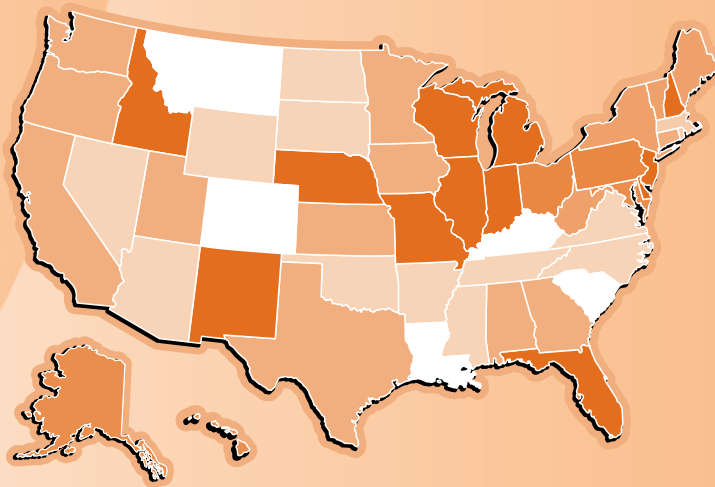
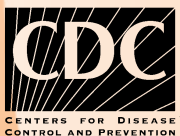
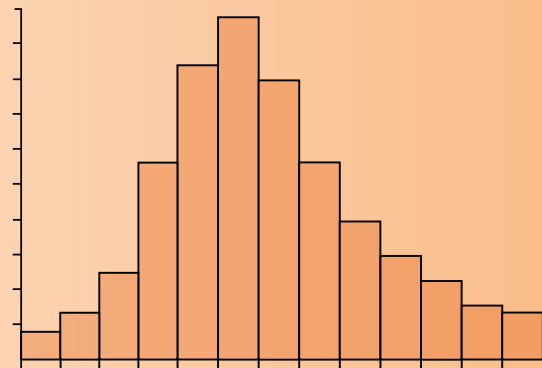


A E C s



## Applied Epidemiology Competencies



Partner organizations participating in the development of these competencies:



**I. Skill Domain—Assessment and Analysis**

| Tier 1: Entry-Level or Basic Epidemiologist                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Tier 2: Mid-Level Epidemiologist                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Tier 3a: Senior-Level Epidemiologist:<br>Supervisor and/or Manager                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Tier 3b: Senior Scientist/<br>Subject Area Expert                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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| <b><i>A. Recognize public health problems pertinent to the population</i></b>                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b><i>A. Identify public health problems pertinent to the population</i></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b><i>A. Ensure identification of public health problems pertinent to the population</i></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b><i>A. Validate identification of public health problems pertinent to the population</i></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 1. Recognize the existence of a public health problem                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1. Use critical thinking to determine whether a public health problem exists                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1. Ensure that critical thinking is used to determine whether a public health problem exists                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1. Synthesize key findings from the critical thinking process to determine whether a public health problem exists                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <ul style="list-style-type: none"> <li>a. List relevant data and information sources within and outside the public health system</li> <li>b. Seek assistance synthesizing existing data and information into a determination of expected and observed numbers of cases or outcomes in a population</li> <li>c. Seek assistance in determining threshold values (e.g., baseline disease burden, prevalence of risk behaviors) for public health action</li> <li>d. N/A</li> <li>e. N/A</li> <li>f. N/A</li> </ul> | <ul style="list-style-type: none"> <li>a. Identify relevant data and information sources within and outside the public health system</li> <li>b. Synthesize existing data and information into a determination of expected and observed numbers of cases or outcomes in a population</li> <li>c. Determine threshold values (e.g., baseline disease burden, prevalence of risk behaviors) for public health action</li> <li>d. Conduct a thorough search of the scientific literature and public health databases using search engines and methods relevant to specific problems</li> <li>e. Quantify population-based health risks</li> <li>f. N/A</li> </ul> | <ul style="list-style-type: none"> <li>a. Validate the relevance of data and information sources within and outside the public health system</li> <li>b. Verify the accuracy of expected and observed numbers of cases or outcomes in a population</li> <li>c. Ensure the accuracy of determined threshold values (e.g., baseline disease burden, prevalence of risk behaviors) for public health action</li> <li>d. Verify the completeness and accuracy of searches of literature and public health databases</li> <li>e. Verify population-based health risks</li> <li>f. Decide whether to obtain expertise outside the agency to assist in decision-making</li> </ul> | <ul style="list-style-type: none"> <li>a. Use relevant data and information sources within and outside the public health system</li> <li>b. Synthesize existing data and information into a determination of expected and observed numbers of cases or outcomes in a population</li> <li>c. Validate the calculated threshold values (e.g., baseline disease burden, prevalence of risk behaviors) for public health action</li> <li>d. Synthesize results of searches of the scientific literature and public health databases</li> <li>e. Verify population-based health risks</li> <li>f. Determine whether additional outside expertise is needed to assist in decision-making</li> </ul> |
| 2. N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 2. Articulate the need for further investigation or other public health action on the basis of results of literature review and assessment of current data                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2. Decide whether to conduct further investigation or other public health action on the basis of results of literature review and assessment of current data                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 2. Evaluate need for further investigation or other public health action on the basis of results of literature review and assessment of current data                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 3. Collaborate with others inside and outside the agency to identify the problem                                                                                                                                                                                                                                                                                                                                                                                                                                 | 3. Collaborate with others inside and outside the agency to identify the problem and form recommendations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 3. Lead collaborations with others inside and outside the agency to identify the problem and form recommendations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 3. Lead collaborations with others inside and outside the agency to identify the problem and form recommendations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

**I. Skill Domain—Assessment and Analysis**

| Tier 1: Entry-Level or Basic Epidemiologist                                                                                                                                                                                                                                                | Tier 2: Mid-Level Epidemiologist                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Tier 3a: Senior-Level Epidemiologist:<br>Supervisor and/or Manager                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Tier 3b: Senior Scientist/<br>Subject Area Expert                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>B. Conduct surveillance activities</b>                                                                                                                                                                                                                                                  | <b>B. Conduct surveillance activities</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>B. Oversee surveillance activities</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>B. Organize surveillance</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 1. N/A                                                                                                                                                                                                                                                                                     | 1. Design surveillance for the particular public health issue under consideration                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1. Approve surveillance for the particular public health issue under consideration                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1. Evaluate validity of conducting surveillance for the particular public health issue under consideration                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <ul style="list-style-type: none"> <li>a. N/A</li> <li>b. N/A</li> <li>c. N/A</li> <li>d. N/A</li> <li>e. N/A</li> </ul>                                                                                                                                                                   | <ul style="list-style-type: none"> <li>a. Identify types of surveillance methods for specific public health problems</li> <li>b. Identify information system(s) to support surveillance systems</li> <li>c. Recommend types of surveillance systems for specific public health problems</li> <li>d. N/A</li> <li>e. Identify additional burden to public health system and reporting entity anticipated to result from the proposed surveillance system</li> </ul>                                                                                                                                                             | <ul style="list-style-type: none"> <li>a. Examine potential surveillance methods for specific public health problems</li> <li>b. Approve information system(s) to support surveillance systems</li> <li>c. Decide on types of surveillance systems for specific public health problems</li> <li>d. Review anticipated cost/benefit of initiating a new surveillance system</li> <li>e. Decide whether to impose the additional burden to public health system and reporting entity that is anticipated to result from the proposed surveillance system</li> </ul> | <ul style="list-style-type: none"> <li>a. Examine types of surveillance methods for specific public health problems</li> <li>b. Recommend information system(s) to support surveillance systems</li> <li>c. Determine type of surveillance systems for specific public health problems</li> <li>d. N/A</li> <li>e. Evaluate additional burden to public health system and reporting entity anticipated to result from the proposed surveillance system</li> </ul>                                                                                                                                                                          |
| 2. Identify surveillance data needs                                                                                                                                                                                                                                                        | 2. Identify surveillance data needs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 2. Decide on surveillance data needs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2. Evaluate surveillance data needs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <ul style="list-style-type: none"> <li>a. Create case definition(s) based on person, place, and time</li> <li>b. N/A</li> <li>c. N/A</li> <li>d. N/A</li> <li>e. N/A</li> <li>f. N/A</li> <li>g. Recognize potential uses of data to inform surveillance system</li> <li>h. N/A</li> </ul> | <ul style="list-style-type: none"> <li>a. Create case definition(s) based on person, place, and time</li> <li>b. Describe sources, quality, and limitations of surveillance data</li> <li>c. Define the data elements to be collected or reported</li> <li>d. Identify mechanisms to transfer data from source to public health agency</li> <li>e. Define timeliness required for data collection</li> <li>f. Determine frequency of reporting</li> <li>g. Describe potential uses of data to inform surveillance system design</li> <li>h. Define the functional requirements of the supporting information system</li> </ul> | <ul style="list-style-type: none"> <li>a. Verify case definition(s) based on person, place, and time</li> <li>b. Decide on sources of surveillance data</li> <li>c. N/A</li> <li>d. Decide on mechanisms to transfer data from source to public health agency</li> <li>e. Decide on acceptable timeliness for data collection and frequency for reporting</li> <li>f. N/A</li> <li>g. Decide on surveillance system design</li> <li>h. Approve the functional requirements of the supporting information system</li> </ul>                                        | <ul style="list-style-type: none"> <li>a. Evaluate case definition(s) based on person, place, and time</li> <li>b. Evaluate sources, quality, and limitations of surveillance data</li> <li>c. Assess the adequacy of the data elements to be collected or reported</li> <li>d. Assess mechanisms to transfer data from source to public health agency</li> <li>e. Evaluate timeliness requirements for data collection</li> <li>f. Assess frequency of reporting</li> <li>g. Create surveillance system design on the basis of potential uses of data</li> <li>h. Assess the functional requirements of the information system</li> </ul> |

**I. Skill Domain—Assessment and Analysis**

| Tier 1: Entry-Level or Basic Epidemiologist                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Tier 2: Mid-Level Epidemiologist                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Tier 3a: Senior-Level Epidemiologist:<br>Supervisor and/or Manager                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Tier 3b: Senior Scientist/<br>Subject Area Expert                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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| 3. Implement new or revise existing surveillance systems                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 3. Implement new or revise existing surveillance systems                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 3. Supervise or manage implementation of new or revision of existing surveillance systems                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 3. Implement new or revise existing surveillance systems                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <ul style="list-style-type: none"> <li>a. Define objectives and uses of surveillance system</li> <li>b. Test data collection, data storage, and analytical methods as directed</li> <li>c. Assist in creating working surveillance system</li> <li>d. Collect data for verification of the defined surveillance system parameters (e.g., timeliness, frequency)</li> <li>e. Classify potential cases according to whether they meet the case definition</li> <li>f. Interview people with illness to solicit necessary information</li> <li>g. Assist in monitoring data quality</li> <li>h. Maintain good working relationships with reporting entities</li> <li>i. Provide feedback to reporting entities and other organizations or individuals who need to know about the data or system</li> </ul> | <ul style="list-style-type: none"> <li>a. Define objectives and uses of surveillance system</li> <li>b. Test data collection, data storage, and analytical methods</li> <li>c. Create working surveillance system</li> <li>d. Verify that data collection occurs according to the defined surveillance system parameters (e.g., timeliness, frequency)</li> <li>e. Ensure correct classification of cases according to the case definition</li> <li>f. Interview people with illness to solicit necessary information</li> <li>g. Monitor data quality</li> <li>h. Create good working relationships with reporting entities</li> <li>i. Provide feedback to reporting entities and other organizations or individuals who need to know about the data or system</li> </ul> | <ul style="list-style-type: none"> <li>a. Approve objectives and uses of surveillance system</li> <li>b. Validate data collection, data storage, and analytical methods</li> <li>c. N/A</li> <li>d. Verify that data collection occurs according to the defined surveillance system parameters (e.g., timeliness, frequency)</li> <li>e. N/A</li> <li>f. N/A</li> <li>g. Ensure that data quality is monitored</li> <li>h. Ensure good working relationships with reporting entities</li> <li>i. Ensure provision of feedback to reporting entities and other organizations or individuals who need to know about the data or system</li> </ul> | <ul style="list-style-type: none"> <li>a. Develop guidelines for objectives and uses of surveillance systems</li> <li>b. Validate data collection, data storage, and analytical methods</li> <li>c. Create working surveillance system</li> <li>d. Assess performance of data collection systems against the defined surveillance system parameters (e.g., timeliness, frequency)</li> <li>e. N/A</li> <li>f. N/A</li> <li>g. Monitor data quality</li> <li>h. Create good working relationships with reporting entities</li> <li>i. Synthesize information about surveillance system for communicating to reporting entities and other organizations or individuals who need to know about the data or system</li> </ul> |

**I. Skill Domain—Assessment and Analysis**

| Tier 1: Entry-Level or Basic Epidemiologist                                                                                                                                                                                                                                                                                                                                                          | Tier 2: Mid-Level Epidemiologist                                                                                                                                                                                                                                                                                                                                              | Tier 3a: Senior-Level Epidemiologist: Supervisor and/or Manager                                                                                                                                                                                                                                                                                                                                                                                         | Tier 3b: Senior Scientist/ Subject Area Expert                                                                                                                                                                                                                                                                                                                                                                                                        |
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| 4. Report key findings from the surveillance system                                                                                                                                                                                                                                                                                                                                                  | 4. Identify key findings from the surveillance system                                                                                                                                                                                                                                                                                                                         | 4. Synthesize key findings from the surveillance system and other pertinent information for use by decision-makers                                                                                                                                                                                                                                                                                                                                      | 4. Synthesize key findings from the surveillance system and other pertinent information for use by decision-makers                                                                                                                                                                                                                                                                                                                                    |
| <ul style="list-style-type: none"> <li>a. Provide system's results to senior epidemiologists</li> <li>b. Recognize implications to public health programs</li> <li>c. Assist in developing conclusions from the surveillance data</li> <li>d. Communicate results to senior staff</li> </ul>                                                                                                         | <ul style="list-style-type: none"> <li>a. Examine system's results in the context of current scientific knowledge</li> <li>b. Identify implications to public health programs</li> <li>c. Develop conclusions from the surveillance data</li> <li>d. Communicate results to agency managers and to reporters of surveillance data (see Communication competencies)</li> </ul> | <ul style="list-style-type: none"> <li>a. Interpret system's results in the context of current scientific knowledge and other available information</li> <li>b. Examine any implications to public health programs</li> <li>c. Determine relative priority of each conclusion from the surveillance data, before making recommendations to decision-makers</li> <li>d. Communicate synthesized information to decision-makers and the public</li> </ul> | <ul style="list-style-type: none"> <li>a. Interpret system's results in the context of current scientific knowledge</li> <li>b. Examine any implications to public health programs</li> <li>c. Determine relative priority of each conclusion from the surveillance data, before making recommendations to decision-makers</li> <li>d. Communicate synthesized information to decision-makers and the public</li> </ul>                               |
| 5. Support evaluation of surveillance systems                                                                                                                                                                                                                                                                                                                                                        | 5. Conduct evaluation of surveillance systems                                                                                                                                                                                                                                                                                                                                 | 5. Ensure evaluation of surveillance systems                                                                                                                                                                                                                                                                                                                                                                                                            | 5. Design and conduct evaluation of surveillance systems                                                                                                                                                                                                                                                                                                                                                                                              |
| <ul style="list-style-type: none"> <li>a. Collect data necessary for evaluation of surveillance systems using national guidance and methods*</li> <li>b. Assist in preparing recommendations for modifications to surveillance systems on the basis of evaluation</li> <li>c. N/A</li> <li>d. Assist in implementing changes to surveillance system on the basis of results of evaluation</li> </ul> | <ul style="list-style-type: none"> <li>a. Evaluate surveillance systems using national guidance and methods*</li> <li>b. Propose recommendations for modifications to surveillance systems on the basis of evaluation</li> <li>c. N/A</li> <li>d. Implement changes to surveillance system on the basis of results of evaluation</li> </ul>                                   | <ul style="list-style-type: none"> <li>a. Ensure evaluation of surveillance systems using national guidance and methods*</li> <li>b. Appraise recommendations for modifications to surveillance systems on the basis of evaluation</li> <li>c. Decide whether to modify surveillance systems on the basis of recommendations</li> <li>d. Ensure that changes to surveillance system are implemented on the basis of results of evaluation</li> </ul>    | <ul style="list-style-type: none"> <li>a. Evaluate surveillance systems using national guidance and methods*</li> <li>b. Develop and/or review recommendations for modifications to surveillance systems on the basis of evaluation</li> <li>c. Decide whether to modify surveillance systems on the basis of recommendations</li> <li>d. Ensure that changes to surveillance system are implemented on the basis of results of evaluation</li> </ul> |

\* See Centers for Disease Control and Prevention (US). Updated guidelines for evaluating public health surveillance systems; recommendations from the Guidelines Working Group. MMWR Recomm Rep 2001;50(RR-13):1–35.

