



2872 Woodcock Blvd.
Suite 303
Atlanta, GA 30341-4015
770-458-3811

CSTE Special Report: Workforce Development Initiative

Council of State and Territorial Epidemiologists

June, 2004

CSTE's Top Four List:

- Measuring Capacity and Filling the Pipeline
- Unique Barriers to Recruiting and Retaining Applied Epidemiologists
- Establishing Public Health Competencies and Addressing the Training Gap
- Funding and Leadership

A Meeting of the Minds

In January, CSTE hosted a Workforce Summit to address workforce issues affecting public health epidemiologists. Leaders in applied epidemiology, including CSTE **Past Presidents**, current **Executive Committee Members who represent more than 700 CSTE members**, and the **CSTE Workforce Development Team**, were invited to discuss the key workforce issues in this field. Additional participants, who are all leaders in public health workforce issues, included a facilitator and colleagues from CDC, APHA, ASTHO and ASPH.

A National Assessment of Epidemiologic Capacity conducted by CSTE in 2002 identified gaps in the applied epidemiology workforce and revealed training needs of existing epidemiology staff. Through facilitated discussion and concurrent breakout groups, Workforce Summit participants examined these and other relevant workforce issues. Some of the issues addressed were:



- Recruiting and retaining epidemiologists, and identifying unique barriers to entry into public health epidemiology.
- Establishing public health competencies as well as related training and certification for epidemiologists.
- Developing leadership at all levels in the practice of public health epidemiology.
- Funding workforce development to expand and strengthen epidemiology capacity at state and local health departments.
- Establishing a "baseline capacity" to meet essential services for epidemiology.
- Filling the human resource gap to reinvigorate the practice of public health epidemiology.

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Purpose of the Workforce Development Initiative:

- Seek solutions to current epidemiologic workforce problems
- Develop recommendations that provide a strategic direction for CSTE's role in addressing workforce issues
- Identify other key organizations that are integral to this strategic plan and determine ways of engaging and collaborating with these partners

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Breakout groups were asked to consider the following questions while addressing these workforce issues:

- What are potential solutions to the problem?
- Which organizations should be responsible for taking the national lead in addressing this issue?
- Who are potential partners and how should these partners be engaged?
- What is CSTE's role in addressing this issue?
- How do these solutions fit with other public health workforce initiatives?

Summaries of the identified issues, recommendations and solutions, and CSTE's priority actions are described in this report. Many of the solutions and recommendations identified during the Workforce Summit address more than one workforce problem. The interrelated nature of the proposed solutions indicates that these workforce issues are not mutually exclusive and might be best addressed through a broad strategy. Collaboration between CSTE and other public health partners and constituents will be required to address epidemiologic workforce needs effectively.

Workforce Initiative #1: Measuring Capacity and Filling the Pipeline

Definition of the Problem

There are no established baseline standards to assess existing epidemiology capacity and determine the extent of the gaps in capacity. In addition, the current "pipeline" of epidemiologists entering the field is not sufficient to meet state and local capacity needs.

Potential Solutions and Recommendations

To establish baseline capacity, CSTE recommends establishing a consistent definition for the Public Health Epidemiologist. In addition, establishing baseline capacity should involve instituting a set of metrics for core epidemiologic functions. Finally, CSTE recommends conducting periodic capacity measurements, including enumeration estimates, to assess existing workforce capacity adequately.

To address '**filling the pipeline**,' the number of trained public health epidemiologists must be increased and then maintained through continued efforts. CSTE supports:

- Expanding its training fellowship program and other efforts to attract skilled epidemiologists to the public health field.
- Creating training programs that provide alternatives to degree programs, such as credentialing by community colleges or professional associations.

- Introducing college and high school students to the field of epidemiology to create interest in and awareness of career options in the field.

Recommendations to '**improve the pipeline**' of epidemiologists include:

- Linking practical experience with formal training by offering incentives for health departments to provide mentorship and training.
- Requiring Schools of Public Health (SPH) to use federal funds to work with health departments.
- Increasing the number of SPH faculty with practical public health experience.

CSTE and other public health organizations should collaborate to address these issues. Specifically, CSTE should lead a dedicated effort in conducting periodic assessments of workforce capacity and formulate recommendations for capacity standards. CSTE should explore the potential value gained from credentialing and certification programs in 'filling the pipeline' and raise awareness of degree and non-degree pathways that contribute to the epidemiology workforce. Finally, CSTE should partner with ASPH to track and document how graduates utilize their education.

CSTE Priority Actions—Workforce Initiative #1

- **Conduct yearly assessments of workforce capacity**
- **Expand CDC/CSTE Applied Epidemiology Fellowship program to meet gaps in workforce capacity**
- **Determine the value and feasibility of credentialing programs in the field of epidemiology**

Workforce Initiative #2: Establishing Public Health Competencies and Addressing the Training Gap

Definition of the Problem

Comprehensive public health competencies for applied epidemiologists and leaders in the field of applied epi-

demiology have not been formulated and accepted. In addition, not enough training opportunities are available to prepare students adequately for careers in applied epidemiology. Moreover, a large number of public health professionals work as applied epidemiologists with no formal academic training.

