Council of State and Territorial Epidemiologists

Special Report

Workforce Development Initiative

A Second Meeting of the Minds

In January 2007, CSTE hosted its second Workforce Summit to address issues affecting public health epidemiologists. Leaders in applied epidemiology- including CSTE Past Presidents, current Executive Committee members, representatives from the US Centers for Disease Control and Prevention (CDC), the American Public Health Association (APHA), the Association of State and Territorial Health Officials (ASTHO), the Association of Schools of Public Health (ASPH), and the Association of Public Health Laboratories (APHL)- were invited to discuss epidemiology workforce issues. Attendees were encouraged to utilize their skills and expertise to identify and discuss ways CSTE could effectively address concerns about the public health applied epidemiology workforce.

The purpose of the meeting was to provide an update to attendees around CSTE's current workforce initiatives and to hear from key national stakeholders about their workforce priorities. These stakeholders provided participants with the national, federal, academic, state, local, and organizational perspectives on workforce issues affecting state and local epidemiologists. Additionally, through facilitated discussion the attendees helped CSTE identify key workforce issues for state and local epidemiologists and develop a list of the highest priority programs, projects, and activities for CSTE to focus its attention for the next three years.

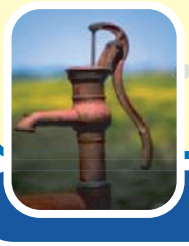
Four main priority areas for improving the epidemiology workforce capacity emerged from the meeting: 1) Marketing the field of epidemiology, 2) Enhancing epidemiology workforce capacity, 3) Improving recruitment and retention of public health epidemiologists, and 4) Improving education and training.

This report summarizes the identified priorities, related ideas, recommendations and action steps by which CSTE can address epidemiology workforce concerns. CSTE recommends broad solutions to the priorities identified. Because epidemiology workforce problems are complex, CSTE supports working with partner organizations and constituents to solve the epidemiology workforce concerns successfully.

Purpose of the Workforce Development Initiative:

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

In This Report:



Workforce Priority #1: Marketing the Field of Epidemiology

Definition of the Problem
The role of epidemiology is unclear to many people who are not familiar with public health. Marketing is needed to educate the public and future epidemiologists about the pivotal role epidemiologists play in public health. Effective marketing of the field of epidemiology will serve to increase public awareness and encourage students to seek careers in public health. Effective marketing will also result in improved workforce capacity, improved political influence to secure more funding for the applied epidemiology workforce, and an increased public knowledge of epidemiologists' role in public health.

Solutions and Recommendations
CSTE recommends developing a coordinated strategic communication plan with partner organizations to demonstrate the value that epidemiologists bring to public health. CSTE should convene a meeting of the partners including ASTHO, CDC, NACCHO, ASPH, APHA, and APHL, to align their goals, objectives, and strategies.

- To ensure the integrity and professional quality of marketing, secure media consulting and health communication assistance outside of CSTE. CSTE should work with marketing and health communication specialists to collect, develop, and distribute marketing materials to the general public, adolescents, and young adults who might be interested in becoming epidemiologists.
- Example marketing materials include: stories from field work in applied epidemiology; quantitative evidence demonstrating the need for epidemiologists; and informational materials, documents, and pamphlets.
- Once a strategic marketing plan is identified, engage the news media to facilitate raising public awareness about epidemiology.
- Partner with the Epidemiology Education Movement (EEM) to market and improve epidemiology curricula of middle and high school students.
- Develop a website tailored to various audiences to be a repository for information about epidemiology. It will serve as a clearinghouse of information about the field of epidemiology, job and career information, and as a resource for current epidemiologists in the workforce.

Priority Action Items-Workforce Initiative #1

Secure professional assistance from a marketing agency and/or health communications professional.

Convene a meeting of partners to align goals and develop special marketing projects and products.

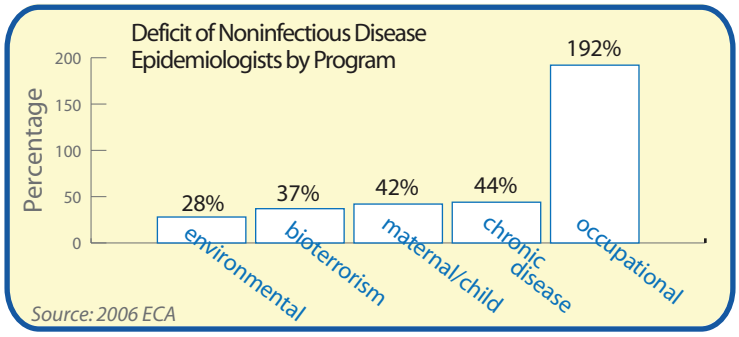
Develop a white paper to seek funding for marketing efforts.

Engage the news media to increase the visibility of epidemiology.

Workforce Priority #2: Address Epidemiology Workforce Capacity

Definition of the Problem
The existing applied epidemiology workforce is inadequate, and the number of new graduates entering at state and local levels is not sufficient to fill the gaps. CSTE's 2006 Epidemiology Capacity Assessment (ECA) reported a current total of 2,502 epidemiologists and an estimated need for 3,361 epidemiologists to reach ideal capacity—a 34% increase. Barriers and challenges to recruiting and retaining epidemiologists at the state and local levels are complex. In the 2006 ECA, health departments indicated low salary scales, little opportunity for upward mobility, limited qualified applicant pools, hiring restrictions, limits on merit raises, and loss of professionals to the private sector as the primary obstacles to recruitment and retention.

The 2006 ECA also reported a 19% gap between the number of current infectious disease epidemiologists and the number needed to fill capacity. Other program areas reported larger gaps between current and needed capacity: environmental health reported a 28% deficit; bioterrorism/emergency response—37%; maternal and child health—42%; chronic diseases—44%; occupational health—192%; and oral health—226%. Reasons for the deficiencies should be identified and action items planned to address and improve noninfectious diseases epidemiology capacity.