**I. Skill Domain—Assessment and Analysis**

| Tier 1: Entry-Level or Basic Epidemiologist                                                                                                                                                                                                                                      | Tier 2: Mid-Level Epidemiologist                                                                                                                                                                                                                                       | Tier 3a: Senior-Level Epidemiologist:<br>Supervisor and/or Manager                                                                                                                                                                                                                   | Tier 3b: Senior Scientist/<br>Subject Area Expert                                                                                                                                                                                                                                                             |
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| <b><i>C. Identify acute and chronic conditions or other adverse outcomes in the population</i></b>                                                                                                                                                                               | <b><i>C. Investigate acute and chronic conditions or other adverse outcomes in the population</i></b>                                                                                                                                                                  | <b><i>C. Ensure investigation of acute and chronic conditions or other adverse outcomes in the population</i></b>                                                                                                                                                                    | <b><i>C. Design investigation of acute and chronic conditions or other adverse outcomes in the population</i></b>                                                                                                                                                                                             |
| 1. Assist in conducting a community health status assessment                                                                                                                                                                                                                     | 1. Conduct a community health status assessment                                                                                                                                                                                                                        | 1. Oversee a community health status assessment                                                                                                                                                                                                                                      | 1. Design a community health status assessment                                                                                                                                                                                                                                                                |
| 2. N/A                                                                                                                                                                                                                                                                           | 2. Recommend priorities of potential public health problems to be addressed                                                                                                                                                                                            | 2. Decide on priority of public health problems to be addressed                                                                                                                                                                                                                      | 2. Recommend priorities of potential public health problems to be addressed                                                                                                                                                                                                                                   |
| 3. Characterize investigative processes                                                                                                                                                                                                                                          | 3. Select investigative processes                                                                                                                                                                                                                                      | 3. Approve selection of investigative processes                                                                                                                                                                                                                                      | 3. Determine investigative processes                                                                                                                                                                                                                                                                          |
| <ul style="list-style-type: none"> <li>a. Recognize different principles of investigation for endemic/sporadic illness or disease clusters vs. acute outbreaks</li> <li>b. List the major epidemiologic study designs, including the strengths and weaknesses of each</li> </ul> | <ul style="list-style-type: none"> <li>a. Apply principles of investigation for endemic/sporadic illness or disease clusters vs. acute outbreaks</li> <li>b. Describe the major epidemiologic study designs, including the strengths and weaknesses of each</li> </ul> | <ul style="list-style-type: none"> <li>a. Determine whether to use investigative methods for endemic/sporadic illness or disease clusters vs. acute outbreaks</li> <li>b. Decide which epidemiologic study design to use for the public health problem to be investigated</li> </ul> | <ul style="list-style-type: none"> <li>a. Determine whether to use investigative methods for endemic/sporadic illness or disease clusters vs. acute outbreaks</li> <li>b. Integrate knowledge about epidemiologic study designs into study design for the public health problem to be investigated</li> </ul> |
| 4. Create hypotheses                                                                                                                                                                                                                                                             | 4. Create hypotheses                                                                                                                                                                                                                                                   | 4. Verify hypotheses                                                                                                                                                                                                                                                                 | 4. Verify hypotheses                                                                                                                                                                                                                                                                                          |

**I. Skill Domain—Assessment and Analysis**

| Tier 1: Entry-Level or Basic Epidemiologist                                                                                                                                                                                                                             | Tier 2: Mid-Level Epidemiologist                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Tier 3a: Senior-Level Epidemiologist:<br>Supervisor and/or Manager                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Tier 3b: Senior Scientist/<br>Subject Area Expert                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
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| 5. Assist in design of investigation (e.g., disease investigations, studies, or screening programs)                                                                                                                                                                     | 5. Assist in design of investigation (e.g., disease investigations, studies, or screening programs)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 5. Oversee design of investigations (e.g., disease investigations, studies, or screening programs)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 5. Design investigations (e.g., disease investigations, studies, or screening programs)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <ul style="list-style-type: none"> <li>a. Identify target population for investigation</li> <li>b. N/A</li> <li>c. N/A</li> <li>d. Create case definition(s)</li> <li>e. N/A</li> <li>f. N/A</li> <li>g. N/A</li> <li>h. N/A</li> <li>i. N/A</li> <li>j. N/A</li> </ul> | <ul style="list-style-type: none"> <li>a. Identify target population for investigation</li> <li>b. Perform power calculations if necessary</li> <li>c. Identify individuals or groups eligible to be in the study</li> <li>d. Create case definition(s)</li> <li>e. Identify time frame for investigation</li> <li>f. Select investigation design under existing constraints</li> <li>g. Identify possible sources of bias</li> <li>h. Identify methods to minimize potential sources of bias</li> <li>i. Identify potential confounders</li> <li>j. Design strategies to minimize or eliminate potential confounding</li> </ul> | <ul style="list-style-type: none"> <li>a. Validate selection of target population for investigation</li> <li>b. Approve power calculations</li> <li>c. Approve inclusion of individuals or groups in the study</li> <li>d. Approve case definition(s)</li> <li>e. Approve time frame for investigation</li> <li>f. Approve investigation design that will be most effective under existing constraints</li> <li>g. N/A</li> <li>h. Approve methods to minimize potential sources of bias</li> <li>i. N/A</li> <li>j. Approve strategies to minimize or eliminate potential confounding</li> </ul> | <ul style="list-style-type: none"> <li>a. Identify target population for investigation</li> <li>b. Evaluate results of power calculations</li> <li>c. Verify individuals or groups for inclusion in the study</li> <li>d. Create case definition(s)</li> <li>e. Verify time frame for investigation</li> <li>f. Justify investigation design under existing constraints</li> <li>g. Evaluate possible sources of bias</li> <li>h. Identify methods to minimize potential sources of bias</li> <li>i. Evaluate potential confounders</li> <li>j. Design strategies to minimize or eliminate potential confounding</li> </ul> |



**I. Skill Domain—Assessment and Analysis**

| Tier 1: Entry-Level or Basic Epidemiologist                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Tier 2: Mid-Level Epidemiologist                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Tier 3a: Senior-Level Epidemiologist:<br>Supervisor and/or Manager                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Tier 3b: Senior Scientist/<br>Subject Area Expert                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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| 6. Conduct investigation as directed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 6. Use investigation techniques consistent with the public health problem                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 6. Ensure use of investigation techniques consistent with the public health problem                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 6. Design investigation techniques consistent with the public health problem                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <ul style="list-style-type: none"> <li>a. Respond in a time frame consistent with the public health problem being investigated</li> <li>b. N/A</li> <li>c. Contact data sources</li> <li>d. Use methods for finding cases or other subjects suitable to the investigation</li> <li>e. Use data collection instruments that have been constructed for the investigation</li> <li>f. Use identified sampling methods</li> <li>g. Support necessary coordination among all groups involved in investigation</li> </ul> | <ul style="list-style-type: none"> <li>a. Respond in a time frame consistent with the public health problem being investigated</li> <li>b. Apply methods and measures that are consistent with the particular type of investigation</li> <li>c. Identify sources of data for investigation</li> <li>d. Identify methods to find cases and other subjects suitable to the investigation</li> <li>e. Design data collection instruments using new or existing information systems</li> <li>f. Identify sampling methods given the context of the situation</li> <li>g. Organize necessary coordination among all groups involved in investigation</li> </ul> | <ul style="list-style-type: none"> <li>a. Ensure that response is in a time frame consistent with the public health problem being investigated</li> <li>b. Ensure that methods and measures are consistent with the particular type of investigation</li> <li>c. Approve data sources for investigation</li> <li>d. Approve methods to find cases and other subjects</li> <li>e. Approve data collection instruments and supporting information systems</li> <li>f. Approve sampling methods given the context of the situation</li> <li>g. Ensure coordination among all groups involved in investigation</li> </ul> | <ul style="list-style-type: none"> <li>a. Respond in a time frame consistent with the public health problem being investigated</li> <li>b. Recommend methods and measures that are consistent with the particular type of investigation</li> <li>c. Verify selection of data sources for investigation</li> <li>d. Verify selection of case finding methods</li> <li>e. Evaluate data collection instruments and supporting information systems</li> <li>f. Evaluate sampling methods given the context of the situation</li> <li>g. Organize necessary coordination among all groups involved in investigation</li> </ul> |

**I. Skill Domain—Assessment and Analysis**

| Tier 1: Entry-Level or Basic Epidemiologist                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Tier 2: Mid-Level Epidemiologist                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Tier 3a: Senior-Level Epidemiologist:<br>Supervisor and/or Manager                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Tier 3b: Senior Scientist/<br>Subject Area Expert                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| <b><i>D. Apply principles of good ethical/legal practice as they relate to study design and data collection, dissemination, and use</i></b>                                                                                                                                                                                                                                                                                                                                                     | <b><i>D. Apply principles of good ethical/legal practice as they relate to study design and data collection, dissemination, and use</i></b>                                                                                                                                                                                                                                                                                                                                                     | <b><i>D. Ensure study design and data collection, dissemination, and use follow ethical/legal principles</i></b>                                                                                                                                                                                                                                                                                                                                                                                                                    | <b><i>D. Synthesize principles of good ethical/legal practice for application to study design and data collection, dissemination, and use</i></b>                                                                                                                                                                                                                                                                                                                                               |
| 1. Follow ethics guidelines and principles when planning studies; conducting research; and collecting, disseminating, and using data                                                                                                                                                                                                                                                                                                                                                            | 1. Follow ethics guidelines and principles when planning studies; conducting research; and collecting, disseminating, and using data                                                                                                                                                                                                                                                                                                                                                            | 1. Examine ethics guidelines and principles when planning studies; conducting research; and collecting, disseminating, and using data                                                                                                                                                                                                                                                                                                                                                                                               | 1. Integrate ethics guidelines and principles when planning studies; conducting research; and collecting, disseminating, and using data                                                                                                                                                                                                                                                                                                                                                         |
| <ul style="list-style-type: none"> <li>a. Collect and use public health data, including individual identifiers, only with clearly identified justification</li> <li>b. Balance respect for people and individual privacy with the risk of the threat to the community</li> <li>c. Apply public health code of ethics to collection, management, dissemination, and use of data and information, including principles of justice, timeliness, and transparency of purpose<sup>†</sup></li> </ul> | <ul style="list-style-type: none"> <li>a. Collect and use public health data, including individual identifiers, only with clearly identified justification</li> <li>b. Balance respect for people and individual privacy with the risk of the threat to the community</li> <li>c. Apply public health code of ethics to collection, management, dissemination, and use of data and information, including principles of justice, timeliness, and transparency of purpose<sup>†</sup></li> </ul> | <ul style="list-style-type: none"> <li>a. Ensure that public health data, including individual identifiers, are collected and used only with clearly identified justification</li> <li>b. Balance respect for people and individual privacy with the risk of the threat to the community</li> <li>c. Ensure that public health code of ethics is applied to collection, management, dissemination, and use of data and information, including principles of justice, timeliness, and transparency of purpose<sup>†</sup></li> </ul> | <ul style="list-style-type: none"> <li>a. Collect and use public health data, including individual identifiers, only with clearly identified justification</li> <li>b. Balance respect for people and individual privacy with the risk of the threat to the community</li> <li>c. Apply public health code of ethics to collection, management, dissemination, and use of data and information, including principles of justice, timeliness, and transparency of purpose<sup>†</sup></li> </ul> |
| 2. Apply relevant laws to data collection, management, dissemination, and use of data and information                                                                                                                                                                                                                                                                                                                                                                                           | 2. Apply relevant laws to data collection, management, dissemination, and use of data and information                                                                                                                                                                                                                                                                                                                                                                                           | 2. Communicate to staff legal expectations, limitations, and implications of collection, management, dissemination, and use of data and information                                                                                                                                                                                                                                                                                                                                                                                 | 2. Design data collection, management, and dissemination and use of data and information to comply with relevant laws                                                                                                                                                                                                                                                                                                                                                                           |
| 3. N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 3. Describe differences between public health practice and public health research                                                                                                                                                                                                                                                                                                                                                                                                               | 3. Obtain decision on whether investigation involves public health practice or public health research                                                                                                                                                                                                                                                                                                                                                                                                                               | 3. Verify conclusions that have been reached regarding distinction between public health practice and public health research                                                                                                                                                                                                                                                                                                                                                                    |
| 4. Describe human subjects research                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 4. Describe human subjects research                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 4. Ensure legal and ethical conduct of human subjects research                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 4. Ensure legal and ethical conduct of human subjects research                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 5. Apply Institutional Review Board processes as directed                                                                                                                                                                                                                                                                                                                                                                                                                                       | 5. Apply Institutional Review Board processes as necessary                                                                                                                                                                                                                                                                                                                                                                                                                                      | 5. Ensure application of necessary Institutional Review Board processes                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 5. Ensure application of Institutional Review Board processes                                                                                                                                                                                                                                                                                                                                                                                                                                   |

<sup>†</sup> Available at <http://www.apha.org/NR/rdonlyres/1CED3CEA-287E-4185-9CBD-BD405FC60856/0/ethicsbrochure.pdf>. Accessed on February 20, 2008.

**I. Skill Domain—Assessment and Analysis**

| Tier 1: Entry-Level or Basic Epidemiologist                                                                                                                              | Tier 2: Mid-Level Epidemiologist                                                                                                                                         | Tier 3a: Senior-Level Epidemiologist:<br>Supervisor and/or Manager                                                                                                          | Tier 3b: Senior Scientist/<br>Subject Area Expert                                                                                                                                   |
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| 6. Bring potential conflicts of interest to attention of senior epidemiologists                                                                                          | 6. Manage conflicts of interest as necessary                                                                                                                             | 6. Ensure that conflicts of interest do not interfere with research or investigations                                                                                       | 6. Ensure that conflicts of interest do not interfere with research or investigations                                                                                               |
| 7. Apply knowledge of privacy laws to protect confidentiality, including Health Insurance Portability and Accountability Act and applicable state and local privacy laws | 7. Apply knowledge of privacy laws to protect confidentiality, including Health Insurance Portability and Accountability Act and applicable state and local privacy laws | 7. Ensure application of privacy laws to protect confidentiality, including Health Insurance Portability and Accountability Act and applicable state and local privacy laws | 7. Incorporate privacy laws into study design to protect confidentiality, including Health Insurance Portability and Accountability Act and applicable state and local privacy laws |
| 8. Know agency procedures for handling Freedom of Information Act requests                                                                                               | 8. Know agency procedures for handling Freedom of Information Act requests                                                                                               | 8. Know agency procedures for handling Freedom of Information Act requests                                                                                                  | 8. Know agency procedures for handling Freedom of Information Act requests                                                                                                          |
| 9. Bring potential violations of ethical principles in preparing and submitting publications to attention of senior epidemiologists                                      | 9. Apply ethical principles in preparing and submitting publications                                                                                                     | 9. Ensure application of ethical principles in preparing and submitting publications                                                                                        | 9. Apply ethical principles in preparing and submitting publications                                                                                                                |

**I. Skill Domain—Assessment and Analysis**

| Tier 1: Entry-Level or Basic Epidemiologist                                                                                                                                                                                                                                                                                                                                                                                                                        | Tier 2: Mid-Level Epidemiologist                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Tier 3a: Senior-Level Epidemiologist:<br>Supervisor and/or Manager                                                                                                                                                                                                                                                                                                                                                                                         | Tier 3b: Senior Scientist/<br>Subject Area Expert                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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| <b><i>E. Organize data from surveillance, investigations, or other sources</i></b>                                                                                                                                                                                                                                                                                                                                                                                 | <b><i>E. Manage data from surveillance, investigations, or other sources</i></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b><i>E. Ensure management of data from surveillance, investigations, or other sources</i></b>                                                                                                                                                                                                                                                                                                                                                             | <b><i>E. Manage data from surveillance, investigations, or other sources</i></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 1. Assist in definition of database requirements, if indicated                                                                                                                                                                                                                                                                                                                                                                                                     | 1. Define database requirements, if indicated                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1. Approve database requirements                                                                                                                                                                                                                                                                                                                                                                                                                           | 1. Define database requirements, if indicated                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <ul style="list-style-type: none"> <li>a. N/A</li> <li>b. Adhere to national standards for coding and variables as directed (e.g., assigning numeric codes to text response options for a variable) to ensure accuracy and ease of analysis</li> <li>c. Use data entry techniques that ensure accuracy and reliability</li> <li>d. Conduct data entry validation</li> <li>e. Perform data cleaning and error correction</li> <li>f. N/A</li> <li>g. N/A</li> </ul> | <ul style="list-style-type: none"> <li>a. Design database with or ensure that the database design includes the necessary variables and data dictionary</li> <li>b. Adhere to national standards for coding and variables (e.g., assigning numeric codes to text response options for a variable) to ensure accuracy and ease of analysis</li> <li>c. Design data entry techniques that ensure accuracy and reliability</li> <li>d. Conduct data entry validation</li> <li>e. Perform data cleaning and error correction</li> <li>f. Communicate results of data error correction to data providers</li> <li>g. Define the requirements for or design databases that support analysis using geographic information</li> </ul> | <ul style="list-style-type: none"> <li>a. N/A</li> <li>b. Verify use of variables and coding in databases</li> <li>c. Verify data entry techniques to ensure accuracy and reliability</li> <li>d. N/A</li> <li>e. Verify that valid data cleaning has occurred</li> <li>f. Communicate results of data error correction to data providers</li> <li>g. Ensure that database requirements or design support analysis using geographic information</li> </ul> | <ul style="list-style-type: none"> <li>a. Design database with, or ensure that the database design includes, the necessary variables and metadata</li> <li>b. Verify choice of coding and variables (e.g., assigning numeric codes to text response options for a variable) to ensure and balance accuracy and ease of analysis</li> <li>c. Evaluate accuracy and reliability of data entry techniques</li> <li>d. Approve data entry validation processes</li> <li>e. Approve data cleaning and error correction processes</li> <li>f. Communicate results of data error correction to data providers</li> <li>g. Define the requirements for or design databases that support analysis using geographic information</li> </ul> |