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Potential Solutions and Recommendations

Establishing core competencies for applied epidemiologists has been identified as a priority for CSTE and CDC. Primary development efforts should include gathering existing epidemiology competencies and convening an expert panel to assess and incorporate them. In addition, specific training needs for existing epidemiology staff and students should be determined. This information can be utilized to create educational competencies and influence formal curriculum development. Competencies also should be shared with ASPH to assist in the development of better curricula for students in applied epidemiology. Evaluation of competencies should include certifying exams, self-evaluation or mentor certification of improvement. Incentives for achieving the adopted competencies may include salary increases, completion certificates, academic credit for degree programs and continuing education units.

In establishing competencies, CSTE should act as the co-convenor with CDC. Other organizations that should be involved in this process include NACCHO, ASPH, APHA, ATPM, ACE, SER, AES, ASTHO, HRSA, NALBOH and CEPH.

These organizations are crucial partners for endorsement and adoption of established workforce-related competencies. Defining training gaps should be a collaborative effort between state and local health agencies and these public health organizations. However, CDC and HRSA should lead efforts in improving training. CSTE's roles in these efforts should include identifying members to aid in analyzing the training gap, assist in curriculum development and pilot test accepted competencies. In addition, the CSTE National Office should utilize resources to create a workforce position to coordinate these efforts. Finally, CSTE was encouraged to help identify incentives for membership participation.

CSTE Priority Actions—Workforce Initiative #2

- **Initiate the development of Core Epidemiology Competencies in partnership with CDC**

Workforce Initiative #3: Unique Barriers to Recruiting and Retaining Applied Epidemiologists

Definition of the Problem

Several unique barriers to recruiting and retaining applied epidemiologists have been identified. For example, complex bureaucracies and changing political barriers within state and local health departments make recruiting and hiring problematic. In addition, there is a shortage of trained epidemiologists, and recruiting qualified individuals for positions at state and local levels is difficult due to uncompetitive salaries and cumbersome hiring processes within state and local health departments.

Challenges identified in retaining skilled epidemiologists include lack of a well-defined career path, lack of understanding of the contributions of epidemiologists and limited opportunities for professional development.

Potential Solutions and Recommendations

To address barriers to **recruiting** epidemiologists, CSTE recommends:

- Developing marketing strategies to promote the profession of epidemiology and creating a standard definition of an “applied epidemiologist.”
- Establishing competencies and credentialing strategies to facilitate entry of skilled graduates into the field of applied epidemiology, collaborating with schools of public health and supporting existing fellowship and training opportunities.
- Articulating the need for epidemiologists by routinely assessing epidemiologic workforce capacity and disseminating this information to appropriate audiences.

To address barriers to **retaining** state and local health department epidemiologists, CSTE recommends:

- Improving in-house training and continuing education opportunities.
- Developing standardized career paths, duties and salary structures, as well as best practices and uniformity across states.

CSTE's role in eliminating barriers to recruiting and retaining skilled epidemiologists should include facilitating consensus building activities, documenting workforce needs, developing recommendations for addressing those needs, and participating with CDC in workforce development activities. While CSTE was identified as the public health organization that should assume leadership in improving state and local recruiting and retention for the field of applied epidemiology, other organizations such as ACE, ASPH, ASTHO, APHL, CDC, NACCHO and NEHA were listed as instrumental partners.

CSTE Priority Actions—Workforce Initiative #3

- **Document epidemiology workforce needs**
- **Support applied epidemiology training programs**
- **Begin addressing hiring barriers**

Workforce Initiative #4: Funding and Leadership

Definition of the Problem

Few attempts have been made to identify and train new leaders in applied epidemiology. During times of crisis, the need for skilled, well-rounded leaders becomes vital to public health response -- as was evident during the 2001 anthrax attacks. In the past, there has been little attempt to organize and address leadership at state and local levels, which has contributed to public health inertia on major public health issues. Finally, lack of adequate funding to support workforce development makes it challenging to motivate state and local health department leaders to be trained in subject areas such as crisis communications, legislative process and policy development.

Potential Solutions and Recommendations

Potential solutions include developing training programs that encompass leadership development. These programs should include:

- training in risk communication
- public health law and policy development
- management training
- mentorship programs
- media relations

Short-term leadership goals should be focused on providing leadership training to epidemiologists currently working in upper level positions. Long-term leadership goals should be focused on providing leadership training

to all career track public health epidemiologists.

CSTE recommends quantifying recognized training gaps and using this information to draft an effective, fact-driven proposal to fund these gaps. CSTE also recommends using current bioterrorism funds to support training for basic epidemiology functions and resurrecting CDC's distance learning training courses in epidemiology.

While CDC should assume the national lead in securing funding for epidemiology leadership development and building workforce

leadership, CSTE should have multiple roles and partners in this effort. CSTE's role should include leading the development of a curriculum for a joint training program in epidemiology and public health laboratory leadership. This curriculum should address state, local and federal leadership issues. In addition, CSTE should support ASTHO in advocacy efforts supporting workforce leadership development. Other CSTE responsibilities may include developing position statements to promote workforce leadership development, facilitating placements of fellows in state and local health departments, and regularly assessing workforce capacity and training needs.

CSTE Priority Actions— Workforce Initiative #4

- Provide leadership development opportunities with existing programs such as the Public Health Leadership Institute.



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