Solutions and Recommendations

- Assess the current epidemiology workforce infrastructure and define gaps to determine the consequences of having a limited or insufficient epidemiology workforce.
- Define the quantifiable estimate of need of the epidemiology workforce using the Epidemiology Capacity Assessment (ECA).
- Continue to assess, define, and quantify the need for epidemiologists by specialty.
- Define the race and ethnicity makeup of the applied epidemiology workforce.
- Translate ECA data to reflect the number of epidemiologists per 100,000 persons to generate population estimates so that workforce capacity in small, medium, and large states can be compared.
- Create annual and biannual assessments to monitor rapid change and decrease the time between assessments.
- Develop and tailor assessments to the local level.
- Develop population-based epidemiology and programmatic content to define workforce capacities for all program areas.
- Link applied epidemiology workforce capacity benchmarks using standardized evaluations.
- Determine barriers to filling the gaps in the epidemiology workforce at all points in the pipeline.
- Identify evidence based approaches to recruiting, training, and retaining epidemiologists by reviewing processes developed by other professions.
- Develop model position descriptions (for adaptation at the state and local levels) from which to create noninfectious disease positions.
- Encourage CDC/EIS and other fellowship programs to increase the applicant pool for non-infectious disease applicants.
- Focus on increasing the number of high quality applicants accepted for the CDC/CSTE Applied Epidemiology Fellowship program in noninfectious disease program areas.

"CSTE's 2006 Epidemiology Capacity Assessment (ECA) reported a current total of 2,502 epidemiologists and an estimated need for 3,361 epidemiologists to reach ideal capacity—**a needed 34% increase."**

Priority Action Items-Workforce Initiative #2

Define the need for public health epidemiologists.

Add race and ethnicity measures to the ECA.

Revise the CDC/CSTE Applied Epidemiology Fellowship Competencies.

Develop an expert review panel to regularly review the methodology and results of the ECA.

Workforce Priority #3: Recruitment and Retention of Public Health Epidemiologists

Definition of the Problem

Several barriers have been identified to recruiting and retaining epidemiologists throughout the public health infrastructure. For example, complex government practices and changing political climates within state and local health departments present barriers to recruitment and retention of public health epidemiologists. Other identified obstacles are salary scales, lack of flexibility in the workplace, unsatisfactory upward mobility, insufficient training and support, and an absence of incentives and rewards for public health epidemiologists (2006 ECA). Furthermore, anecdotal information suggests that the current epidemiology workforce does not reflect the diversity of the population it serves.

Solutions and Recommendations

CSTE should conduct an in-depth analysis of the barriers to recruiting and retaining epidemiologists at all levels using a representative sample of states. Information from the analysis will supplement the ECA and further elucidate barriers to recruitment and retention of the public health epidemiology workforce. Local solutions should be developed and the solutions marketed, implemented, and evaluated.

Priority Action Items-Workforce Initiative #3

Conduct an in-depth analysis of the recruitment and retention barriers.

Contract with a human resources advisor to define recruitment and retention best practices and to develop a national model that can be locally adapted.

Develop a national model that addresses the following components: salary scales, on-the-job training standards, retention incentives and career mobility.

Conduct diversity outreach and leadership development.

Develop incentives for filling the gaps in the workforce.

Workforce Priority #4: Education and Training

Definition of the Problem

Qualified epidemiologists are in short supply to fill positions at the state and local levels. Therefore, a new cadre of public health practitioners must be identified. The EIS and CDC/CSTE fellowships and other state-based training programs provide excellent training opportunities to help fill the gaps in the workforce. However, funding is limited, and the fellowship programs cannot fulfill all of the training needs of applied epidemiologists. In addition, epidemiologists currently in the workforce lack some of the skills and training to effectively perform all of the functions of an epidemiologist (2006 ECA). To effectively perform the essential epidemiology functions of public health, the existing applied epidemiology workforce needs opportunities for targeted continuing education.

Solutions and Recommendations:

- Develop an operational education and training plan with CSTE membership input to:
  - Encourage interaction between academic public health and public health practice;
  - Tailor training to diverse audiences to encourage a diverse public health epidemiology workforce;
  - Increase the faculty in public health academic programs that have an MPH degree and are practicing public health professionals; and
  - Increase technology training in schools of public health and in the existing workforce.
- Educate and train the existing public health epidemiology workforce to enable them to perform effectively. Training and continuing education should be required components of epidemiology position descriptions.
- Deliver competency based training for all epidemiologists.
- Develop a training curriculum for current epidemiologists to prepare them to be mentors.
- Encourage public health undergraduate degree programs.
- Encourage development and delivery of undergraduate courses (EPI or PH 101 courses).
- Expand practical opportunities in epidemiology for students.
- Develop toolkits for epidemiology education tailored to all age groups and to diverse audiences.
- Introduce epidemiology into other health professional education (e.g., nursing, medicine, etc).

Priority Action Items-Workforce Initiative #4

Develop a working group of active CSTE members to address the needed increase in the CDC/CSTE and EIS fellows.

Develop a written plan within one year of the second Workforce Summit to increase the fellowship to 30-40 positions per class within three years (January of 2010).

Develop a funding partnership with state and local health agencies to expand the number of Fellowship positions.

Promote the CDC/CSTE Applied Epidemiology Fellowship program to increase the applicant and mentor demand and positions.

Identify support to provide continuing educational classes and programs for the existing workforce.

"The EIS and CDC/CSTE fellowships and other state-based training programs provide excellent training opportunities to help fill the gaps in the workforce."

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