**I. Skill Domain—Assessment and Analysis**

| Tier 1: Entry-Level or Basic Epidemiologist                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Tier 2: Mid-Level Epidemiologist                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Tier 3a: Senior-Level Epidemiologist:<br>Supervisor and/or Manager                                                                                                                                                                                                                                                                                                                                                                                                                                | Tier 3b: Senior Scientist/<br>Subject Area Expert                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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| 2. Maintain databases                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 2. Manage databases                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2. Ensure database management                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2. Manage databases                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <ul style="list-style-type: none"> <li>a. Maintain original data</li> <li>b. N/A</li> <li>c. Follow established procedures for creating new variables as necessary to support analysis of data</li> <li>d. N/A</li> <li>e. Follow established procedures for linking relational data and subsetting them into analysis-specific flat datasets</li> <li>f. N/A</li> <li>g. Document all changes to database</li> <li>h. Apply practices for secure (restricted access) and stable (routine backups, database redundancy) data storage</li> </ul> | <ul style="list-style-type: none"> <li>a. Maintain original data, but transform data as needed for specific analyses</li> <li>b. Use national standards where they exist when creating datasets for analysis</li> <li>c. Create new variables as necessary to support analysis of data</li> <li>d. Perform merging and splitting of databases</li> <li>e. Determine methods for linking relational data and subsetting them into analysis-specific flat datasets</li> <li>f. Change format of data from one software application to another if necessary (e.g., from ASCII to SAS)</li> <li>g. Document all data transformations</li> <li>h. Apply practices for secure (restricted access) and stable (routine backups, database redundancy) data storage</li> </ul> | <ul style="list-style-type: none"> <li>a. Ensure that data are maintained and transformed as needed for specific analyses</li> <li>b. Ensure that national standards are employed where they exist when datasets are created for analysis</li> <li>c. N/A</li> <li>d. N/A</li> <li>e. N/A</li> <li>f. N/A</li> <li>g. Ensure that all data transformations are documented</li> <li>h. Ensure secure (restricted access) and stable (routine backups, database redundancy) data storage</li> </ul> | <ul style="list-style-type: none"> <li>a. Maintain original data, but transform data as needed for specific analyses</li> <li>b. Recommend national standards to use when creating datasets for analysis</li> <li>c. Evaluate need for creation of new variables as necessary to support analysis of data</li> <li>d. Evaluate need for and perform merging and splitting of databases</li> <li>e. Recommend methods for linking relational data and subsetting them into analysis-specific flat datasets</li> <li>f. Provide technical expertise in changing format of data from one software application to another if necessary (e.g., from ASCII to SAS)</li> <li>g. Create processes for documenting data transformations</li> <li>h. Ensure secure (restricted access) and stable (routine backups, database redundancy) data storage</li> </ul> |

**I. Skill Domain—Assessment and Analysis**

| Tier 1: Entry-Level or Basic Epidemiologist                                                                                                                                                                                                    | Tier 2: Mid-Level Epidemiologist                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Tier 3a: Senior-Level Epidemiologist:<br>Supervisor and/or Manager                                                                                                                                                                                                                                                                               | Tier 3b: Senior Scientist/<br>Subject Area Expert                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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| <b><i>F. Analyze data from an epidemiologic investigation or study</i></b>                                                                                                                                                                     | <b><i>F. Analyze data from an epidemiologic investigation or study</i></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b><i>F. Evaluate analysis of data from an epidemiologic investigation or study</i></b>                                                                                                                                                                                                                                                          | <b><i>F. Evaluate data from an epidemiologic investigation or study</i></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 1. Use analysis plan for data                                                                                                                                                                                                                  | 1. Create analysis plan for data                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1. Approve analysis plan for data                                                                                                                                                                                                                                                                                                                | 1. Create analysis plan for data                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <ul style="list-style-type: none"> <li>a. N/A</li> <li>b. N/A</li> <li>c. N/A</li> <li>d. Recognize and describe the assumptions to be used in interpreting results</li> <li>e. N/A</li> <li>f. N/A</li> <li>g. N/A</li> <li>m. N/A</li> </ul> | <ul style="list-style-type: none"> <li>a. Define analysis plan to ensure that public health objectives are met</li> <li>b. Identify valid statistical techniques given the data, study design, sample size, hypotheses, and other relevant factors</li> <li>c. Specify the parameters to estimate</li> <li>d. Specify the assumptions to be used in interpreting results</li> <li>e. Create datasets to be used in the analysis</li> <li>f. Select software for analyzing and managing data</li> <li>g. Analyze data using geospatial and graphical representations</li> </ul> | <ul style="list-style-type: none"> <li>a. Ensure that analysis plan will meet the public health objectives</li> <li>b. Validate the selected statistical techniques given the data, study design, sample size, hypotheses, and other relevant factors</li> <li>c. N/A</li> <li>d. N/A</li> <li>e. N/A</li> <li>f. N/A</li> <li>g. N/A</li> </ul> | <ul style="list-style-type: none"> <li>a. Formulate analysis plan to ensure that public health objectives are met</li> <li>b. Formulate valid statistical techniques given the data, study design, sample size, hypotheses, and other relevant factors</li> <li>c. Verify the parameters selected for estimation</li> <li>d. Verify the assumptions to be used in interpreting results</li> <li>e. Approve the selection of the datasets for the analysis</li> <li>f. Approve the selection of the software to be used for analyzing and managing data</li> <li>g. Recommend methods for analyzing the results including geospatial and other graphical representations</li> </ul> |

**I. Skill Domain—Assessment and Analysis**

| Tier 1: Entry-Level or Basic Epidemiologist                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Tier 2: Mid-Level Epidemiologist                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Tier 3a: Senior-Level Epidemiologist:<br>Supervisor and/or Manager                                                                                                                                                                                                                                                                                    | Tier 3b: Senior Scientist/<br>Subject Area Expert                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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| 2. Conduct analysis of data                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 2. Conduct analysis of data                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 2. Approve data analysis                                                                                                                                                                                                                                                                                                                              | 2. Evaluate data                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <ul style="list-style-type: none"> <li>a. Compute frequencies and descriptive statistics</li> <li>b. Perform analyses for rates and age adjustment as directed</li> <li>c. Compute sensitivity, specificity, positive predictive value, incidence, prevalence, and attributable fraction as directed</li> <li>d. N/A</li> <li>e. Perform analyses for measures of association (e.g., relative risks and odds ratios), confidence intervals, and p-values</li> <li>f. Interpret measures of association, confidence intervals, and p-values</li> <li>g. N/A</li> <li>h. N/A</li> <li>i. N/A</li> <li>j. N/A</li> <li>k. N/A</li> <li>l. Create standard epidemiology report and necessary components, including tables, graphs, and charts</li> <li>m. N/A</li> </ul> | <ul style="list-style-type: none"> <li>a. Compute frequencies and descriptive statistics</li> <li>b. Determine whether rates and age adjustments are needed and perform analyses as necessary</li> <li>c. Determine which standard epidemiologic measures are indicated (e.g., sensitivity, specificity, positive predictive value, incidence, prevalence, and attributable fraction), and compute as needed</li> <li>d. Perform trend analyses</li> <li>e. Determine measures of association (e.g., relative risks and odds ratios), confidence intervals, and p-values, and perform analysis as needed</li> <li>f. Interpret measures of association, confidence intervals, and p-values</li> <li>g. Assess need for multivariable analyses</li> <li>h. Perform multivariable and/or regression analyses as necessary</li> <li>i. N/A</li> <li>j. Assess the effect of potential confounders</li> <li>k. Assess whether effect modification is present</li> <li>l. Create standard epidemiology report and necessary components, including tables, graphs, and charts</li> <li>m. Review and approve resulting epidemiology reports</li> </ul> | <ul style="list-style-type: none"> <li>a. N/A</li> <li>b. N/A</li> <li>c. N/A</li> <li>d. N/A</li> <li>e. N/A</li> <li>f. N/A</li> <li>g. N/A</li> <li>h. N/A</li> <li>i. Verify results and interpretation of data analysis</li> <li>j. N/A</li> <li>k. N/A</li> <li>l. N/A</li> <li>m. Review and approve resulting epidemiology reports</li> </ul> | <ul style="list-style-type: none"> <li>a. Compute frequencies and descriptive statistics</li> <li>b. Determine whether rates and age adjustments are needed, and perform analyses as necessary</li> <li>c. Formulate a synopsis of the data using standard epidemiologic measures, including sensitivity, specificity, positive predictive value, incidence, prevalence, and attributable fraction</li> <li>d. Determine best methodology for and perform trend analyses</li> <li>e. Analyze using measures of association (e.g., relative risks and odds ratios), confidence intervals, and p-values</li> <li>f. Interpret measures of association, confidence intervals, and p-values</li> <li>g. Evaluate using multivariate and/or regression analyses as necessary</li> <li>h. Perform multivariable and/or regression analyses as necessary</li> <li>i. Verify results and interpretation of data analysis</li> <li>j. Assess the effect of potential confounders</li> <li>k. Assess whether effect modification is present</li> <li>l. Create standard epidemiology report and necessary components, including tables and graphs</li> <li>m. N/A</li> </ul> |

**I. Skill Domain—Assessment and Analysis**

| Tier 1: Entry-Level or Basic Epidemiologist                                                                                                                                                        | Tier 2: Mid-Level Epidemiologist                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Tier 3a: Senior-Level Epidemiologist:<br>Supervisor and/or Manager                                                                                                                                                                                                                                       | Tier 3b: Senior Scientist/<br>Subject Area Expert                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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| <b><i>G. Summarize results of the analysis, and draw conclusions</i></b>                                                                                                                           | <b><i>G. Summarize results of the analysis, and draw conclusions</i></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b><i>G. Evaluate conclusions and interpretations from investigation</i></b>                                                                                                                                                                                                                             | <b><i>G. Evaluate results of the analysis, and interpret conclusions</i></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 1. N/A                                                                                                                                                                                             | 1. Apply knowledge of epidemiologic principles and methods to make recommendations regarding the validity of epidemiologic data                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1. Assess the validity of the epidemiologic data, taking into consideration bias and other study limitations                                                                                                                                                                                             | 1. Assess the validity of the epidemiologic data, taking into consideration bias and other study limitations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <ul style="list-style-type: none"> <li>a. N/A</li> <li>b. N/A</li> <li>c. N/A</li> <li>d. N/A</li> <li>e. Distinguish between statistical association and causal effect</li> <li>f. N/A</li> </ul> | <ul style="list-style-type: none"> <li>a. Determine likely sources of bias</li> <li>b. Assess validity and reliability of data collection instruments and methods</li> <li>c. Determine other limitations in study design, sample selection, data collection, analysis, and other features</li> <li>d. Recognize the limitations of significance testing</li> <li>e. Make causal inferences on the basis of principles of causation (e.g., strength, consistency, biological plausibility, dose-response, and temporal relationship)</li> <li>f. Examine the influence of power and confidence limits on the interpretation of the study's data</li> </ul> | <ul style="list-style-type: none"> <li>a. N/A</li> <li>b. N/A</li> <li>c. N/A</li> <li>d. N/A</li> <li>e. Evaluate causal inferences on the basis of principles of causation (e.g., strength, consistency, biological plausibility, dose-response, and temporal relationship)</li> <li>f. N/A</li> </ul> | <ul style="list-style-type: none"> <li>a. Confirm likely sources of bias and likely effects on results</li> <li>b. Verify the selection of data collection instruments and methods on the basis of their validity and reliability</li> <li>c. Confirm other limitations in study design, sample selection, data collection, analysis, and other features</li> <li>d. Explain the limitations of significance testing</li> <li>e. Evaluate causal inferences on the basis of principles of causation (e.g., strength, consistency, biological plausibility, dose-response, and temporal relationship)</li> <li>f. Explain the influence of power and confidence limits on the interpretation of the study's data</li> </ul> |
| 2. N/A                                                                                                                                                                                             | 2. Assess need for special analyses, including survival analyses, cost-effectiveness/cost benefit/cost utility analyses                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 2. Assess need for special analyses, including survival analyses, cost-effectiveness/cost benefit/cost utility analyses                                                                                                                                                                                  | 2. Assess need for special analyses, including survival analyses, cost-effectiveness/cost benefit/cost utility analyses                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <ul style="list-style-type: none"> <li>a. N/A</li> </ul>                                                                                                                                           | <ul style="list-style-type: none"> <li>a. N/A</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <ul style="list-style-type: none"> <li>a. N/A</li> </ul>                                                                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>a. Formulate special analyses as necessary, including survival analyses, cost-effectiveness/cost benefit/cost utility analyses</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |



**I. Skill Domain—Assessment and Analysis**

| Tier 1: Entry-Level or Basic Epidemiologist                                                                                                              | Tier 2: Mid-Level Epidemiologist                                                                                                                                                                                                                                                                                                                           | Tier 3a: Senior-Level Epidemiologist:<br>Supervisor and/or Manager                                                                                                                                                                                                                           | Tier 3b: Senior Scientist/<br>Subject Area Expert                                                                                                                                                                                                                                                                                                                        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3. Identify key findings from the study                                                                                                                  | 3. Identify key findings from the study                                                                                                                                                                                                                                                                                                                    | 3. Validate key findings from the study                                                                                                                                                                                                                                                      | 3. Synthesize key findings from the study                                                                                                                                                                                                                                                                                                                                |
| <ul style="list-style-type: none"> <li>a. Relate study findings to current scientific knowledge</li> <li>b. N/A</li> <li>c. N/A</li> </ul>               | <ul style="list-style-type: none"> <li>a. Interpret study's results in the context of current scientific knowledge</li> <li>b. Identify any implications to public health programs</li> <li>c. Communicate results</li> </ul>                                                                                                                              | <ul style="list-style-type: none"> <li>a. N/A</li> <li>b. Determine the importance of implications to public health programs</li> <li>c. Synthesize results for communication to decision-makers and the public</li> </ul>                                                                   | <ul style="list-style-type: none"> <li>a. Evaluate study's results in the context of current scientific knowledge</li> <li>b. Verify any implications to public health programs</li> <li>c. Synthesize results for communication to decision-makers and the public</li> </ul>                                                                                            |
| <b><i>H. Assist in developing recommended evidence-based interventions and control measures in response to epidemiologic findings</i></b>                | <b><i>H. Recommend evidence-based interventions and control measures in response to epidemiologic findings</i></b>                                                                                                                                                                                                                                         | <b><i>H. Determine evidence-based interventions and control measures in response to epidemiologic findings</i></b>                                                                                                                                                                           | <b><i>H. Formulate new interventions on the basis of evidence when available, and control measures in response to epidemiologic findings</i></b>                                                                                                                                                                                                                         |
| 1. Define cultural/social/political framework for recommended interventions                                                                              | 1. Establish cultural/social/political framework for recommendations or interventions                                                                                                                                                                                                                                                                      | 1. Approve interventions on the basis of understanding of cultural/social/political framework for consideration                                                                                                                                                                              | 1. Examine cultural/social/political framework to develop recommendations or interventions                                                                                                                                                                                                                                                                               |
| <ul style="list-style-type: none"> <li>a. Describe study data in a way that makes clear the rationale for the recommendations</li> <li>b. N/A</li> </ul> | <ul style="list-style-type: none"> <li>a. Describe study data in a way that makes clear the rationale for the recommendations</li> <li>b. Relate study findings to existing policies, regulations, and laws, as well as environmental factors (e.g., societal, cultural, or other factors that may affect the recommendations or interventions)</li> </ul> | <ul style="list-style-type: none"> <li>a. N/A</li> <li>b. Interpret study findings in the context of existing policies, regulations, and laws, as well as environmental factors (e.g., societal, cultural, or other factors that may affect the recommendations or interventions)</li> </ul> | <ul style="list-style-type: none"> <li>a. Describe study data in a way that makes clear the rationale for the recommendations</li> <li>b. Evaluate study findings in relation to existing policies, regulations, and laws, as well as environmental factors (e.g., societal, cultural, or other factors that may affect the recommendations or interventions)</li> </ul> |

