Who Conducts Epidemiology Activities in Local Public Health Departments?

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Communicable disease control is a core function and responsibility of governmental public health. This responsibility is delegated to local health departments (LHDs) in many states. With this responsibility comes the task of staffing LHDs with the appropriate personnel to do the job. This commentary examines epidemiology functions and competencies using data from the 2005 National Profile of Local Health Departments study,[1] and the work of the Centers for Disease Control and Prevention (CDC) and the Council of State and Territorial Epidemiologists (CSTE) in developing competencies for our epidemiology staff.[2]

Most LHDs perform some epidemiology and surveillance activities. Almost all LHDs—about 89%—conduct epidemiology and surveillance for communicable/infectious diseases, and most (75%) do so for environmental health issues. Surveillance and epidemiology for chronic diseases, behavioral risk factors, and injuries are less common at the local level, except in large health departments. Approximately one-third of all LHDs conduct syndromic surveillance.[1, p. 6]

The 2005 Profile findings suggest that the work of LHDs has changed significantly over the past decade. Many LHDs have reduced their focus on providing personal health services and certain environmental protection functions and have increased their focus on emergency preparedness, epidemiology and surveillance, and primary prevention.[1, p. 1] The National Association of County and City Health Officials recently released a publication, "Operational Definition of a Functional Local Health Department," that outlines a set of operational standards for LHDs that is framed around the 10 Essential Public Health Services. It describes what everyone, regardless of where they live, should expect from their LHD. The publication outlines the standards to which all LHDs should be held accountable. Staff with epidemiology competencies will be critical for LHDs in filling these new roles and in meeting the Operational Definition standards.[3]

Although nearly all LHDs report some epidemiology and surveillance activities, only 25% of LHDs report employing epidemiologists.[1, p. 5] Epidemiologists are common in LHDs serving populations of 100,000 or more, which constitute only 23% of LHDs in the U.S. The epidemiologists in the LHD workforce have varying degrees of education and training, as well as functions they provide at

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the local level. For many LHDs, this classification of epidemiologist actually falls to different professional disciplines, such as a registered nurse or environmental health specialist, with some additional training in epidemiology.

In a small rural state like Idaho, recruitment and retention of qualified, trained epidemiologists is a struggle. Local public health in Idaho operates under a districting system in which all 44 counties are covered by seven public health districts. Each district—which covers four to eight counties—employs staff to perform epidemiology and surveillance functions. Because of this districting system, the cost-effectiveness of employing one epidemiologist for a multiple-county jurisdiction is quite high. Most of the staff that performs epidemiology functions are trained in-house, especially by using CDC training opportunities. Other training opportunities are limited or absent in many locations. With Idaho's limited staff and equally limited funding, we question whether the staff we employ has the competency to perform the job to the national standards set.

In 2004, CDC and CSTE convened an expert panel to define Competencies for Applied Epidemiologists in Governmental Public Health Agencies (AECs), with the goal to improve the practice of epidemiology in public health agencies. In Idaho, where we have local staff performing epidemiology functions, the AECs are a great tool. The AECs are divided into four different tiers, so even in rural areas with trained local staff, it is easy to see the competencies needed for our employees to fit into the Tier 1, basic epidemiologist level.

The AECs give public health at the local level a road map for education and training of our epidemiologists. In Idaho, we have used the competencies as a job description, as well as a training plan for the staff performing epidemiology functions.

Epidemiology is a critical function at the LHD. The individuals that perform these epidemiology functions not only investigate, analyze, report, and mitigate disease outbreaks, but they also develop relationships with providers who have information on reportable diseases and facilitate information exchange. The AECs give us a valuable tool to document our staff knowledge, skills, and abilities in performing work responsibilities.

Epidemiologists are critical to public health practice at the local level. Regardless of their initial educational background, they need to be competent and diverse to achieve public health goals. Using standards and competencies will help us all move toward a common goal of improving our epidemiologic practices.

REFERENCES

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