changes made in the surveillance or assessment systems? ___ . Please describe:

B. MANAGING HEALTH CRISES BY RESPONDING TO EMERGENCIES, OUTBREAKS AND OTHER HEALTH NEEDS.

CAPACITY 4. Detect suspected outbreaks OR high or increased frequency of a health event or risk factor.

#31. Does this unit have any particular method it routinely uses to determine whether an "unusual event" (i.e., an outbreak or an elevated frequency of some health event, risk factor, etc.) may be occurring in your target population? ___ . Please describe:

#32. Does this unit have timely access to electronic data sets (e.g., morbidity data, BRFSS data, hospital discharge data, death certificate data, literature searches) within the Department which would allow the recognition or study of an unusual event as defined above? ___ . Please describe:

#33. Are any of the above data sets which are relevant to your program linked to permit more detailed analysis? ___ . Please describe:

#34. Does this unit conduct or otherwise support state- or local-level assessments of the population's health needs? ___ . Please describe:

#35. Does this unit use any other mechanisms to identify situations for which it has the responsibility to be responsive? ___ . Please describe:

#36. By any of the means listed above, has this unit detected any evidence of an outbreak or high or increased frequency of a preventable health condition or risk factor in any sub-population for which it is programmatically responsible? ___ . Please describe:

#37. If the health condition investigated was transmissible, were most outbreaks detected within two incubation periods from the onset of illness of the index ease? ___ .

CAPACITY 5. Initiate an investigation or study.

#38. Does this unit have any written guidelines for determining when, or the circumstances for which, an investigation or study is warranted or required? ___ . Please describe:

#39. Is there a written list of individuals or organizations to notify when an investigation or study is initiated?

#40. Is there an individual in your unit responsible for initiating or alerting others to the need for an investigation or study? ___ . Name:

#41. Is there a written protocol for the conduct of epidemiologic investigations or studies?

#42. Has this unit initiated or participated in any epidemiologic investigations or studies? Please describe:

{If your answer to #42 is not "Yes", skip to #47}

#43. If the health condition investigated was transmissible, were most investigations initiated within two incubation periods from the onset of illness of the index case? ___ .

#44. Have there been any investigations or studies for which you involved resources outside the Department of Health? ___ . Please describe:

#45. Do most epidemiologic investigations result in obtaining information useful for identifying effective interventions for the individuals or populations at risk? ___ .

#46. For each investigation or study, regardless of the outcome, is there a written report describing the event, information obtained, conclusions and recommendations? ___ .

CAPACITY 6. Implement prevention and control measures.

#47. Does your unit have any explicit long- or short-term health status outcome or disease prevention or control objectives or strategies? ___ . Please describe:

#48. Has your unit proposed or implemented any prevention or control measures stemming from an epidemiologic investigation or study as described in #'s 37-45? ___ . Please describe:

{If you did not answer "Yes" to #47 or #48, then skip to #51}

#49. Were any of the proposed interventions:
- a. selected with input from affected groups in the community? ___
- b. based at least in part on data specific to the targeted population?
- c. actually implemented? ___ .
- d. later assessed to determine their effectiveness? ___ .

#50. At least annually are indicator data collected and interpreted to track progress in accomplishing these objectives? ___ . Please describe:

CAPACITY 7. Conduct internal and public communications and relations.

#51. Is there a routine practice of keeping staff and the public informed of the status of an investigation in progress? ___ .

#52. Does this include describing any protective action they should take or help they can provide?

#53. Is there a routine practice of keeping staff and the public informed of interventions implemented and their assessed effectiveness? ___ .

CAPACITY 8. Conduct post-intervention review of crisis or needs response procedures.

#54. If you answered "Yes" to #42, were most such investigations and intervention activities followed by a meeting of the individuals involved? ___ .

#55. Did these meetings result in the identification of specific ways to improve the management of crises or responses to needs? ___ .