**I. Skill Domain—Assessment and Analysis**

| Tier 1: Entry-Level or Basic Epidemiologist                                                          | Tier 2: Mid-Level Epidemiologist                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Tier 3a: Senior-Level Epidemiologist:<br>Supervisor and/or Manager                                                                                                                                                                                                                                                                                                                                                                             | Tier 3b: Senior Scientist/<br>Subject Area Expert                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2. N/A                                                                                               | 2. Use scientific evidence in preparing recommendations for action or interventions                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 2. Ensure that scientific evidence is used in preparing recommendations for action or interventions                                                                                                                                                                                                                                                                                                                                            | 2. Design recommendations using scientific evidence or interventions                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| a. N/A<br>b. N/A<br>c. N/A<br>d. N/A<br>e. N/A<br>f. N/A                                             | a. Synthesize scientific evidence and knowledge for use in preparing recommendations<br>b. Identify the key types of intervention for problem<br>c. Develop assessment of the potential impact on the public's health from alternative interventions<br>d. Propose new recommendations or modifications to existing interventions as necessary on the basis of study findings<br>e. Prioritize potential public health interventions<br>f. Link any recommended behavioral interventions with risk communication and risk reduction methods | a. N/A<br>b. N/A<br>c. Approve assessment of the potential impact on the public's health from alternative interventions<br>d. Select new recommendations or modifications to existing interventions as necessary on the basis of study findings<br>e. Approve prioritization of potential public health interventions<br>f. Ensure that any recommended behavioral interventions are linked with risk communication and risk reduction methods | a. Synthesize scientific evidence and knowledge for use in preparing recommendations<br>b. Evaluate the key types of intervention for problem<br>c. Evaluate the potential impact on the public's health from alternative interventions<br>d. Formulate new recommendations or modifications to existing interventions as necessary on the basis of study findings<br>e. Prioritize potential public health interventions<br>f. Link any recommended behavioral interventions with risk communication and risk reduction methods |
| <b><i>I. Assist in evaluation of programs</i></b>                                                    | <b><i>I. Evaluate programs</i></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b><i>I. Ensure evaluation of programs</i></b>                                                                                                                                                                                                                                                                                                                                                                                                 | <b><i>I. Evaluate programs</i></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 1. N/A                                                                                               | 1. Assist in development of measurable and program-relevant goals and objectives                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1. Approve measurable and program-relevant goals and objectives                                                                                                                                                                                                                                                                                                                                                                                | 1. Develop measurable and program-relevant goals and objectives in collaboration with program staff                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 2. N/A                                                                                               | 2. Assist in development of program logic models and theories of action                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2. Decide on program logic models and theories of action                                                                                                                                                                                                                                                                                                                                                                                       | 2. Develop program logic models and theories of action in collaboration with program staff                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 3. Collect surveillance and other data for use in tracking program objectives and outcomes           | 3. Identify surveillance and other data for use in tracking program objectives and outcomes                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 3. Approve surveillance and other data for use in tracking program objectives and outcomes                                                                                                                                                                                                                                                                                                                                                     | 3. Synthesize surveillance and other data to allow tracking of program objectives and outcomes                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 4. Assist in tracking progress toward program objectives and outcomes                                | 4. Record progress toward program objectives and outcomes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 4. Monitor progress toward program objectives and outcomes                                                                                                                                                                                                                                                                                                                                                                                     | 4. Critique progress toward program objectives and outcomes                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 5. Communicate information about progress toward program objectives and outcomes to program managers | 5. Communicate information about progress toward program objectives and outcomes to program managers and staff for use in program planning and modification                                                                                                                                                                                                                                                                                                                                                                                 | 5. Incorporate information about progress toward program objectives and outcomes in decisions on program planning and modification                                                                                                                                                                                                                                                                                                             | 5. Evaluate progress toward program objectives and outcomes for program managers and staff to aid in program planning and modification                                                                                                                                                                                                                                                                                                                                                                                           |

## II. Skill Domain—Basic Public Health Sciences

| Tier 1: Entry-Level or Basic Epidemiologist                                                                                                                                         | Tier 2: Mid-Level Epidemiologist                                                                                                                                                    | Tier 3a: Senior-Level Epidemiologist:<br>Supervisor and/or Manager                                                                                                                                                      | Tier 3b: Senior Scientist/<br>Subject Area Expert                                                                                                                                                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b><i>A. Know how causes of disease affect epidemiologic practice</i></b>                                                                                                           | <b><i>A. Use current knowledge of causes of disease to guide epidemiologic practice</i></b>                                                                                         | <b><i>A. Use current knowledge of causes of disease to guide epidemiologic practice</i></b>                                                                                                                             | <b><i>A. Use current knowledge of causes of disease to guide epidemiologic practice</i></b>                                                                                                           |
| 1. Relate basic etiologic processes for human diseases to subject matter areas of interest (e.g., infectious diseases, chronic diseases)                                            | 1. Relate basic etiologic processes for human diseases to subject matter areas of interest (e.g., infectious diseases, chronic diseases)                                            | 1. Ensure that basic etiologic processes for human diseases are related to subject matter areas of interest (e.g., infectious diseases, chronic diseases)                                                               | 1. Ensure that basic etiologic processes for human diseases are related to subject matter areas of interest (e.g., infectious diseases, chronic diseases)                                             |
| 2. Apply understanding of human and environmental biology and behavioral sciences and principles to determine potential biological mechanisms of disease                            | 2. Apply understanding of human and environmental biology and behavioral sciences and principles to determine potential biological mechanisms of disease                            | 2. Ensure the application of understanding of human and environmental biology and behavioral sciences and principles to determine potential biological mechanisms of disease                                            | 2. Ensure the application of understanding of human and environmental biology and behavioral sciences and principles to determine potential biological mechanisms of disease                          |
| 3. N/A                                                                                                                                                                              | 3. Explain how genetics and genomics affect disease processes and public health policy and practice                                                                                 | 3. Ensure that the role of genetics and genomics on disease processes are considered when developing public health policy and practice                                                                                  | 3. Synthesize knowledge about the effect of genetics and genomics on disease processes and public health policy and practice                                                                          |
| 4. Apply principles of the host/agent/environment model to disease causation, prevention, and control                                                                               | 4. Apply principles of the host/agent/environment model to disease causation, prevention, and control                                                                               | 4. Ensure the application of principles of the host/agent/environment model to disease causation, prevention, and control                                                                                               | 4. Ensure the application of principles of the host/agent/environment model to disease causation, prevention, and control                                                                             |
| 5. Describe the role and influence of sociobehavioral factors (including community, political, social, family, and individual behavioral factors) in health risks and health status | 5. Describe the role and influence of sociobehavioral factors (including community, political, social, family, and individual behavioral factors) in health risks and health status | 5. Ensure that the role and influence of sociobehavioral factors (including community, political, social, family, and individual behavioral factors) are incorporated into understanding health risks and health status | 5. Synthesize knowledge about the role and influence of sociobehavioral factors (including community, political, social, family, and individual behavioral factors) in health risks and health status |
| 6. N/A                                                                                                                                                                              | 6. Incorporate etiologic principles into development of disease prevention and control strategies                                                                                   | 6. Incorporate etiologic principles into development of disease prevention and control strategies                                                                                                                       | 6. Incorporate etiologic principles into development of disease prevention and control strategies                                                                                                     |

## II. Skill Domain—Basic Public Health Sciences

| Tier 1: Entry-Level or Basic Epidemiologist                                                                                                                               | Tier 2: Mid-Level Epidemiologist                                                                                                                                          | Tier 3a: Senior-Level Epidemiologist:<br>Supervisor and/or Manager                                                                                                                       | Tier 3b: Senior Scientist/<br>Subject Area Expert                                                                                                                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b><i>B. Identify the role of laboratory resources in epidemiologic activities</i></b>                                                                                    | <b><i>B. Use laboratory resources to support epidemiologic activities</i></b>                                                                                             | <b><i>B. Ensure the use of laboratory resources to support epidemiologic activities</i></b>                                                                                              | <b><i>B. Develop processes for using laboratory resources to support epidemiologic activities</i></b>                                                                     |
| 1. Identify the roles and capabilities of public health laboratories and other laboratories and how they are used in epidemiologic investigations                         | 1. Identify the roles and capabilities of public health laboratories and other laboratories and how they are used in epidemiologic investigations                         | 1. Examine the roles and capabilities of public health laboratories and other laboratories and how they are used in epidemiologic investigations                                         | 1. Synthesize the roles and capabilities of public health laboratories in epidemiologic investigations                                                                    |
| 2. N/A                                                                                                                                                                    | 2. Coordinate laboratory and epidemiologic activities, including test selection, communication, and reporting results in the field                                        | 2. Ensure the coordination of laboratory and epidemiologic activities, including test selection, communication, and reporting results in the field                                       | 2. Determine laboratory and epidemiologic activities including test selection, communication, and reporting results in the field                                          |
| 3. N/A                                                                                                                                                                    | 3. Interpret laboratory data, accounting for factors that influence the results of screening and diagnostic tests                                                         | 3. Evaluate the interpretation of laboratory data accounting for factors that influence the results of screening and diagnostic tests                                                    | 3. Develop methods for the interpretation of laboratory data, accounting for factors that influence the results of screening and diagnostic tests                         |
| 4. Use identified specimen collection, storage, and transportation measures                                                                                               | 4. Implement necessary specimen collection, storage, and transportation measures                                                                                          | 4. Oversee necessary specimen collection, storage, and transportation measures                                                                                                           | 4. Develop methods for specimen collection, storage, and transportation measures                                                                                          |
| <b><i>C. Use identified informatics tools in support of epidemiologic practice</i></b>                                                                                    | <b><i>C. Apply principles of informatics, including data collection, processing, and analysis, in support of epidemiologic practice</i></b>                               | <b><i>C. Ensure application of principles of informatics, including data collection, processing, and analysis, in support of epidemiologic practice</i></b>                              | <b><i>C. Apply principles of informatics, including data collection, processing, and analysis, in support of epidemiologic practice</i></b>                               |
| 1. Use information technologies and communication tools necessary to support epidemiologic investigations and surveillance                                                | 1. Use information technologies and communication tools necessary to support epidemiologic investigations and surveillance                                                | 1. Provide access to information technologies and communication tools necessary to support epidemiologic investigations and surveillance                                                 | 1. Use information technologies and communication tools necessary to support epidemiologic investigations and surveillance                                                |
| 2. Use software tools that support public health data acquisition, entry, abstraction, analysis, and reporting                                                            | 2. Use software tools that support online searching, public health data acquisition, entry, abstraction, management, analysis, planning, mapping, and reporting           | 2. Provide access to software tools that support online searching, public health data acquisition, entry, abstraction, management, analysis, planning, mapping, and reporting            | 2. Use software tools that support online searching, public health data acquisition, entry, abstraction, management, analysis, planning, mapping, and reporting           |
| 3. Apply procedures (policies) and technical means (security) to ensure the integrity and protection of confidential information in electronic files and computer systems | 3. Apply procedures (policies) and technical means (security) to ensure the integrity and protection of confidential information in electronic files and computer systems | 3. Assure that procedures (policies) and technical means (security) are used to ensure the integrity and protection of confidential information in electronic files and computer systems | 3. Apply procedures (policies) and technical means (security) to ensure the integrity and protection of confidential information in electronic files and computer systems |

## II. Skill Domain—Basic Public Health Sciences

| Tier 1: Entry-Level or Basic Epidemiologist                                                                                                                                                               | Tier 2: Mid-Level Epidemiologist                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Tier 3a: Senior-Level Epidemiologist:<br>Supervisor and/or Manager                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Tier 3b: Senior Scientist/<br>Subject Area Expert                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4. Combine data and information from multiple sources to create new information to support public health decision-making                                                                                  | 4. Combine data and information from multiple sources to create new information to support public health decision-making                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 4. Use data and information from multiple sources to create new information to support public health decision-making                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 4. Synthesize data and information from multiple sources to create new information to support public health decision-making                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <ul style="list-style-type: none"> <li>a. Suggest limitations of current data collection that might determine the need for new data collection</li> <li>b. N/A</li> <li>c. N/A</li> <li>d. N/A</li> </ul> | <ul style="list-style-type: none"> <li>a. Determine whether new data collection is needed or existing datasets or systems can be mined</li> <li>b. Participate in the development of new or enhancement of existing databases to support epidemiologic investigations, surveillance, etc.</li> <li>c. Use interoperable data standards as needed for storage and transmission, and be able to find the relevant standards specifications as needed</li> <li>d. Maintain electronic documents (guidelines, datasets), including documented versions, dissemination methods, and relevant standards specifications</li> </ul> | <ul style="list-style-type: none"> <li>a. Decide whether to create new data collection systems or to mine existing datasets or systems</li> <li>b. Oversee the development of new or enhancement of existing databases to support epidemiologic investigations, surveillance, etc.</li> <li>c. Ensure the utilization of interoperable data standards for storage and transmission, and be able to find the relevant standards specifications as needed</li> <li>d. Maintain electronic documents (guidelines, datasets), including documented versions, dissemination methods, and relevant standards specifications</li> </ul> | <ul style="list-style-type: none"> <li>a. Decide whether to create new data collection systems or to mine existing datasets or systems</li> <li>b. Develop new or enhance existing databases to support epidemiologic investigations, surveillance, etc.</li> <li>c. Ensure the utilization of interoperable data standards for storage and transmission, and be able to find the relevant standards specifications as needed</li> <li>d. Create processes to maintain electronic documents (guidelines, datasets), including documented versions, dissemination methods, and relevant standards specifications</li> </ul> |
| 5. N/A                                                                                                                                                                                                    | 5. Participate in development of data models to ensure representation of epidemiologic needs in associated databases and information systems                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 5. Participate in development of data models to ensure representation of epidemiologic needs in associated databases and information systems                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 5. Participate in development of data models to ensure representation of epidemiologic needs in associated databases and information systems                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>D. N/A</b>                                                                                                                                                                                             | <b>D. N/A</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>D. Develop and manage information systems to improve effectiveness of surveillance, investigation, and other epidemiologic practices</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>D. Develop and manage information systems to improve effectiveness of surveillance, investigation, and other epidemiologic practices</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 1. N/A                                                                                                                                                                                                    | 1. N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1. Engage and consult with information technology professionals with necessary expertise for developing information systems to support epidemiology programs                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1. N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

**II. Skill Domain—Basic Public Health Sciences**

| Tier 1: Entry-Level or Basic Epidemiologist | Tier 2: Mid-Level Epidemiologist | Tier 3a: Senior-Level Epidemiologist:<br>Supervisor and/or Manager                                                                                                    | Tier 3b: Senior Scientist/<br>Subject Area Expert                                                                                                                                                                                                                                                                              |
|---------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2. N/A                                      | 2. N/A                           | 2. Articulate the needs of the epidemiology program to the information technology specialists                                                                         | 2. N/A                                                                                                                                                                                                                                                                                                                         |
| 3. N/A                                      | 3. N/A                           | 3. Ensure that all members of systems development teams, including epidemiologists and information technology specialists, fill roles consistent with their expertise | 3. Compose and manage systems development teams in a manner that demonstrates recognition of the appropriate roles and domains for computer scientists, epidemiologists, policy makers, and programmers and other information technology specialists in information systems development                                        |
| 4. N/A                                      | 4. N/A                           | 4. Lead the development of integrated, cost-effective public health information systems that are consistent with a larger (enterprise-level) information architecture | 4. Lead and advocate for, or otherwise actively participate in, the development of integrated, cost-effective public health information systems within the public health enterprise, ensuring that new applications and information systems are built in conformance with a larger (enterprise-level) information architecture |
| 5. N/A                                      | 5. N/A                           | 5. Participate in development of confidentiality and privacy policies for the enterprise and security systems to support the implementation of those policies         | 5. Participate in development of confidentiality and privacy policies for the enterprise, and ensure the development of security systems to support the implementation of those policies                                                                                                                                       |
| 6. N/A                                      | 6. N/A                           | 6. Ensure that information systems developed for epidemiology programs fully support the objectives, functions, and business processes of the public health system    | 6. Ensure that the information systems developed for epidemiology programs fully support the objectives, functions, and business processes of the public health system                                                                                                                                                         |

### III. Skill Domain—Communication

| Tier 1: Entry-Level or Basic Epidemiologist                                                                                                                                                                                                                                                                                     | Tier 2: Mid-Level Epidemiologist                                                                                                                                                                                                                                                                                                                                                                                                                           | Tier 3a: Senior-Level Epidemiologist:<br>Supervisor and/or Manager                                                                                                                        | Tier 3b: Senior Scientist/<br>Subject Area Expert                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b><i>A. Prepare written and oral reports and presentations that communicate necessary information to agency staff</i></b>                                                                                                                                                                                                      | <b><i>A. Prepare written and oral reports and presentations that communicate necessary information to professional audiences, policy makers, and the general public</i></b>                                                                                                                                                                                                                                                                                | <b><i>A. Ensure preparation of written and oral reports and presentations that communicate necessary information to professional audiences, policy makers, and the general public</i></b> | <b><i>A. Organize preparation of written and oral reports and presentations that communicate necessary information to professional audiences, policy makers, and the general public</i></b>                                                                                                                                                                                                                                                                                                                                                 |
| 1. Identify methods and content for communication of epidemiologic findings                                                                                                                                                                                                                                                     | 1. Identify audience, methods, and content for communication of epidemiologic findings                                                                                                                                                                                                                                                                                                                                                                     | 1. Approve selection of audience, methods, and content for communication of epidemiologic findings                                                                                        | 1. Verify selection of audience, methods, and content for communication of epidemiologic findings                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <ul style="list-style-type: none"> <li>a. N/A</li> <li>b. Identify relevant data to report</li> <li>c. Assess needs and interests of target audience for materials that are used in communication</li> <li>d. Use communication methods that meet the needs of the target audience, as directed</li> </ul>                      | <ul style="list-style-type: none"> <li>a. Identify target audience for communication</li> <li>b. Identify relevant data to report</li> <li>c. Assess needs and interests of target audience for materials that are used in communication</li> <li>d. Identify communication methods that meet the needs of the target audience</li> </ul>                                                                                                                  | <ul style="list-style-type: none"> <li>a. N/A</li> <li>b. N/A</li> <li>c. N/A</li> <li>d. N/A</li> </ul>                                                                                  | <ul style="list-style-type: none"> <li>a. Decide on target audience for communication</li> <li>b. Determine relevance of data to report</li> <li>c. Review assessment of needs and interests of target audience for materials that are used in communication</li> <li>d. Verify methods of communication selected for target audience</li> </ul>                                                                                                                                                                                            |
| 2. Communicate epidemiologic work to agency staff through written reports and oral presentations                                                                                                                                                                                                                                | 2. Communicate epidemiologic work to professional audiences and agency staff through written reports and oral presentations                                                                                                                                                                                                                                                                                                                                | 2. Review written reports and oral presentations to ensure that content communicates epidemiologic work to professional audiences and agency staff                                        | 2. Create written reports and oral presentations that communicate epidemiologic work to professional audiences and agency staff                                                                                                                                                                                                                                                                                                                                                                                                             |
| <ul style="list-style-type: none"> <li>a. N/A</li> <li>b. N/A</li> <li>c. Prepare summary reports and memoranda for use within the agency</li> <li>d. N/A</li> <li>e. Use current audiovisual tools to maximize communication</li> <li>f. Create charts, tables, and figures that communicate to the target audience</li> </ul> | <ul style="list-style-type: none"> <li>a. Prepare abstracts either for publication or for presentation at scientific meetings</li> <li>b. Prepare manuscripts for scientific publication</li> <li>c. Prepare summary reports and memoranda for use within the agency</li> <li>d. N/A</li> <li>e. Use current audiovisual tools to maximize communication</li> <li>f. Create charts, tables, and figures that communicate to the target audience</li> </ul> | <ul style="list-style-type: none"> <li>a. N/A</li> <li>b. N/A</li> <li>c. N/A</li> <li>d. N/A</li> <li>e. N/A</li> <li>f. N/A</li> </ul>                                                  | <ul style="list-style-type: none"> <li>a. Prepare abstracts either for publication or for presentation at scientific meetings</li> <li>b. Prepare manuscripts for scientific publication</li> <li>c. Prepare summary reports and memoranda for use within the agency</li> <li>d. Critique reports, manuscripts, and other documents that have been prepared by others</li> <li>e. Use current audiovisual tools to maximize communication</li> <li>f. Create charts, tables, and figures that communicate to the target audience</li> </ul> |

