Competencies for Applied Epidemiologists in Governmental Public Health Agencies
Tier 3a: Senior-Level Epidemiologist: Supervisor and/or Manager

Example of Functional Responsibility
- Supervisor, manager, and/or director of a major section, program, or bureau in a public health agency.

Examples of Educational and Experiential Criteria
- Master’s degree with a focus in epidemiology with 4 or more years’ work experience in epidemiology in a public health agency; or
- Doctoral-level epidemiologist with at least 2 years’ work experience at a Tier 2 epidemiologist level; or
- Other nonepidemiology professional degree or certification (e.g., RN, MD/DO, DDS/DMD, DVM, PhD, RS) with specific epidemiology training (e.g., MPH degree, CDC Epidemic Intelligence Service program) and at least 4 years’ work experience at a Tier 2 epidemiologist level.

Competencies and Subcompetencies for Skill Domain 1—Assessment and Analysis
- Ensure identification of public health problems pertinent to the population
  - Ensure that critical thinking is used to determine whether a public health problem exists
  - Decide whether to conduct further investigation or other public health action on the basis of results of literature review and assessment of current data
  - Lead collaborations with others inside and outside the agency to identify the problem and form recommendations
- Oversee surveillance activities
  - Approve surveillance for the particular public health issue under consideration
  - Decide on surveillance data needs
  - Supervise or manage implementation of new or revision of existing surveillance systems
  - Synthesize key findings from the surveillance system and other pertinent information for use by decision-makers
  - Ensure evaluation of surveillance systems
- Ensure investigation of acute and chronic conditions or other adverse outcomes in the population
  - Oversee a community health status assessment
  - Decide on priority of public health problems to be addressed
  - Approve selection of investigative processes
  - Verify hypotheses
  - Oversee design of investigations (e.g., disease investigations, studies, or screening programs)
  - Ensure use of investigation techniques consistent with the public health problem
- Ensure study design and data collection, dissemination, and use follow ethical/legal principles
  - Examine ethics guidelines and principles when planning studies; conducting research; and collecting, disseminating, and using data
  - Communicate to staff legal expectations, limitations, and implications of collection, management, dissemination, and use of data and information
  - Obtain decision on whether investigation involves public health practice or public health research
  - Ensure legal and ethical conduct of human subjects research
  - Ensure application of necessary Institutional Review Board processes
  - Ensure that conflicts of interest do not interfere with research or investigations
  - Ensure application of privacy laws to protect confidentiality, including Health Insurance Portability and Accountability Act and applicable state and local privacy laws
  - Know agency procedures for handling Freedom of Information Act requests
  - Ensure application of ethical principles in preparing and submitting publications
- Ensure management of data from surveillance, investigations, or other sources
  - Approve database requirements
  - Ensure database management
- Evaluate analysis of data from an epidemiologic investigation or study
  - Approve analysis plan for data
  - Approve data analysis
- Evaluate conclusions and interpretations from investigation
  - Assess the validity of the epidemiologic data, taking into consideration bias and other study limitations
  - Assess need for special analyses, including survival analyses, cost-effectiveness/cost benefit/cost utility analyses
  - Validate key findings from the study
- Determine evidence-based interventions and control measures in response to epidemiologic findings

For more information and for the complete competency set, including all subcompetencies for all domains, see http://www.cdc.gov/AppliedEpiCompetencies/ or www.cste.org/competencies.asp.
Competencies for Applied Epidemiologists in Governmental Public Health Agencies

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- Approve interventions on the basis of understanding of cultural/social/political framework for consideration
- Ensure that scientific evidence is used in preparing recommendations for action or interventions
- Ensure evaluation of programs
- Approve measurable and program-relevant goals and objectives
- Decide on program logic models and theories of action
- Approve surveillance and other data for use in tracking program objectives and outcomes
- Monitor progress toward program objectives and outcomes
- Incorporate information about progress toward program objectives and outcomes in decisions on program planning and modification

Competencies for Skill Domain 2—Basic Public Health Sciences

- Use current knowledge of causes of disease to guide epidemiologic practice
- Ensure the use of laboratory resources to support epidemiologic activities
- Ensure application of principles of informatics, including data collection, processing, and analysis, in support of epidemiologic practice
- Develop and manage information systems to improve effectiveness of surveillance, investigation, and other epidemiologic practices

Competencies for Skill Domain 3—Communication

- Ensure preparation of written and oral reports and presentations that communicate necessary information to professional audiences, policy makers, and the general public
- Ensure that the basic principles of risk communication are followed in all communication of epidemiologic findings
- Model interpersonal skills in communication with agency personnel, colleagues, and the public
- Ensure utilization of effective communication technologies

Competencies for Skill Domain 4—Community Dimensions of Practice

- Lead epidemiologic studies, public health programs, and community public health planning processes at the state, local, or tribal level
- Develop community partnerships to support epidemiologic investigations

Competencies for Skill Domain 5—Cultural Competency

- Differentiate special populations by race; ethnicity; culture; societal, educational, and professional backgrounds; age; gender; religion; disability; and sexual orientation
- Establish relationships with groups of special concern (e.g., disadvantaged or minority groups, groups subject to health disparities, historically underrepresented groups)
- Ensure that surveillance systems are designed to include groups subject to health disparities or other potentially underrepresented groups (using standard categories where available)
- Ensure that investigations use languages and approaches tailored to population
- Ensure that standard population categories or subcategories are used for data analysis
- Use knowledge of specific sociocultural factors in the population to interpret findings
- Ensure that actions are relevant to the affected community

Competencies for Skill Domain 6—Financial and Operational Planning and Management (Operational Planning, Financial Planning, and Management Skills)

- Create operational and financial plans for future epidemiologic activities
- 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
- Oversee implementation of operational and financial plans
- Develop requests for proposals for extramural funding to support additional epidemiologic activities and special projects
- Use management skills
- Promote collaborations, strong partnerships, and team building to accomplish epidemiology program objectives

Competencies for Skill Domain 7—Leadership and Systems Thinking

- Promote the epidemiologic perspective in the agency strategic planning process
- Lead the creation of epidemiology program’s vision in the context of the agency’s plan
- Use performance measures to evaluate and improve epidemiology program effectiveness
- Promote ethical conduct in epidemiologic practice
- Ensure professional development of epidemiology workforce
- Lead epidemiology unit in preparing for emergency response

Competencies for Skill Domain 8—Policy Development

- Bring epidemiologic perspective in the development and analysis of public health policies

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