#56. Were most of these recommendations implemented? Please describe

C. PROVIDING THE SCIENCE FOR POLICY DECISIONS RELATED TO PUBLIC HEALTH.
(In this context, policy includes your unit's procedures, priorities, and allocation of resources; agency policies, rules and regulations; and state-level policies requiring the approval of the agency director, governor or legislature.)

CAPACITY 9. Recognize issues for which new or revised policy may be needed.

#57. Are all the policies needed to guide your unit's program explicit?

Do have any evidence that their revision would likely improve your program's effectiveness?

#59. Has anyone in your unit identified any information leading to recognition of an issue having policy implications for your unit? ___ . Please describe:

#60. Has someone higher up in or outside the organization called your attention to a possible need for a policy change? ___ . Please describe:

Have you reviewed an existing policy or examined the possible need for a new one?

{If you did not answer "Yes" to #61, then the questionnaire is completed. Thanks for your time.}

CAPACITY 10. Assemble and interpret information.

#62. Did your unit obtain additional epidemiologic data or re-analyze existing data to either assess a current policy or to consider a revised policy? ___ .

{If you did not answer "Yes" to #62, then the questionnaire is completed. Thanks for your time.}

#63. Was a written interpretation of the data prepared? ___

#64. Was a written description of the problem or opportunity included in the interpretation?

#65. Was a written estimate made of the cost or impact of the current or proposed policy? ___

CAPACITY 11. Formulate intent, goal and strategy of proposed policy.

#66. Did this unit subsequently formulate a policy proposal?

{If you did not answer "Yes" to #66, then the questionnaire is completed. Thanks for your time.}

#67. Did an epidemiologist contribute to its preparation? . Name(s):

#68. Were any community or other groups external to the Department involved in its formulation?

#69. Was there a description of:
   a. the measurable benefits expected? ___ .
   b. the steps and timetable for implementation?
   c. expected obstacles to be addressed? ___ .
   d. resources and authority required? ___ .

CAPACITY 12. Communicate the proposal to decision-makers.

#70. Was this proposal communicated to decision-makers? ___ .

#71. Was a satisfactory version adopted?

#72. If the policy has been adopted:
   a. Has implementation begun? ___ .
   b. If yes, is it being monitored to assure implementation is as desired?
   c. Do you plan to assess its impact? ___ .

{The questionnaire is completed. Thanks for your time.}

Attachment 2. Log of reported cases (optional)

List any three diseases or health conditions under surveillance by this unit for which there is a policy of investigation of each reported case:

a. _____.
b. _____
c. _____

The following table is a suggested format for recording an abstract of cases reported during a recent period. The information requested is the interval of time between selected important events in the onset, reporting and follow-up of reported cases, and the completeness of the case investigation forms. For some diseases the most important events may differ from those shown in the table, in which case they should be substituted for those shown.

All or a systematic sample of the cases reported during a recent period should be abstracted. If fewer than 25 or so cases have been reported then all would be included in the list. If a much larger number of cases has been reported, as for some of the STDs, then a sample can be selected that would provide a list containing 30-50 representative cases. If the requested information is missing for a case, leave that space empty.

The resulting information will be reviewed to draw conclusions about the performance of various actions, not to epidemiologically describe the disease. The important points to note once the forms are completed is whether the length of the various intervals is appropriately short for effective intervention.

Cases of: _____ During the period

Case number	Number of days from onset of illness to				Percent of items on case form not completed
	receipt of case/suspect report	lab confirmation	start of investigation	end of investigation	
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
Ave. # :					
Max. # :					
Min. # :					

Attachment 3. Guide to describing data use by non-infectious disease units (optional)

Which of the following types of information are used by the unit? For those types of data which would seem to be especially valuable for your purposes, but which are not being used, what are the principle reasons?

1. Natality and mortality reports:

1.1. What is being collected, and how?

1.2. What are the methods of measurement and analysis?

* Incidence/ prevalence/ trends/ variations in occurrence in regions or local areas?
* By what variables?
* Age-adjustment of data?
* Life expectancy and years of potential life lost?
* Excess burden (relative to some standard)?
* Risk-factor (e.g., smoking)-attributable mortality calculated?
* Underlying cause of death vs multiple cause of death?