### III. Skill Domain—Communication

| Tier 1: Entry-Level or Basic Epidemiologist           | Tier 2: Mid-Level Epidemiologist                                                                                                                                                                                                                                                                    | Tier 3a: Senior-Level Epidemiologist: Supervisor and/or Manager                                                                                                                                                      | Tier 3b: Senior Scientist/ Subject Area Expert                                                                                                                                                                                                                                                             |
|-------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3. N/A                                                | 3. Communicate epidemiologic information to the general public, the news media, and/or to policy makers through giving oral presentations or contributing to development of written documents                                                                                                       | 3. Create processes to guide preparation of documents or oral presentations that communicate epidemiologic information to the general public, news media, and/or policy makers                                       | 3. Create documents (e.g., briefs, press releases, Web pages) that communicate epidemiologic information to the general public, press, and/or to policy makers                                                                                                                                             |
| a. N/A<br>b. N/A<br>c. N/A                            | a. Contribute to press releases for the general public<br>b. Participate in the development of disease prevention/health promotion materials for lay audiences<br>c. Communicate scientific findings in a language tailored to the needs of decision-makers, news media, and other target audiences | a. Approve press releases on an as-needed basis<br>b. N/A<br>c. Create documents that communicate scientific findings in a language tailored to the needs of decision-makers, news media, and other target audiences | a. Contribute to or develop press releases for the general public<br>b. Develop disease prevention/health promotion materials for lay audiences<br>c. Create documents that communicate scientific findings in a language tailored to the needs of decision-makers, news media, and other target audiences |
| 4. N/A                                                | 4. Tailor surveillance information content and periodicity of dissemination for specific audiences and their uses                                                                                                                                                                                   | 4. Approve surveillance information content and periodicity of dissemination for specific audiences and their uses                                                                                                   | 4. Determine content for surveillance information and periodicity of dissemination for specific audiences and their uses                                                                                                                                                                                   |
| 5. Respond to public queries about epidemiologic data | 5. Respond to public queries about epidemiologic data or related issues                                                                                                                                                                                                                             | 5. Oversee responses to public queries about epidemiologic data or related issues                                                                                                                                    | 5. Create key messages for responding to public queries about epidemiologic data or related issues                                                                                                                                                                                                         |
| 6. N/A                                                | 6. Demonstrate ability to explain or teach basic epidemiologic principles to non-epidemiologists and lower-level epidemiologists                                                                                                                                                                    | 6. Demonstrate ability to explain or teach basic epidemiologic principles to non-epidemiologists and lower-level epidemiologists                                                                                     | 6. Demonstrate ability to explain or teach basic and advanced epidemiologic principles to non-epidemiologists and lower-level epidemiologists                                                                                                                                                              |



### III. Skill Domain—Communication

| Tier 1: Entry-Level or Basic Epidemiologist                                                                                                              | Tier 2: Mid-Level Epidemiologist                                                                                                                                                                                                     | Tier 3a: Senior-Level Epidemiologist:<br>Supervisor and/or Manager                                                                                                                                                                                                                                                              | Tier 3b: Senior Scientist/<br>Subject Area Expert                                                                                                                                                                                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b><i>B. Recognize the basic principles of risk communication</i></b>                                                                                    | <b><i>B. Demonstrate the basic principles of risk communication</i></b>                                                                                                                                                              | <b><i>B. Ensure that the basic principles of risk communication are followed in all communication of epidemiologic findings</i></b>                                                                                                                                                                                             | <b><i>B. Create messages that follow the principles of risk communication</i></b>                                                                                                                                                 |
| 1. Provide epidemiologic information to support the development of risk communication messages                                                           | 1. Participate in developing risk communication messages that convey epidemiologic information to particular public health problems                                                                                                  | 1. Develop risk communication messages that convey epidemiologic information to particular public health problems                                                                                                                                                                                                               | 1. Develop risk communication messages that convey epidemiologic information to particular public health problems                                                                                                                 |
| a. N/A<br>b. Provide content to the public information officer and other relevant agency staff<br>c. N/A                                                 | a. Assist in developing content for risk communication messages<br>b. Provide content to the public information officer and other relevant agency staff<br>c. Review risk communication messages for scientific accuracy and clarity | a. Create content for risk communication messages<br>b. Review the content provided to the public information officer and other relevant agency staff<br>c. Review risk communication messages for scientific accuracy and clarity                                                                                              | a. Create content for risk communication messages<br>b. Review and provide content to the public information officer and other relevant agency staff<br>c. Review risk communication messages for scientific accuracy and clarity |
| 2. Use basic risk communication principles to communicate epidemiologic messages to agency staff                                                         | 2. Use basic risk communication principles to communicate epidemiologic messages                                                                                                                                                     | 2. Oversee communication of epidemiologic messages                                                                                                                                                                                                                                                                              | 2. Model risk communication principles when communicating epidemiologic messages                                                                                                                                                  |
| a. Refer media inquiries to the correct spokesperson for the agency<br>b. N/A<br>c. N/A<br>d. N/A<br>e. Adhere to the agency risk communication strategy | a. Refer media inquiries to the correct spokesperson for the agency<br>b. N/A<br>c. Respond to media inquiries as requested by the public health agency<br>d. N/A<br>e. Adhere to the agency risk communication strategy             | a. Ensure that staff refer media inquiries to the correct spokesperson for the agency<br>b. Serve as agency spokesperson when necessary<br>c. Respond to media inquiries<br>d. Ensure that staff are using risk communication techniques suitable to the target audience<br>e. Adhere to the agency risk communication strategy | a. Refer media inquiries to the correct spokesperson for the agency<br>b. Serve as agency spokesperson when necessary<br>c. Respond to media inquiries<br>d. N/A<br>e. Adhere to the agency risk communication strategy           |

### III. Skill Domain—Communication

| Tier 1: Entry-Level or Basic Epidemiologist                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Tier 2: Mid-Level Epidemiologist                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Tier 3a: Senior-Level Epidemiologist:<br>Supervisor and/or Manager                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Tier 3b: Senior Scientist/<br>Subject Area Expert                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
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| <b><i>C. Incorporate interpersonal skills in communication with agency personnel, colleagues, and the public</i></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b><i>C. Incorporate interpersonal skills in communication with agency personnel, colleagues, and the public</i></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b><i>C. Model interpersonal skills in communication with agency personnel, colleagues, and the public</i></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b><i>C. Model interpersonal skills in communication with agency personnel, colleagues, and the public</i></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 1. Demonstrate ability to listen effectively when epidemiologic findings are presented or discussed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1. Demonstrate ability to listen effectively when epidemiologic findings are presented or discussed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1. Demonstrate ability to listen effectively when epidemiologic findings are presented or discussed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1. Demonstrate ability to listen effectively when epidemiologic findings are presented or discussed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 2. Demonstrate professional interpersonal, interdisciplinary, transdisciplinary, and multidisciplinary communication                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 2. Demonstrate professional interpersonal, interdisciplinary, transdisciplinary, and multidisciplinary communication                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2. Model professional interpersonal, interdisciplinary, transdisciplinary, and multidisciplinary communication                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2. Model professional interpersonal, interdisciplinary, transdisciplinary, and multidisciplinary communication                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <ul style="list-style-type: none"> <li>a. Participate in discussions and in group settings</li> <li>b. Show respect for others and promote diverse opinions</li> <li>c. Demonstrate ability to solicit input from individuals and groups</li> <li>d. Demonstrate ability to communicate epidemiologic findings, methodology, and principles when part of a multidisciplinary team</li> <li>e. Demonstrate ability to interview individuals associated with disease investigations</li> <li>f. Use communication skills to help resolve conflict</li> <li>g. Support communication of findings to affected individuals or communities using mechanisms tailored to that individual or community/special population</li> </ul> | <ul style="list-style-type: none"> <li>a. Lead discussions and participate in group settings</li> <li>b. Show respect for others and promote diverse opinions</li> <li>c. Demonstrate ability to solicit input from individuals and groups</li> <li>d. Demonstrate ability to communicate epidemiologic findings, methodology, and principles when part of a multidisciplinary team</li> <li>e. Demonstrate ability to interview individuals associated with disease investigations</li> <li>f. Use communication skills to help resolve conflict</li> <li>g. Communicate findings to affected individuals or communities using mechanisms tailored to that individual or community/special population</li> </ul> | <ul style="list-style-type: none"> <li>a. Promote group discussions and lead such discussions when necessary</li> <li>b. Show respect for others and promote diverse opinions</li> <li>c. Solicit input from individuals and groups</li> <li>d. Create messages to communicate epidemiologic findings, methodology, and principles to multidisciplinary teams</li> <li>e. N/A</li> <li>f. Use communication skills to help resolve conflict</li> <li>g. Create messages that communicate findings to affected individuals or communities using mechanisms tailored to that individual or community/special population</li> </ul> | <ul style="list-style-type: none"> <li>a. Lead discussions and participate in group settings</li> <li>b. Show respect for others and promote diverse opinions</li> <li>c. Demonstrate ability to solicit input from individuals and groups</li> <li>d. Create messages to communicate epidemiologic findings, methodology, and principles to multidisciplinary teams</li> <li>e. N/A</li> <li>f. Use communication skills to help resolve conflict</li> <li>g. Create messages that communicate findings to affected individuals or communities using mechanisms tailored to that individual or community/special population</li> </ul> |

**III. Skill Domain—Communication**

| Tier 1: Entry-Level or Basic Epidemiologist                                                                                                                                                        | Tier 2: Mid-Level Epidemiologist                                                                                                                                                                                                                 | Tier 3a: Senior-Level Epidemiologist:<br>Supervisor and/or Manager                                                                                                                                                                               | Tier 3b: Senior Scientist/<br>Subject Area Expert                                                                                                                                                                                                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b><i>D. Use effective communication technologies</i></b>                                                                                                                                          | <b><i>D. Use effective communication technologies</i></b>                                                                                                                                                                                        | <b><i>D. Ensure utilization of effective communication technologies</i></b>                                                                                                                                                                      | <b><i>D. Use effective communication technologies</i></b>                                                                                                                                                                                        |
| 1. Participate in the development of the design and content of Web-based communication                                                                                                             | 1. Participate in the development of the design and content of Web-based communication                                                                                                                                                           | 1. Approve the design and content of Web-based communication                                                                                                                                                                                     | 1. Create content for Web-based communication                                                                                                                                                                                                    |
| 2. Use policies that address security, privacy, and legal considerations when communicating epidemiologic information through e-mail, health alert networks, or other potentially public documents | 2. Use policies that address security, privacy, and legal considerations when communicating epidemiologic information through e-mail, health alert networks, or other potentially public documents                                               | 2. Enforce policies that address security, privacy, and legal considerations when communicating epidemiologic information through e-mail, health alert networks, or other potentially public documents                                           | 2. Develop as-needed policies that address security, privacy, and legal considerations when communicating epidemiologic information through e-mail, health alert networks, or other potentially public documents                                 |
| 3. N/A                                                                                                                                                                                             | 3. Use effective educational and behavioral techniques and technological tools to promote public health (e.g., through community education, behavior modification, collaborative policy development, issue advocacy, and community mobilization) | 3. Use effective educational and behavioral techniques and technological tools to promote public health (e.g., through community education, behavior modification, collaborative policy development, issue advocacy, and community mobilization) | 3. Use effective educational and behavioral techniques and technological tools to promote public health (e.g., through community education, behavior modification, collaborative policy development, issue advocacy, and community mobilization) |

**IV. Skill Domain—Community Dimensions of Practice**

| Tier 1: Entry-Level or Basic Epidemiologist                                                                                                                                                                                                                                                                                                | Tier 2: Mid-Level Epidemiologist                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Tier 3a: Senior-Level Epidemiologist:<br>Supervisor and/or Manager                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Tier 3b: Senior Scientist/<br>Subject Area Expert                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b><i>A. Provide epidemiologic input into epidemiologic studies, public health programs, and community public health planning processes at the state, local, or tribal level</i></b>                                                                                                                                                       | <b><i>A. Provide epidemiologic input into epidemiologic studies, public health programs, and community public health planning processes at the state, local, or tribal level</i></b>                                                                                                                                                                                                                                                                                                                                                  | <b><i>A. Lead epidemiologic studies, public health programs, and community public health planning processes at the state, local, or tribal level</i></b>                                                                                                                                                                                                                                                                                                                                                               | <b><i>A. Lead epidemiologic studies, public health programs, and community public health planning processes at the state, local, or tribal level</i></b>                                                                                                                                                                                                                                                                                                                                                               |
| 1. Supply information from health status assessments to aid in the design, interpretation, and conduct of epidemiologic studies                                                                                                                                                                                                            | 1. Use information from the community and from health status assessments to aid in the design, interpretation, and conduct of epidemiologic studies                                                                                                                                                                                                                                                                                                                                                                                   | 1. Synthesize information from the community and from health status assessments to aid in the design, interpretation, and conduct of epidemiologic studies                                                                                                                                                                                                                                                                                                                                                             | 1. Synthesize information from the community and from health status assessments to aid in the design, interpretation, and conduct of epidemiologic studies                                                                                                                                                                                                                                                                                                                                                             |
| <ul style="list-style-type: none"> <li>a. N/A</li> <li>b. N/A</li> <li>c. Provide communities with data as directed to aid in identifying health priorities for study</li> <li>d. Provide technical assistance as directed to communities and outside partners with respect to surveillance, epidemiologic data, and evaluation</li> </ul> | <ul style="list-style-type: none"> <li>a. Use strategies for engaging communities in dialogue on health issues requiring study</li> <li>b. Use strategies for reaching populations and individuals who traditionally may not have had the opportunity to participate in priority-setting processes</li> <li>c. Assist communities in identifying health priorities for study</li> <li>d. Provide technical assistance to communities and outside partners with respect to surveillance, epidemiologic data, and evaluation</li> </ul> | <ul style="list-style-type: none"> <li>a. Engage communities in dialogue on health issues requiring study</li> <li>b. Ensure outreach to populations and individuals who traditionally may not have had the opportunity to participate in priority-setting processes</li> <li>c. Provide leadership to communities in identifying health priorities for study</li> <li>d. Provide technical assistance to communities and outside partners with respect to surveillance, epidemiologic data, and evaluation</li> </ul> | <ul style="list-style-type: none"> <li>a. Engage communities in dialogue on health issues requiring study</li> <li>b. Ensure outreach to populations and individuals who traditionally may not have had the opportunity to participate in priority-setting processes</li> <li>c. Provide leadership to communities in identifying health priorities for study</li> <li>d. Provide technical assistance to communities and outside partners with respect to surveillance, epidemiologic data, and evaluation</li> </ul> |

