



COUNCIL OF STATE AND TERRITORIAL EPIDEMIOLOGISTS

SPECIAL REPORT: WORKFORCE DEVELOPMENT INITIATIVE

A Third Meeting of the Minds

In February 2011, CSTE hosted the third Workforce Summit to describe current applied epidemiology workforce challenges and develop recommendations that provide a strategic direction for future activities of CSTE. The Summit convened 40 leaders in applied epidemiology, including CSTE Executive Board members; CSTE past presidents; and representatives from state and local health departments, the Centers for Disease Control and Prevention (CDC), the Association of Schools of Public Health, the Association of Public Health Laboratories, the National Association of County and City Health Officials, the Health Resources and Services Administration, and Emory University and University of Michigan schools of public health. The Summit included presentations on topics such as CSTE past and current workforce initiatives, measurement of the epidemiology workforce, and epidemiologic competencies and skill sets. The Summit's agenda was discussion driven to allow participants sufficient time to identify and discuss recommendations.

Goals and Objectives of the Workforce Summit

- Review and assess progress in developing applied epidemiology training and capacity since the second CSTE Workforce Summit in 2007.
- Identify training needs and opportunities for local, state, and federal epidemiologists over the next 5 years.
- Make recommendations for local and state epidemiology leaders, CDC, and other partners for improvements in training and workforce capacity for applied epidemiology.



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To identify solutions and recommendations, the facilitated breakout groups were asked to consider the following questions:

- How can we improve the current level of capacity and training of the epidemiology workforce to meet the needs of our local, state, and federal public health agencies?
- What are the new skills and knowledge needed by the epidemiology workforce, and how can we promote their adoption?
- What are the challenges and opportunities for CSTE and its partners in building and improving the epidemiology workforce?

CSTE can effectively translate ideas and recommendations into successful activities and projects when three crucial components—strong member leadership, partnership, and funding—are present. Therefore, for each initiative, CSTE has identified action items that will guide organization activities in identifying priority workforce projects for the next 3–5 years. This report summarizes the ideas and recommendations from the Summit.

WORKFORCE INITIATIVE #1: Improving the Current Level of Capacity of the Epidemiology Workforce

DEFINITION OF THE ISSUE

Across most subject areas, the applied epidemiology workforce continues to face challenges in sustaining adequate capacity. The 2009 CSTE Epidemiology Capacity Assessment (ECA) report indicates that the only program area steadily improving in capacity since 2001 is maternal and child health. The ECA report also shows a 12% reduction in epidemiologists since 2004 and a current need for 1,490 additional state-level epidemiologists in the United States for full capacity in epidemiology and surveillance at the state level.

SOLUTIONS & RECOMMENDATIONS TO IMPROVE CAPACITY

- Increase the size of the CDC/CSTE Applied Epidemiology Fellowship program. The program places master's-trained epidemiologists in state and local health departments for 2 years and has a proven track record for retaining graduates at the state, local, and federal levels.
- Increase the scope of the CDC/CSTE Applied Epidemiology Fellowship program to place more epidemiologists in program areas with less than substantial to full capacity: environmental health, chronic diseases, injury, and occupational health. The fellowship program should also expand to new subject areas, such as informatics, mental health, and substance abuse.
- Disseminate best practices, and share success stories of health departments that have excelled in collaborating with academia/schools of public health to help meet workforce needs.
- Develop and provide orientation materials to new lead State Epidemiologists, such as Chronic Disease Epidemiologists and Maternal and Child Health Epidemiologists. Continue to offer and strengthen the CDC/CSTE orientation program for new State Epidemiologists to include state-to-state mentoring.
- Assist state health departments in recruiting qualified epidemiologists.
- Advocate for CDC to fund at least some epidemiology capacity for all program areas in all state health departments.
- Explore the accreditation of applied epidemiologists.

CSTE PRIORITY ACTION ITEMS

- Increase the number of CDC/CSTE Applied Epidemiology Fellows.
- Expand CDC/CSTE Applied Epidemiology Fellowship to include informatics as a new skill area.
- Create informational one-pagers to spotlight workforce success stories from health departments, and distribute them to states.
- Share recruiting results, including qualified candidates, from the CDC/CSTE Applied Epidemiology Fellowship program recruitment process with state health departments that do not have the time or resources to widely recruit qualified epidemiologists.