1.3. What are your future plans for this type of data?

2. Morbidity reports: registries; hospital discharges and outpatient and ER visits:

2.1. What is being collected, and how?

2.2. What are the methods of measurement and analysis?

* Multiple hospitalizations, ER visits or other reports for the same person identified?
* By disease: number of hospitalizations in a time period, total number of days, ave. length of stay, total and average cost?
* Age-adjustment of hospitalization rates?
* All-listed vs first-listed diagnoses?

2.3. What are your future plans for this type of data?

3. Risk factor surveys:

3.1. What is being collected, and how?

3.2. What are the methods of measurement and analysis?

* Combining data: aggregating data over time, to estimate prevalence of a risk factor?
* Creating synthetic estimates (for local areas, by extrapolating from data collected state-wide)?
* Weighting of data to compensate for under- or over-representation in the survey sample?

3.3. What are your future plans for this type of data?

4. Health status surveys:

4.1. What is being collected, and how?

4.2. What are the methods of measurement and analysis?

4.3. What are your future plans for this type of data?

Attachment 4. Interviews of key personnel

For each of the organizational units included in the assessment, interview together the unit chief, the epidemiologist and other staff selected by the unit chief, using the following questions. Approximately and hour and a half will be needed for each organizational unit.

1 Have there been any recent significant changes in the funding, staffing or organization of this unit?

2. What are the most important outputs of this unit (e.g., screening or patient services; educational activities; maintaining data bases, such as vital statistics; provision of support services to other units; conduct of investigations; support to community or other groups involved in health-related activities; development of health status reports)? How do you measure your productivity? By what standards do you evaluate this unit? What change would be most helpful in increasing this unit's productivity and achievement of its objectives?

3. How many FTE's are involved in this unit? What are their responsibilities, education, training and experience? How are their skills maintained and upgraded over time?

4. What electronic data sets are created or maintained in this unit? Which of these are population-based? Client-based? How do others access these for legitimate purposes of the agency?

5. How are data now used in the decision-making process?

6. Regarding the epidemiology capacity assessment questionnaire you completed:
   a. For selected questions to which you answered "Yes": What was the result?
   b. For selected questions to which you did not answer "Yes": Please describe why this was so.
   c. Which, if any, of your answers reflect a change in the past year compared to previous years? What have been the consequences?"
   d. For which of your answers do you think change or strengthening is needed most? What are the best ways to accomplish this?

7. What have been the most important successes in the past two years? What do you expect will be the most important accomplishments of this program in the next two years?

8. Is there additional information related to this unit that we should review?

Attachment 5. Outline for data analysis

Organizational charts, mission statements and objectives, program descriptions, and FTEs.

For each organizational unit included in the assessment:

a. Confirm that the objectives are population-based, health outcome oriented, and measurable. Identify the expected and required program outputs.
b. Identify the intended recipients, beneficiaries or clients.
c. Identify the strategy or means by which the organizational unit is proceeding to achieve its objectives Confirm that successful implementation of the strategy could plausibly lead to the achievement of the stated objectives.
d. Identify the epidemiologic resources judged to be needed to characterize the problem in the population, plan and implement an appropriate intervention strategy, track (evaluate) progress in achieving the objectives, and conduct epidemiologic investigations of situations where expected program impact is not being achieved.

2. Completed epidemiologic capacity questionnaire

Also for each organizational unit included in the assessment:

a. From Part One, confirm the unit's objectives, products and target population.
b. From Part Two, confirm the adequacy of the unit's human and other resources for the required outputs.
c. From Part Three, determine the unit's epidemiologic practices, performance and outputs. Then compare these to the expected resources and practices described in #1 above, and determine whether the match is sufficient. Also identify responses in the questionnaire which need to be explored further during the site visit interview to follow.