#### IV. Skill Domain—Community Dimensions of Practice

| Tier 1: Entry-Level or Basic Epidemiologist                                                                                                                                                                                                                                                                                                                                                                                              | Tier 2: Mid-Level Epidemiologist                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Tier 3a: Senior-Level Epidemiologist:<br>Supervisor and/or Manager                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Tier 3b: Senior Scientist/<br>Subject Area Expert                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2. Assist in providing epidemiologic input into an assessment of the local public health system to aid in state, local, or tribal public health planning                                                                                                                                                                                                                                                                                 | 2. Provide epidemiologic input into an assessment of the local public health system to aid in state, local, or tribal public health planning                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 2. Lead epidemiologic portion of assessment of the local public health system to aid in state, local, or tribal public health planning                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 2. Lead epidemiologic portion of assessment of the local public health system to aid in state, local, or tribal public health planning                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <ul style="list-style-type: none"> <li>a. N/A</li> <li>b. N/A</li> <li>c. N/A</li> <li>d. Assist in identifying the specific populations within the community or region that each public health program seeks to reach</li> <li>e. Assist in identifying the epidemiologic data collection and analysis needs of each program</li> <li>f. N/A</li> <li>g. N/A</li> <li>h. N/A</li> <li>i. N/A</li> <li>j. N/A</li> <li>k. N/A</li> </ul> | <ul style="list-style-type: none"> <li>a. Map the different levels of government public health (tribal, local, state, and federal) and their roles and responsibilities in the community</li> <li>b. Characterize the interactions between different levels of government in relation to community public health programs</li> <li>c. Assess the funding streams for public health and epidemiology programs that affect the community</li> <li>d. Identify the specific populations within the community or region that each public health program seeks to reach</li> <li>e. Identify the epidemiologic data collection and analysis needs of each program</li> <li>f. N/A</li> <li>g. Map the community medical-care delivery system, including financing and structure and major policy issues affecting medical care</li> <li>h. Characterize relationships among public and private organizations within the community</li> <li>i. Identify environmental, social, and cultural factors that affect the community's health</li> <li>j. Document changes that are occurring or are expected to occur that affect the community's health or the local public health system (e.g., a Mobilizing for Action through Planning and Partnerships forces of change assessment)</li> </ul> | <ul style="list-style-type: none"> <li>a. Ensure that the different levels of government public health (tribal, local, state, and federal) and their roles and responsibilities are mapped out in the community</li> <li>b. Ensure that the interactions between different levels of government in relation to community public health programs are characterized</li> <li>c. Assess the funding streams for public health and epidemiology programs that affect the community</li> <li>d. Ensure that the specific populations within the community or region that each public health program seeks to reach are identified</li> <li>e. Ensure that the epidemiologic data collection and analysis needs of each program are identified</li> <li>f. Identify community themes and strengths</li> <li>g. Ensure that the community medical-care delivery system is mapped out, including financing and structure and major policy issues affecting medical care</li> <li>h. Ensure that relationships among public and private organizations within the community are characterized</li> <li>i. Ensure that environmental, social, and cultural factors that affect the community's health are analyzed</li> </ul> | <ul style="list-style-type: none"> <li>a. Map the different levels of government public health (tribal, local, state, and federal) and their roles and responsibilities in the community</li> <li>b. Characterize the interactions between different levels of government in relation to community public health programs</li> <li>c. Assess the funding streams for public health and epidemiology programs that affect the community</li> <li>d. Identify the specific populations within the community or region that each public health program seeks to reach</li> <li>e. Identify the epidemiologic data collection and analysis needs of each program</li> <li>f. Identify community themes and strengths</li> <li>g. Map the community medical-care delivery system, including financing and structure and major policy issues affecting medical care</li> <li>h. Characterize relationships among public and private organizations within the community</li> <li>i. Evaluate environmental, social, and cultural factors that affect the community's health</li> <li>j. Examine changes that are occurring or are expected to occur that affect the community's health or the local public health system (e.g., a Mobilizing for Action through Planning and Partnerships forces of change assessment)</li> </ul> |

**IV. Skill Domain—Community Dimensions of Practice**

| Tier 1: Entry-Level or Basic Epidemiologist                                                                                                                                      | Tier 2: Mid-Level Epidemiologist                                                                                                                                | Tier 3a: Senior-Level Epidemiologist:<br>Supervisor and/or Manager                                                                                                                                                                                                                                       | Tier 3b: Senior Scientist/<br>Subject Area Expert                                                                                                         |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                  | 2. Provide epidemiologic input into an assessment of the local public health system to aid in state, local, or tribal public health planning <i>(continued)</i> | 2. Lead epidemiologic portion of assessment of the local public health system to aid in state, local, or tribal public health planning <i>(continued)</i>                                                                                                                                                | 2. Lead epidemiologic portion of assessment of the local public health system to aid in state, local, or tribal public health planning <i>(continued)</i> |
|                                                                                                                                                                                  | k. Identify threats and opportunities that arise from these changes                                                                                             | j. Examine changes that are occurring or are expected to occur that affect the community's health or the local public health system (e.g., a Mobilizing for Action through Planning and Partnerships forces of change assessment)<br>k. Evaluate threats and opportunities that arise from these changes | k. Evaluate threats and opportunities that arise from these changes                                                                                       |
| <b><i>B. Participate in development of community partnerships to support epidemiologic investigations</i></b>                                                                    | <b><i>B. Participate in development of community partnerships to support epidemiologic investigations</i></b>                                                   | <b><i>B. Develop community partnerships to support epidemiologic investigations</i></b>                                                                                                                                                                                                                  | <b><i>B. Develop community partnerships to support epidemiologic investigations</i></b>                                                                   |
| 1. N/A                                                                                                                                                                           | 1. Identify partners and stakeholders necessary for epidemiologic investigation                                                                                 | 1. Sustain relationships with partners and stakeholders necessary for epidemiologic investigation                                                                                                                                                                                                        | 1. Solicit partners and stakeholders necessary for epidemiologic investigation                                                                            |
| 2. Contribute to community-specific participation strategies to engage the public in the planning, implementation, and evaluation of epidemiologic investigations when indicated | 2. Use community-specific participation strategies in the planning, implementation, and evaluation of epidemiologic investigations when indicated               | 2. Ensure the use of community-specific participation strategies in the planning, implementation, and evaluation of epidemiologic investigations when indicated                                                                                                                                          | 2. Develop community-specific participation strategies in the planning, implementation, and evaluation of epidemiologic investigations when indicated     |
| 3. N/A                                                                                                                                                                           | 3. Clarify the roles of partners and stakeholders in the epidemiologic investigation                                                                            | 3. Clarify the roles of partners and stakeholders in the epidemiologic investigation                                                                                                                                                                                                                     | 3. Clarify the roles of partners and stakeholders in the epidemiologic investigation                                                                      |
| 4. N/A                                                                                                                                                                           | 4. Participate in the development of epidemiologic studies, including incorporating input from task forces and other target audiences                           | 4. Lead the development of epidemiologic studies, including incorporating input from task forces and other target audiences                                                                                                                                                                              | 4. Lead the development of epidemiologic studies, including incorporating input from task forces and other target audiences                               |

**V. Skill Domain—Cultural Competency**

| Tier 1: Entry-Level or Basic Epidemiologist                                                                                                                                           | Tier 2: Mid-Level Epidemiologist                                                                                                                                                      | Tier 3a: Senior-Level Epidemiologist:<br>Supervisor and/or Manager                                                                                                                      | Tier 3b: Senior Scientist/<br>Subject Area Expert                                                                                                                                       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>A. Describe population by race; ethnicity; culture; societal, educational, and professional backgrounds; age; gender; religion; disability; and sexual orientation</b>             | <b>A. Describe population by race; ethnicity; culture; societal, educational, and professional backgrounds; age; gender; religion; disability; and sexual orientation</b>             | <b>A. Differentiate special populations by race; ethnicity; culture; societal, educational, and professional backgrounds; age; gender; religion; disability; and sexual orientation</b> | <b>A. Differentiate special populations by race; ethnicity; culture; societal, educational, and professional backgrounds; age; gender; religion; disability; and sexual orientation</b> |
| 1. Identify special populations in the community that may be significant in addressing public health problems                                                                         | 1. Identify special populations in the community that may be significant in addressing public health problems                                                                         | 1. Ensure that each special population is characterized by size, location, and other factors that may be significant in addressing public health problems                               | 1. Characterize each special population by size, location, and other factors that may be significant in addressing public health problems                                               |
| <b>B. Establish relationships with groups of special concern (e.g., disadvantaged or minority groups, groups subject to health disparities, historically underrepresented groups)</b> | <b>B. Establish relationships with groups of special concern (e.g., disadvantaged or minority groups, groups subject to health disparities, historically underrepresented groups)</b> | <b>B. Establish relationships with groups of special concern (e.g., disadvantaged or minority groups, groups subject to health disparities, historically underrepresented groups)</b>   | <b>B. Establish relationships with groups of special concern (e.g., disadvantaged or minority groups, groups subject to health disparities, historically underrepresented groups)</b>   |
| 1. N/A                                                                                                                                                                                | 1. Study populations' histories and past treatment by public health system                                                                                                            | 1. Evaluate populations' histories and past treatment by public health system                                                                                                           | 1. Evaluate historical context of populations' histories and past treatment by public health system                                                                                     |
| 2. N/A                                                                                                                                                                                | 2. N/A                                                                                                                                                                                | 2. Formulate communication strategies for special populations on the basis of knowledge of historical treatment                                                                         | 2. Formulate communication strategies for special populations on the basis of knowledge of historical treatment                                                                         |
| 3. N/A                                                                                                                                                                                | 3. N/A                                                                                                                                                                                | 3. Organize outreach efforts to special populations                                                                                                                                     | 3. Organize outreach efforts to special populations                                                                                                                                     |
| 4. N/A                                                                                                                                                                                | 4. Develop mechanisms to receive input from groups of special concern into the design and conduct of epidemiologic practice                                                           | 4. Ensure that input from groups of special concern is used in the design and conduct of epidemiologic practice                                                                         | 4. Ensure that input from groups of special concern is used in the design and conduct of epidemiologic practice                                                                         |

**V. Skill Domain—Cultural Competency**

| Tier 1: Entry-Level or Basic Epidemiologist                                                                                                                                               | Tier 2: Mid-Level Epidemiologist                                                                                                                                                      | Tier 3a: Senior-Level Epidemiologist:<br>Supervisor and/or Manager                                                                                                                                      | Tier 3b: Senior Scientist/<br>Subject Area Expert                                                                                                                                                       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b><i>C. Describe surveillance systems that include groups subject to health disparities or other potentially underrepresented groups (using standard categories where available)</i></b> | <b><i>C. Design surveillance systems to include groups subject to health disparities or other potentially underrepresented groups (using standard categories where available)</i></b> | <b><i>C. Ensure that surveillance systems are designed to include groups subject to health disparities or other potentially underrepresented groups (using standard categories where available)</i></b> | <b><i>C. Ensure that surveillance systems are designed to include groups subject to health disparities or other potentially underrepresented groups (using standard categories where available)</i></b> |
| 1. Identify standard categories used to define special populations                                                                                                                        | 1. Use standard categories when defining special populations                                                                                                                          | 1. Ensure that standard categories are used to define special populations, taking into account historical, social, and political contexts of standard categories                                        | 1. Select standard categories used to define special populations                                                                                                                                        |
| 2. Identify historical, social, and political contexts of standard categories                                                                                                             | 2. Identify historical, social, and political contexts of standard categories                                                                                                         | 2. N/A                                                                                                                                                                                                  | 2. Examine historical, social, and political contexts of standard categories                                                                                                                            |
| 3. Identify limitations of standard categories                                                                                                                                            | 3. Identify limitations of standard categories                                                                                                                                        | 3. N/A                                                                                                                                                                                                  | 3. Explain limitations of standard categories                                                                                                                                                           |
| 4. N/A                                                                                                                                                                                    | 4. Work with community as necessary to develop new categories if standard categories are unavailable                                                                                  | 4. Lead collaboration with community as necessary to develop new categories if standard categories are unavailable                                                                                      | 4. Work with community as necessary to develop new categories if standard categories are unavailable                                                                                                    |
| 5. N/A                                                                                                                                                                                    | 5. Design data collection tools to capture information needed to assess health disparities                                                                                            | 5. Ensure that data collection tools and sampling plan capture information needed to assess health disparities and provide stable estimates in populations of interest                                  | 5. Verify that data collection tools will capture information needed to assess health disparities                                                                                                       |
| 6. N/A                                                                                                                                                                                    | 6. Design sampling plan to ensure sample size large enough to provide stable estimates in populations of interest                                                                     | 6. N/A                                                                                                                                                                                                  | 6. Evaluate sampling plan to ensure sample size large enough to provide stable estimates in populations of interest                                                                                     |
| 7. Avoid potential adverse impacts of data collection on special populations                                                                                                              | 7. Avoid potential adverse impacts of data collection on special populations                                                                                                          | 7. Ensure that data collection does not adversely impact special populations                                                                                                                            | 7. Avoid potential adverse impacts of data collection on special populations                                                                                                                            |



**V. Skill Domain—Cultural Competency**

| Tier 1: Entry-Level or Basic Epidemiologist                                                        | Tier 2: Mid-Level Epidemiologist                                                                         | Tier 3a: Senior-Level Epidemiologist:<br>Supervisor and/or Manager                                       | Tier 3b: Senior Scientist/<br>Subject Area Expert                                                        |
|----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| <b><i>D. Conduct investigations using languages and approaches tailored to population</i></b>      | <b><i>D. Conduct investigations using languages and approaches tailored to population</i></b>            | <b><i>D. Ensure that investigations use languages and approaches tailored to population</i></b>          | <b><i>D. Organize investigations that use languages and approaches tailored to population</i></b>        |
| 1. Identify primary language of population                                                         | 1. Identify primary language of population                                                               | 1. Identify primary language of population                                                               | 1. Identify primary language of population                                                               |
| 2. Use knowledge of specific sociocultural factors in the population                               | 2. Use knowledge of specific sociocultural factors in the population                                     | 2. Use knowledge of specific sociocultural factors in the population                                     | 2. Use knowledge of specific sociocultural factors in the population                                     |
| 3. N/A                                                                                             | 3. N/A                                                                                                   | 3. Identify mechanisms for contact and communication with population                                     | 3. Identify mechanisms for contact and communication with population                                     |
| 4. N/A                                                                                             | 4. N/A                                                                                                   | 4. Ensure that investigative methods will accommodate special needs of the population                    | 4. Identify investigative methods that will accommodate special needs of the population                  |
| 5. N/A                                                                                             | 5. N/A                                                                                                   | 5. Synthesize this knowledge into an investigation strategy                                              | 5. Synthesize this knowledge into an investigation strategy                                              |
| 6. N/A                                                                                             | 6. N/A                                                                                                   | 6. Facilitate staff access to identified support or mechanisms needed to communicate with population     | 6. N/A                                                                                                   |
| <b><i>E. Use standard population categories or subcategories when performing data analysis</i></b> | <b><i>E. Use standard population categories or subcategories when performing data analysis</i></b>       | <b><i>E. Ensure that standard population categories or subcategories are used for data analysis</i></b>  | <b><i>E. Ensure that standard population categories or subcategories are used for data analyses</i></b>  |
| <b><i>F. N/A</i></b>                                                                               | <b><i>F. Use knowledge of specific sociocultural factors in the population to interpret findings</i></b> | <b><i>F. Use knowledge of specific sociocultural factors in the population to interpret findings</i></b> | <b><i>F. Use knowledge of specific sociocultural factors in the population to interpret findings</i></b> |
| 1. N/A                                                                                             | 1. Identify cultural factors that may have influenced outcome of investigation                           | 1. Evaluate cultural factors that may have influenced outcome of investigation                           | 1. Evaluate cultural factors that may have influenced outcome of investigation                           |
| 2. N/A                                                                                             | 2. N/A                                                                                                   | 2. Assess impact of investigation findings on the population                                             | 2. Assess impact of investigation findings on the population                                             |

**V. Skill Domain—Cultural Competency**

| Tier 1: Entry-Level or Basic Epidemiologist                                                                                    | Tier 2: Mid-Level Epidemiologist                                                                                               | Tier 3a: Senior-Level Epidemiologist:<br>Supervisor and/or Manager                                                                | Tier 3b: Senior Scientist/<br>Subject Area Expert                                                                                 |
|--------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| <b><i>G. Support public health actions that are relevant to the affected community</i></b>                                     | <b><i>G. Recommend public health actions that would be relevant to the affected community</i></b>                              | <b><i>G. Ensure that actions are relevant to the affected community</i></b>                                                       | <b><i>G. Recommend actions that will be relevant to the affected community</i></b>                                                |
| 1. Use alternative actions that have been shown to be effective in similar populations                                         | 1. Use alternative actions that have been shown to be effective in similar populations                                         | 1. Ensure use of alternative actions that have been shown to be effective in similar populations                                  | 1. Evaluate alternative actions that have been shown to be effective in similar populations                                       |
| 2. Use action strategies that will address the issues identified in the investigation while meeting the needs of the community | 2. Use action strategies that will address the issues identified in the investigation while meeting the needs of the community | 2. Create action strategies that will address the issues identified in the investigation while meeting the needs of the community | 2. Create action strategies that will address the issues identified in the investigation while meeting the needs of the community |
| 3. N/A                                                                                                                         | 3. N/A                                                                                                                         | 3. Validate the choice of action strategy through consultation with the affected community                                        | 3. Validate the choice of action strategy through consultation with the affected community                                        |