For the purpose of agency priority-setting and planning to strengthen capacity, it is useful to graphically portray the relative strength of each of the twelve capacities within each organizational unit, and array these to permit comparing of capacity across all units. This is accomplished by the calculation of an index of capacity. For individual units and aggregates of units, an index of epidemiologic capacity can be calculated for each of the twelve capacities as follows:

i. Collect all completed questionnaires from the particular unit(s).
ii. For the selected capacity, count the number of "yes" responses to the questions listed.
iii. Convert these to a scale having a range of 0-4 points, using the formula:

Index = [(number of yeses/number of possible yeses) x 4]

3. Completed interviews; additional reports and other information obtained

a. Review all information and confirm the required and actual outputs and criteria and standards used Confirm the required and actual resources needed and those available.

b. Draw conclusions about gaps between needed and available capacity.
c. Draw preliminary conclusions about the priority of various gaps, principle causes, and possible methods for strengthening.
d. Review this with the SHA contact person, and revise as necessary.
e. Conduct the previous step with all the assembled participants in the assessment process.

4. Using all available information, reconsider all observations and conclusions. Draft a report and provide it to the state health agency for comment.
5. Review comments on the draft report. Reconsider all observations and conclusions. Prepare the final report and provide it to the state health agency.

Attachment 6. Feedback session

There are two things to be accomplished during this session: (i) a review and validation of the observations and conclusions made by the assessment team; and (ii) a process initiated for further strengthening capacity.

1 Review of observations and conclusions.

We will proceed to lay out, for each unit involved, what we see as the major strengths in epidemiologic capacity (using the three main groups of capacities) and the major gaps between capacity inferred to be needed on the basis of program objectives and strategy, and that unit's reported or observed capacity. As we go through this, please correct any misunderstandings on our part; and please challenge or contribute to the conclusions reached. [As the gaps are discussed, do two things: (i) identify those that are widespread among the units; and (ii) describe the consequences of not having the specified capacity.]

2. Strengthening capacity.

Developing capacity is an ongoing process of adapting to other changes, for example, political changes, budget changes, reorganizations, changes in technology and social priorities. Some of these you have little or no control over. Some of them you may have contributed to, for example health improvements resulting from your program's efforts, and heightened awareness on the part of the community and of decision makers. To get started, I'd like to review some common causes and remedies to capacity gaps. Which of the potentially available remedies are most appropriate and practical for a particular organization at a particular time is a matter of judgment.

Knowledge: Short-term training of selected staff; improved awareness of and access to information located elsewhere; consultation from and contracts with external authorities; peer assistance.

Staff: Hiring or reassigning of persons having the requisite professional background and capabilities.

Leadership: Training, professional seminars and conferences; leadership development programs; organizational policy of encouraging, acknowledging and rewarding leadership at all levels.

Physical resources: Purchase; lease; rent; reassignment.

Time: Re-scheduling or re-sequencing of activities; assignment of additional help on a short-term basis; re-assignment of selected responsibilities.

Laws, rules, regulations: Add or change existing policies, etc.

Budget: Add line-item to budget or increase amount budgeted; slack in existing budget; grant funds; inter-organizational agreements; various donor or collaborating groups.

Organizational support: Clarify the importance to the organization of various relationships; assign specific individuals for liaison; joint work groups to address obstacles and opportunities.

Priority: Re-examine the priorities to verify they are appropriate. Resolve conflicting priorities and clarify priorities to all involved.

Working with the various gaps that we have been discussing, and keeping in mind the various ways they may come about and be resolved, I'd like to have you participate in two short group exercises:

The first is to get your views of which gaps are most important to address organization-wide.

> To do this, I want to go around the table and have each individual identify a gap they consider important to address. These will be written down on the flip chart as we go. After we've gone around the table once, if someone still has an important thought to get out that no one else has mentioned then bring it up and it will be added in.

The second is to identify which of these the group considers most important.

> To do this, I'm going to ask three or four volunteers to organize the list we just discussed, doing what-ever "grouping and splitting" is necessary. While they are doing that the rest can take a twenty-minute break. When you come back you will be asked to identify the (arbitrarily) ten most important in your judgement. The individual assessments will then be combined to identify the predominant views of the group.