**VI. Skill Domain—Financial and Operational Planning and Management (Operational Planning, Financial Planning, and Management Skills)**

| Tier 1: Entry-Level or Basic Epidemiologist                                                                                        | Tier 2: Mid-Level Epidemiologist                                                                                                                                                        | Tier 3a: Senior-Level Epidemiologist:<br>Supervisor and/or Manager                                                                                                           | Tier 3b: Senior Scientist/<br>Subject Area Expert                                                                                      |
|------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| <b><i>A. Conduct epidemiologic activities within the financial and operational plan of the agency</i></b>                          | <b><i>A. Conduct epidemiologic activities within the financial and operational plan of the agency</i></b>                                                                               | <b><i>A. Create operational and financial plans for future epidemiologic activities</i></b>                                                                                  | <b><i>A. Conduct epidemiologic activities within the financial and operational plan of the agency</i></b>                              |
| 1. N/A                                                                                                                             | 1. Set goals and objectives for epidemiology program                                                                                                                                    | 1. Set goals and objectives for epidemiology program                                                                                                                         | 1. Provide input into goals and objectives for epidemiology program                                                                    |
| 2. N/A                                                                                                                             | 2. Formulate tasks to meet goals and objectives                                                                                                                                         | 2. Formulate tasks to meet goals and objectives                                                                                                                              | 2. Formulate tasks to meet goals and objectives                                                                                        |
| 3. Construct a timeline for carrying out the tasks                                                                                 | 3. Construct a timeline for carrying out the tasks                                                                                                                                      | 3. Construct a timeline for carrying out the tasks                                                                                                                           | 3. Construct a timeline for carrying out the tasks                                                                                     |
| 4. Conduct epidemiologic activities, including travel, within specified budget                                                     | 4. Describe personnel, staffing, travel, and other needs for epidemiologic activities                                                                                                   | 4. N/A                                                                                                                                                                       | 4. Describe personnel, staffing, travel, and other needs for epidemiologic activities                                                  |
| 5. Maintain accurate records                                                                                                       | 5. Maintain accurate records                                                                                                                                                            | 5. N/A                                                                                                                                                                       | 5. Maintain accurate records                                                                                                           |
| <b><i>B. Describe the financial planning and budgetary process of the epidemiology program</i></b>                                 | <b><i>B. Assist in developing a fiscally sound budget that will support the activities defined in the operational plan and is consistent with the financial rules of the agency</i></b> | <b><i>B. Formulate a fiscally sound budget that will support the activities defined in the operational plan and is consistent with the financial rules of the agency</i></b> | <b><i>B. Describe the financial planning and budgetary process of the agency</i></b>                                                   |
| 1. N/A                                                                                                                             | 1. Assess the financial rules of the agency and available resources to establish boundaries for the budget                                                                              | 1. Assess the financial rules of the agency and available resources to establish boundaries for the budget                                                                   | 1. Assess the financial rules of the agency and available resources to establish boundaries for the budget                             |
| 2. List resources necessary to carry out tasks in the operational plan, including personnel, equipment, supplies, and travel costs | 2. Estimate resources necessary to carry out tasks in the operational plan, including personnel, equipment, supplies, and travel costs                                                  | 2. Justify resources necessary to carry out tasks in the operational plan, including personnel, equipment, supplies, and travel costs                                        | 2. Estimate resources necessary to carry out tasks in the operational plan, including personnel, equipment, supplies, and travel costs |
| 3. N/A                                                                                                                             | 3. Estimate expenditures that may arise from unexpected epidemiologic activities, such as rapid investigations and emergency response                                                   | 3. Estimate expenditures that may arise from unexpected epidemiologic activities, such as rapid investigations and emergency response                                        | 3. N/A                                                                                                                                 |

**VI. Skill Domain—Financial and Operational Planning and Management (Operational Planning, Financial Planning, and Management Skills)**

| Tier 1: Entry-Level or Basic Epidemiologist                                | Tier 2: Mid-Level Epidemiologist                                                          | Tier 3a: Senior-Level Epidemiologist:<br>Supervisor and/or Manager                                                                         | Tier 3b: Senior Scientist/<br>Subject Area Expert                                            |
|----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| <b><i>C. Implement operational and financial plans</i></b>                 | <b><i>C. Implement operational and financial plans</i></b>                                | <b><i>C. Oversee implementation of operational and financial plans</i></b>                                                                 | <b><i>C. Implement operational and financial plans for assigned projects</i></b>             |
| 1. N/A                                                                     | 1. Assign tasks to staff members                                                          | 1. Assign tasks to staff members                                                                                                           | 1. N/A                                                                                       |
| 2. Compare progress to expectations established in plan                    | 2. Compare progress to expectations established in plan                                   | 2. Compare progress to expectations established in plan                                                                                    | 2. Compare progress to expectations established in plan                                      |
| 3. N/A                                                                     | 3. Track fiscal expenditures against financial plan                                       | 3. Evaluate fiscal expenditures against financial plan                                                                                     | 3. Evaluate fiscal expenditures against financial plan                                       |
| 4. Adjust activities as necessary to stay within defined budget            | 4. Adjust activities as necessary to stay within defined budget                           | 4. Adjust activities as necessary to stay within defined budget                                                                            | 4. Adjust activities as necessary to stay within defined budget                              |
| 5. Seek additional resources as necessary to support unexpected activities | 5. Seek additional resources as necessary to support unexpected activities                | 5. Seek additional resources as necessary to support unexpected activities                                                                 | 5. N/A                                                                                       |
| 6. Follow chain of command                                                 | 6. Follow chain of command                                                                | 6. Follow chain of command and agency financial rules                                                                                      | 6. Follow chain of command                                                                   |
| <b><i>D. N/A</i></b>                                                       | <b><i>D. Assist in preparation of proposals for extramural funding</i></b>                | <b><i>D. Develop requests for proposals for extramural funding to support additional epidemiologic activities and special projects</i></b> | <b><i>D. Prepare proposals for extramural funding for review and input from managers</i></b> |
| 1. N/A                                                                     | 1. Identify funding needs for epidemiologic activities                                    | 1. Identify epidemiologic activities that need extramural funding                                                                          | 1. Identify funding needs for epidemiologic activities                                       |
| 2. N/A                                                                     | 2. Identify funding opportunities for epidemiologic activities                            | 2. Evaluate funding opportunities to support epidemiologic activities                                                                      | 2. Identify funding opportunities for epidemiologic activities                               |
| 3. N/A                                                                     | 3. Prepare proposals, in whole or in part, to obtain funding for epidemiologic activities | 3. Create scientifically sound proposals that will support epidemiologic activities and meet the requirements of the funding agency        | 3. Prepare proposals, in whole or in part, to obtain funding for epidemiologic activities    |

**VI. Skill Domain—Financial and Operational Planning and Management (Operational Planning, Financial Planning, and Management Skills)**

| Tier 1: Entry-Level or Basic Epidemiologist                                                                                           | Tier 2: Mid-Level Epidemiologist                                                                                                      | Tier 3a: Senior-Level Epidemiologist:<br>Supervisor and/or Manager                                                                                       | Tier 3b: Senior Scientist/<br>Subject Area Expert                                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| <b>E. N/A</b>                                                                                                                         | <b>E. Use management skills</b>                                                                                                       | <b>E. Use management skills</b>                                                                                                                          | <b>E. N/A</b>                                                                                                                         |
| 1. N/A                                                                                                                                | 1. Establish roles and responsibilities of all participants in epidemiologic activities                                               | 1. Establish roles and responsibilities of all participants in epidemiologic activities                                                                  | 1. N/A                                                                                                                                |
| 2. N/A                                                                                                                                | 2. Communicate role/responsibility expectations clearly to all team members                                                           | 2. Communicate role/responsibility expectations clearly to all staff                                                                                     | 2. N/A                                                                                                                                |
| 3. N/A                                                                                                                                | 3. Assess performance of team members as they carry out their responsibilities                                                        | 3. Assess performance of team members as they carry out their responsibilities                                                                           | 3. N/A                                                                                                                                |
| 4. N/A                                                                                                                                | 4. Coach team members as needed in the performance of their responsibilities                                                          | 4. Coach team members as needed in the performance of their responsibilities                                                                             | 4. N/A                                                                                                                                |
| 5. N/A                                                                                                                                | 5. N/A                                                                                                                                | 5. Represent epidemiology program on the public health agency management team                                                                            | 5. N/A                                                                                                                                |
| <b>F. Use skills that foster collaborations, strong partnerships, and team building to accomplish epidemiology program objectives</b> | <b>F. Use skills that foster collaborations, strong partnerships, and team building to accomplish epidemiology program objectives</b> | <b>F. Promote collaborations, strong partnerships, and team building to accomplish epidemiology program objectives</b>                                   | <b>F. Use skills that foster collaborations, strong partnerships, and team building to accomplish epidemiology program objectives</b> |
| 1. Support collaborative relationships with key personnel of other agencies relevant to the particular epidemiologic activity         | 1. Build collaborative relationships with key personnel of other agencies relevant to the particular epidemiologic activity           | 1. Ensure development of collaborative relationships with key personnel of other programs and agencies relevant to the particular epidemiologic activity | 1. Build collaborative relationships with key personnel of other agencies relevant to the particular epidemiologic activity           |
| 2. Work well with other epidemiology project team members of varied backgrounds and education                                         | 2. Work well with other epidemiology project team members of varied backgrounds and education                                         | 2. Lead epidemiology project team members of varied backgrounds and education in working collaboratively and effectively together                        | 2. Work well with other epidemiology project team members of varied backgrounds and education                                         |
| 3. N/A                                                                                                                                | 3. Clarify roles and responsibilities of all participants in epidemiologic activities                                                 | 3. Oversee development of clear roles and responsibilities of all participants in epidemiologic activities                                               | 3. Clarify roles and responsibilities of all participants in epidemiologic activities                                                 |

**VII. Skill Domain—Leadership and Systems Thinking**

| Tier 1: Entry-Level or Basic Epidemiologist                                                                                                                                                                                                                   | Tier 2: Mid-Level Epidemiologist                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Tier 3a: Senior-Level Epidemiologist:<br>Supervisor and/or Manager                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Tier 3b: Senior Scientist/<br>Subject Area Expert                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>A. N/A</b>                                                                                                                                                                                                                                                 | <b>A. Support the epidemiologic perspective in the agency strategic planning process</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>A. Promote the epidemiologic perspective in the agency strategic planning process</b>                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>A. Promote the epidemiologic perspective in the agency strategic planning process</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>B. Support the organization's vision in all programs and activities</b>                                                                                                                                                                                    | <b>B. Promote the organization's vision in all programs and activities</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>B. Lead the creation of epidemiology program's vision in the context of the agency's plan</b>                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>B. Promote the organization's vision in all programs and activities</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 1. Support strategic plan                                                                                                                                                                                                                                     | 1. Assist in strategic planning                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1. Develop strategic plan                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1. Assist in strategic planning                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <ul style="list-style-type: none"> <li>a. N/A</li> <li>b. N/A</li> <li>c. N/A</li> <li>d. N/A</li> <li>e. N/A</li> </ul>                                                                                                                                      | <ul style="list-style-type: none"> <li>a. Describe process for organizational strategic planning</li> <li>b. Identify internal and external issues that may impact delivery of essential public health services (competency from Council on Linkages)</li> <li>c. Facilitate collaboration with internal and external groups to ensure participation of key stakeholders (competency from Council on Linkages)</li> <li>d. Participate in the development of strategic priorities and associated action plans</li> <li>e. N/A</li> </ul> | <ul style="list-style-type: none"> <li>a. Develop process for epidemiologic strategic planning within agency vision</li> <li>b. Evaluate internal and external issues that may impact delivery of essential public health services</li> <li>c. Direct collaboration with internal and external groups to ensure participation of key stakeholders</li> <li>d. Develop strategic priorities and associated action plans</li> <li>e. Ensure that research agenda is consistent with budget resources and with strategic plan</li> </ul> | <ul style="list-style-type: none"> <li>a. Describe process for organizational strategic planning</li> <li>b. Identify internal and external issues that may impact delivery of essential public health services (competency from Council on Linkages)</li> <li>c. Facilitate collaboration with internal and external groups to ensure participation of key stakeholders (competency from Council on Linkages)</li> <li>d. Participate in the development of strategic priorities and associated action plans</li> <li>e. Create research agenda for program areas of responsibility for incorporation into strategic plan</li> </ul> |
| 2. Support change                                                                                                                                                                                                                                             | 2. Implement change                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 2. Implement change                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2. Implement change                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <ul style="list-style-type: none"> <li>a. Demonstrate individual skills necessary to implement change, including ability to support change</li> <li>b. Demonstrate ability to function as member of a team during change processes</li> <li>c. N/A</li> </ul> | <ul style="list-style-type: none"> <li>a. Demonstrate individual skills necessary to implement change, including ability to support change</li> <li>b. Demonstrate ability to function as member of a team during change processes</li> <li>c. Participate in monitoring and sustaining organizational change</li> </ul>                                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>a. Demonstrate individual skills necessary to implement change, including ability to support change</li> <li>b. Demonstrate ability to lead teams during change processes</li> <li>c. Monitor and sustain organizational change</li> </ul>                                                                                                                                                                                                                                                     | <ul style="list-style-type: none"> <li>a. Demonstrate individual skills necessary to implement change, including ability to support change</li> <li>b. Demonstrate ability to function as member of a team during change processes</li> <li>c. Participate in monitoring and sustaining organizational change</li> </ul>                                                                                                                                                                                                                                                                                                              |

**VII. Skill Domain—Leadership and Systems Thinking**

| Tier 1: Entry-Level or Basic Epidemiologist                                                                                                                                                                                                                    | Tier 2: Mid-Level Epidemiologist                                                                                                                                                                                                                                                                                                                                                                                                        | Tier 3a: Senior-Level Epidemiologist:<br>Supervisor and/or Manager                                                                                                                                                                                                                                                                                                                                                                           | Tier 3b: Senior Scientist/<br>Subject Area Expert                                                                                                                                                                                                                                                                        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b><i>C. Use performance measures to improve epidemiology program effectiveness</i></b>                                                                                                                                                                        | <b><i>C. Use performance measures to evaluate and improve epidemiology program effectiveness</i></b>                                                                                                                                                                                                                                                                                                                                    | <b><i>C. Use performance measures to evaluate and improve epidemiology program effectiveness</i></b>                                                                                                                                                                                                                                                                                                                                         | <b><i>C. Use performance measures to evaluate and improve epidemiology program effectiveness</i></b>                                                                                                                                                                                                                     |
| 1. Contribute to implementation and monitoring of organizational performance measures that demonstrate program effectiveness                                                                                                                                   | 1. Contribute to development, implementation, and monitoring of organizational performance measures that demonstrate program effectiveness                                                                                                                                                                                                                                                                                              | 1. Develop, implement, and monitor organizational performance measures that demonstrate program effectiveness                                                                                                                                                                                                                                                                                                                                | 1. Contribute to development, implementation, and monitoring of organizational performance measures that demonstrate program effectiveness                                                                                                                                                                               |
| <ul style="list-style-type: none"> <li>a. Demonstrate knowledge of performance measures</li> <li>b. N/A</li> <li>c. N/A</li> <li>d. Adopt and implement performance measures</li> <li>e. N/A</li> <li>f. Take action to improve program performance</li> </ul> | <ul style="list-style-type: none"> <li>a. Demonstrate knowledge of performance measures</li> <li>b. Lead process to develop new performance measures if necessary</li> <li>c. Assist in creating plan for implementing performance measures</li> <li>d. Adopt and implement performance measures</li> <li>e. Evaluate results of performance measures' implementation</li> <li>f. Take action to improve program performance</li> </ul> | <ul style="list-style-type: none"> <li>a. Systematize existing organizational performance measures</li> <li>b. Lead process to develop new performance measures if necessary</li> <li>c. Create plan for implementing performance measures</li> <li>d. Lead team in implementing performance measures</li> <li>e. Evaluate results of performance measures' implementation</li> <li>f. Take action to improve program performance</li> </ul> | <ul style="list-style-type: none"> <li>a. Demonstrate knowledge of performance measures</li> <li>b. N/A</li> <li>c. Assist in creating plan for implementing performance measures</li> <li>d. Adopt and implement performance measures</li> <li>e. N/A</li> <li>f. Take action to improve program performance</li> </ul> |
| <b><i>D. Promote ethical conduct in epidemiologic practice</i></b>                                                                                                                                                                                             | <b><i>D. Promote ethical conduct in epidemiologic practice</i></b>                                                                                                                                                                                                                                                                                                                                                                      | <b><i>D. Promote ethical conduct in epidemiologic practice</i></b>                                                                                                                                                                                                                                                                                                                                                                           | <b><i>D. Promote ethical conduct in epidemiologic practice</i></b>                                                                                                                                                                                                                                                       |
| 1. Demonstrate ethical conduct in personal behavior and epidemiologic practice                                                                                                                                                                                 | 1. Demonstrate ethical conduct in personal behavior and epidemiologic practice                                                                                                                                                                                                                                                                                                                                                          | 1. Demonstrate ethical conduct in personal behavior and epidemiologic practice                                                                                                                                                                                                                                                                                                                                                               | 1. Demonstrate ethical conduct in personal behavior                                                                                                                                                                                                                                                                      |
| 2. Promote ethical conduct in organization's policies and practices, including emphasis on addressing health disparities                                                                                                                                       | 2. Promote ethical conduct in organization's policies and practices, including emphasis on addressing health disparities                                                                                                                                                                                                                                                                                                                | 2. Promote ethical conduct in organization's policies and practices, including emphasis on addressing health disparities                                                                                                                                                                                                                                                                                                                     | 2. Promote ethical conduct in organization's policies and practices, including emphasis on addressing health disparities                                                                                                                                                                                                 |
| 3. N/A                                                                                                                                                                                                                                                         | 3. Make expectations of ethical conduct clear to team members                                                                                                                                                                                                                                                                                                                                                                           | 3. Make expectations of ethical conduct clear to team members                                                                                                                                                                                                                                                                                                                                                                                | 3. Make expectations of ethical conduct clear to team members                                                                                                                                                                                                                                                            |
| 4. Follow organization's policies and practices related to ethical conduct                                                                                                                                                                                     | 4. Follow organization's policies and practices related to ethical conduct                                                                                                                                                                                                                                                                                                                                                              | 4. Enforce organization's policies and practices related to ethical conduct                                                                                                                                                                                                                                                                                                                                                                  | 4. N/A                                                                                                                                                                                                                                                                                                                   |

**VII. Skill Domain—Leadership and Systems Thinking**

| Tier 1: Entry-Level or Basic Epidemiologist                                                                                                                              | Tier 2: Mid-Level Epidemiologist                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Tier 3a: Senior-Level Epidemiologist:<br>Supervisor and/or Manager                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Tier 3b: Senior Scientist/<br>Subject Area Expert                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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| <b><i>E. Practice professional development</i></b>                                                                                                                       | <b><i>E. Promote workforce development</i></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b><i>E. Ensure professional development of<br/>epidemiology workforce</i></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b><i>E. Promote workforce development</i></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 1. N/A                                                                                                                                                                   | 1. Organize team with skills necessary to<br>conduct high-level epidemiologic<br>analyses                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1. Assemble teams with necessary skills to<br>conduct a range of epidemiologic<br>functions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1. Organize team with skills necessary to<br>conduct high-level epidemiologic<br>analyses                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <ul style="list-style-type: none"> <li>a. N/A</li> <li>b. N/A</li> <li>c. N/A</li> <li>d. N/A</li> <li>e. N/A</li> <li>f. N/A</li> <li>g. N/A</li> <li>h. N/A</li> </ul> | <ul style="list-style-type: none"> <li>a. Assess skills and abilities needed to<br/>perform high-level epidemiologic<br/>analyses</li> <li>b. Evaluate current agency staff to<br/>determine whether individuals with<br/>needed skills and abilities are present</li> <li>c. N/A</li> <li>d. N/A</li> <li>e. Coordinate with agency management<br/>to recruit individuals with needed<br/>skills if necessary</li> <li>f. Collaborate with external<br/>organizations to obtain assistance<br/>with needed analytical support if<br/>necessary</li> <li>g. Ensure that teams with necessary<br/>skills to conduct a range of<br/>epidemiologic functions are<br/>incorporated into work plans and the<br/>workforce</li> <li>h. Provide coaching to staff performing<br/>epidemiologic analyses</li> </ul> | <ul style="list-style-type: none"> <li>a. Assess skills and abilities needed to<br/>perform high-level epidemiologic<br/>analyses</li> <li>b. Evaluate current agency staff to<br/>determine whether individuals with<br/>needed skills and abilities are present</li> <li>c. Assess workforce, workplace, and<br/>other issues that impact recruitment</li> <li>d. Develop recruitment plans that<br/>address identified issues</li> <li>e. Coordinate with agency management<br/>to recruit individuals with needed<br/>skills if necessary</li> <li>f. Collaborate with external<br/>organizations to obtain assistance<br/>with needed analytical support if<br/>necessary</li> <li>g. Ensure that teams with necessary<br/>skills to conduct a range of<br/>epidemiologic functions are<br/>incorporated into work plans and the<br/>workforce</li> <li>h. Provide coaching to staff performing<br/>epidemiologic analyses</li> </ul> | <ul style="list-style-type: none"> <li>a. Assess skills and abilities needed to<br/>perform high-level epidemiologic<br/>analyses</li> <li>b. Evaluate current agency staff to<br/>determine whether individuals with<br/>needed skills and abilities are present</li> <li>c. N/A</li> <li>d. N/A</li> <li>e. Coordinate with agency management<br/>to recruit individuals with needed<br/>skills if necessary</li> <li>f. Collaborate with external<br/>organizations to obtain assistance<br/>with needed analytical support if<br/>necessary</li> <li>g. N/A</li> <li>h. Provide coaching to staff performing<br/>epidemiologic analyses</li> </ul> |



**VII. Skill Domain—Leadership and Systems Thinking**

| Tier 1: Entry-Level or Basic Epidemiologist                                                                                                                                                                                  | Tier 2: Mid-Level Epidemiologist                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Tier 3a: Senior-Level Epidemiologist:<br>Supervisor and/or Manager                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Tier 3b: Senior Scientist/<br>Subject Area Expert                                                                                                                                                                                                                                                                                                                                                                                       |
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| 2. Participate in ongoing team learning                                                                                                                                                                                      | 2. Promote ongoing team learning                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2. Enable ongoing team learning                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 2. Promote ongoing team learning                                                                                                                                                                                                                                                                                                                                                                                                        |
| <ul style="list-style-type: none"> <li>a. N/A</li> <li>b. N/A</li> <li>c. N/A</li> <li>d. N/A</li> <li>e. Assess personal educational and training needs, and seek additional education and training as necessary</li> </ul> | <ul style="list-style-type: none"> <li>a. Assess the proficiency of team members' skills against standard competency sets</li> <li>b. Identify professional development opportunities for team members</li> <li>c. Adjust workload of team members as necessary to enable participation in professional development opportunities</li> <li>d. Encourage team members to take advantage of development opportunities</li> <li>e. Assess personal educational and training needs, and seek additional education and training as necessary</li> </ul> | <ul style="list-style-type: none"> <li>a. Assess the proficiency of team members' skills against standard competency sets</li> <li>b. Identify professional development opportunities for team members</li> <li>c. Adjust workload of team members as necessary to enable participation in professional development opportunities</li> <li>d. Provide resources for team members to take advantage of development opportunities</li> <li>e. Assess personal educational and training needs, and seek additional education and training as necessary</li> </ul> | <ul style="list-style-type: none"> <li>a. Assess the proficiency of team members' skills against standard competency sets</li> <li>b. Identify professional development opportunities for team members</li> <li>c. N/A</li> <li>d. Encourage team members to take advantage of development opportunities</li> <li>e. Assess personal educational and training needs, and seek additional education and training as necessary</li> </ul> |
| 3. N/A                                                                                                                                                                                                                       | 3. Retain epidemiology staff                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 3. Retain epidemiology staff                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 3. N/A                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <ul style="list-style-type: none"> <li>a. N/A</li> <li>b. N/A</li> <li>c. N/A</li> </ul>                                                                                                                                     | <ul style="list-style-type: none"> <li>a. Assess issues affecting workforce retention</li> <li>b. Evaluate strategies to improve workforce retention</li> <li>c. Develop strategies to retain staff consistent with agency human resource retention strategies</li> </ul>                                                                                                                                                                                                                                                                          | <ul style="list-style-type: none"> <li>a. Assess issues affecting workforce retention</li> <li>b. Evaluate strategies to improve workforce retention</li> <li>c. Develop strategies to retain staff consistent with agency human resource retention strategies</li> </ul>                                                                                                                                                                                                                                                                                      | <ul style="list-style-type: none"> <li>a. N/A</li> <li>b. N/A</li> <li>c. N/A</li> </ul>                                                                                                                                                                                                                                                                                                                                                |
| <b><i>F. Prepare for emergency response</i></b>                                                                                                                                                                              | <b><i>F. Prepare for emergency response</i></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b><i>F. Lead epidemiology unit in preparing for emergency response</i></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b><i>F. Prepare for emergency response</i></b>                                                                                                                                                                                                                                                                                                                                                                                         |
| 1. N/A                                                                                                                                                                                                                       | 1. Present epidemiologic perspective in development of agency emergency response plan                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1. Present epidemiologic perspective in development of agency emergency response plan                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1. N/A                                                                                                                                                                                                                                                                                                                                                                                                                                  |

**VII. Skill Domain—Leadership and Systems Thinking**

| Tier 1: Entry-Level or Basic Epidemiologist                                                                                                                                                                                                                                                                                                         | Tier 2: Mid-Level Epidemiologist                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Tier 3a: Senior-Level Epidemiologist:<br>Supervisor and/or Manager                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Tier 3b: Senior Scientist/<br>Subject Area Expert                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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| 2. N/A                                                                                                                                                                                                                                                                                                                                              | 2. Participate in emergency response planning for epidemiology unit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 2. Lead emergency response planning for epidemiology unit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 2. Participate in emergency response planning for epidemiology unit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <ul style="list-style-type: none"> <li>a. Be familiar with the epidemiology section of emergency response plan</li> <li>b. N/A</li> <li>c. N/A</li> <li>d. Participate in regular exercises and/or drills of all parts of emergency response</li> <li>e. N/A</li> <li>f. Obtain necessary continuing education to respond to emergencies</li> </ul> | <ul style="list-style-type: none"> <li>a. Participate in the development of a written epidemiology section in the agency's or agency unit's emergency response plan, including continuity of agency operations</li> <li>b. Communicate epidemiologic information, roles, capacities, and legal authority to all emergency response partners</li> <li>c. Maintain regular communication with emergency response partners</li> <li>d. Participate in regular exercises and/or drills of all parts of emergency response</li> <li>e. Participate in the evaluation of emergency response exercises and/or drills (or actual response)</li> <li>f. Ensure that staff receive necessary continuing education to respond to emergencies</li> </ul> | <ul style="list-style-type: none"> <li>a. Ensure that the agency (or agency unit) has a written epidemiology section in the agency's or agency unit's emergency response plan, including continuity of agency operations</li> <li>b. Ensure communication of epidemiologic information, roles, capacities, and legal authority to all emergency response partners</li> <li>c. Ensure regular communication with emergency response partners</li> <li>d. Lead epidemiology unit's participation in regular exercises and/or drills of all parts of emergency response</li> <li>e. Evaluate the participation of the epidemiology unit in emergency response exercises and/or drills (or actual response)</li> <li>f. Ensure that staff receive necessary continuing education to respond to emergencies</li> </ul> | <ul style="list-style-type: none"> <li>a. Participate in the development of a written epidemiology section in the agency's or agency unit's emergency response plan, including continuity of agency operations</li> <li>b. Communicate epidemiologic information, roles, capacities, and legal authority to all emergency response partners</li> <li>c. Maintain regular communication with emergency response partners</li> <li>d. Participate in regular exercises and/or drills of all parts of emergency response</li> <li>e. Participate in the evaluation of emergency response exercises and/or drills (or actual response)</li> <li>f. Obtain necessary continuing education to respond to emergencies</li> </ul> |
| 3. Respond to public health emergencies                                                                                                                                                                                                                                                                                                             | 3. Respond to public health emergencies                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 3. Lead epidemiologic response to public health emergencies                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 3. Respond to public health emergencies                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <ul style="list-style-type: none"> <li>a. Adhere to individual's role in incident command and incident management</li> <li>b. Maintain regular communication with partner professionals in other agencies involved in emergency response</li> </ul>                                                                                                 | <ul style="list-style-type: none"> <li>a. Adhere to individual's role in incident command and incident management</li> <li>b. Maintain regular communication with partner professionals in other agencies involved in emergency response</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <ul style="list-style-type: none"> <li>a. Ensure that epidemiology staff adhere to their roles in incident command and incident management</li> <li>b. Ensure that regular communication is maintained with partner professionals in other agencies involved in emergency response</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <ul style="list-style-type: none"> <li>a. Adhere to individual's role in incident command and incident management</li> <li>b. Maintain regular communication with partner professionals in other agencies involved in emergency response</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

**VIII. Skill Domain—Policy Development**

| Tier 1: Entry-Level or Basic Epidemiologist                                                                                                                                                                                                                                                                                                                                                        | Tier 2: Mid-Level Epidemiologist                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Tier 3a: Senior-Level Epidemiologist:<br>Supervisor and/or Manager                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Tier 3b: Senior Scientist/<br>Subject Area Expert                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
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| <b><i>A. Support the application of epidemiologic knowledge to the development and analysis of public health policies</i></b>                                                                                                                                                                                                                                                                      | <b><i>A. Bring epidemiologic perspective in the development and analysis of public health policies</i></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b><i>A. Bring epidemiologic perspective in the development and analysis of public health policies</i></b>                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b><i>A. Bring epidemiologic perspective in the development and analysis of public health policies</i></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 1. Describe how policy decisions are made within the agency                                                                                                                                                                                                                                                                                                                                        | 1. Demonstrate understanding of public health policies and policy development from an epidemiologic perspective                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1. Evaluate public health policies and policy development from an epidemiologic perspective                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1. Demonstrate understanding of public health policies and policy development from an epidemiologic perspective                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <ul style="list-style-type: none"> <li>a. N/A</li> <li>b. N/A</li> <li>c. Provide epidemiologic and evidence-based information and data in the development of new policies, including data that demonstrate the need for change in existing policies</li> <li>d. Assist in creating decision memos that outline policy alternatives and facilitate scientifically sound decision-making</li> </ul> | <ul style="list-style-type: none"> <li>a. Describe breadth and limitations of existing regulations and laws at agency, local, state, and federal levels that affect epidemiologic activities</li> <li>b. Demonstrate to decision-makers the value of epidemiology and other evidence-based information in developing policy</li> <li>c. Provide epidemiologic and evidence-based information and data in the development of new policies, including data that demonstrate the need for change in existing policies</li> <li>d. Participate in creating decision memos that outline policy alternatives and facilitate scientifically sound decision-making</li> </ul> | <ul style="list-style-type: none"> <li>a. Examine breadth and limitations of existing regulations and laws at agency, local, state, and federal levels that affect epidemiologic activities</li> <li>b. Justify the use of epidemiology and other evidence-based information in developing policy</li> <li>c. Synthesize epidemiologic and evidence-based information and data for presentation to policy makers</li> <li>d. Create decision memos that outline policy alternatives and facilitate scientifically sound decision-making</li> </ul> | <ul style="list-style-type: none"> <li>a. Describe breadth and limitations of existing regulations and laws at agency, local, state, and federal levels that affect epidemiologic activities</li> <li>b. Demonstrate to decision-makers the value of epidemiology and other evidence-based information in developing policy</li> <li>c. Provide epidemiologic and evidence-based information and data in the development of new policies, including data that demonstrate the need for change in existing policies</li> <li>d. Participate in creating decision memos that outline policy alternatives and facilitate scientifically sound decision-making</li> </ul> |

**VIII. Skill Domain—Policy Development**

| Tier 1: Entry-Level or Basic Epidemiologist                                                                              | Tier 2: Mid-Level Epidemiologist                                                                                                                                                                                                                                                                                                                                   | Tier 3a: Senior-Level Epidemiologist:<br>Supervisor and/or Manager                                                                                                                                                                                                                                                                                                                                                                                                                                              | Tier 3b: Senior Scientist/<br>Subject Area Expert                                                                                                                                                                                                                                                                                                                  |
|--------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2. N/A                                                                                                                   | 2. Support development of policies relating to epidemiologic activities                                                                                                                                                                                                                                                                                            | 2. Lead development of policies relating to epidemiologic activities                                                                                                                                                                                                                                                                                                                                                                                                                                            | 2. Support development of policies relating to epidemiologic activities                                                                                                                                                                                                                                                                                            |
| <ul style="list-style-type: none"> <li>a. N/A</li> <li>b. N/A</li> <li>c. N/A</li> <li>d. N/A</li> <li>e. N/A</li> </ul> | <ul style="list-style-type: none"> <li>a. Provide input into the development of new policies</li> <li>b. N/A</li> <li>c. Advise in the development of draft policy language to support necessary epidemiologic actions and activities</li> <li>d. N/A</li> <li>e. Examine the impact of policies on achieving epidemiology program goals and objectives</li> </ul> | <ul style="list-style-type: none"> <li>a. Create opportunities for staff to provide input into the development of new policies</li> <li>b. Incorporate public input into development of epidemiologic policies</li> <li>c. Create draft policy language to support necessary epidemiologic actions and activities</li> <li>d. Follow agency procedures for adopting and implementing new policies</li> <li>e. Evaluate the impact of policies on achieving epidemiology program goals and objectives</li> </ul> | <ul style="list-style-type: none"> <li>a. Provide input into the development of new policies</li> <li>b. N/A</li> <li>c. Advise in the development of draft policy language to support necessary epidemiologic actions and activities</li> <li>d. N/A</li> <li>e. Examine the impact of policies on achieving epidemiology program goals and objectives</li> </ul> |
| 3. Support epidemiology roles in programs or plans that derive from public health policies                               | 3. Participate in translation of public health policies into epidemiology roles in programs or plans                                                                                                                                                                                                                                                               | 3. Translate public health policies into epidemiology roles in programs or plans                                                                                                                                                                                                                                                                                                                                                                                                                                | 3. Participate in translation of public health policies into epidemiology roles in programs or plans                                                                                                                                                                                                                                                               |
| 4. N/A                                                                                                                   | 4. Demonstrate ability to use designated channels to influence policy decisions made by entities other than the public health agency (e.g., elected officials or their staffs)                                                                                                                                                                                     | 4. Use designated channels to influence policy decisions made by entities other than the public health agency (e.g., elected officials or their staffs)                                                                                                                                                                                                                                                                                                                                                         | 4. Demonstrate ability to use designated channels to influence policy decisions made by entities other than the public health agency (e.g., elected officials or their staffs)                                                                                                                                                                                     |
| 5. Adhere to rules and laws applying to government employees and funding sources regarding lobbying                      | 5. Adhere to rules and laws applying to government employees and funding sources regarding lobbying                                                                                                                                                                                                                                                                | 5. Adhere to rules and laws applying to government employees and funding sources regarding lobbying                                                                                                                                                                                                                                                                                                                                                                                                             | 5. Adhere to rules and laws applying to government employees and funding sources regarding lobbying                                                                                                                                                                                                                                                                |