Workforce Development Initiative

WORKFORCE INITIATIVE #2: Identify the New Skills and Knowledge Needed by the Epidemiology Workforce and Ways to Promote Their Application

DEFINITION OF THE ISSUE

In addition to increasing the number of applied epidemiologists, focus must also be on improving and strengthening the existing workforce. Recent data show that additional training needs remain across competencies. The 2009 CSTE ECA reports that 30% of state epidemiologists believed their staff needed additional training in 23 of the 27 assessed competencies. Furthermore, new information technology and the shift to electronic health data require skills previously not used or needed by applied epidemiologists. The skills and knowledge needed by the epidemiologist of the future must be identified, and ways to promote the inclusion and application of those skills must become a high priority for CSTE.

NEW SKILLS & KNOWLEDGE IDENTIFIED

- Informatics and e-health
- Leadership skills
- Molecular and genetic epidemiology
- Community measures of health and social determinants of health
- Geocoding and mapping skills
- Advocacy for public health and epidemiology
- Computer programming skills
- Application of health services research to epidemiologic practice
- Performance measures and calculation of return on investment

SOLUTIONS & RECOMMENDATIONS TO IMPROVE CAPACITY

- Review and, as necessary, revise and update the CDC/CSTE Applied Epidemiology Competencies.
- Develop new competencies to reflect the growing need for new skills and knowledge, particularly in informatics.
- Identify and market currently available training opportunities for the existing workforce to improve the competence of epidemiologists currently in practice.
- Encourage schools of public health to develop applied epidemiology practice tracks for MPH programs based on the applied epidemiology competencies.
- Use existing public health training centers to educate and train the existing workforce.

CSTE PRIORITY ACTION ITEMS

- Develop and maintain a comprehensive one-stop catalogue of epidemiology training opportunities for the current workforce, and make it available on the CSTE website.
- Develop a webinar series on relevant epidemiology training subjects targeted to CSTE Fellows and Tier I and II epidemiologists working at state and local health departments.
- Work with CDC partners to develop and expand subject area-specific training opportunities in maternal and child health, Injury, environmental health, HIV, chronic disease, occupational health, oral health, substance abuse, mental health, and infectious disease epidemiology.



WORKFORCE INITIATIVE #3: Identify Challenges and Opportunities for CSTE and its Partners in Strengthening the Epidemiology Workforce

DEFINITION OF THE ISSUE

Building on the work of the two previous summits, the group identified the major current challenges and opportunities for CSTE and its partners to strengthen the epidemiology workforce. Four key areas were identified: informatics, integration and engagement of the health-care delivery system, strengthening and maintenance of epidemiology capacity, and partnership and collaboration.

- **PUBLIC HEALTH INFORMATICS.** Summit participants identified a challenge in bridging applied epidemiology with the growing need for informatics skills in the applied public health setting. An environment needs to be developed to accept and integrate trained informaticians into the field of applied epidemiology and surveillance. An important part of this effort will be providing appropriate competency-based training to each of the tiers of public health epidemiology. Academically trained informaticians will also need a strong orientation to surveillance and applied epidemiology. The opportunity also exists to incorporate health information technology and informatics skills into training programs such that epidemiologists can develop new skills in these areas. Additionally, CSTE can partner with states, localities, and CDC at each level of the public health system.
- **INTEGRATING AND ENGAGING WITH THE EXPANSION OF HEALTH CARE.** Applied epidemiologists should take advantage of new funding opportunities available through health-care reform for new and growing subject areas, such as health-care-associated infections. Engaging with the health-care delivery field can also provide opportunities to showcase the field of epidemiology and broaden public understanding of the field.
- **MAINTAINING EPIDEMIOLOGY CAPACITY.** CSTE can lead in advocating for applied epidemiology at the national level by educating policy makers on the importance of adequate capacity for surveillance and epidemiology.
- **PARTNERSHIP AND COLLABORATION.** Establishing new collaborations and strengthening existing partnerships are key to implementing effective activities and projects to address the workforce issues, such as electronic health records, health-care delivery, and core disease surveillance and monitoring.

CSTE PRIORITY ACTION ITEMS

- CSTE needs to meet the workforce challenges around public health informatics through partnership with CDC, the Association of Schools of Public Health and schools of public health, professional associations of public health informaticians, and training institutes. These partnerships will enable CSTE to begin addressing the training needs of the existing workforce and identify best practices for integrating informatics into applied public health surveillance and epidemiology.
- CSTE can also strengthen partnerships with the Society for Healthcare Epidemiology of America, the Association for Professionals in Infection Control and Epidemiology, CDC, and state health departments to improve the relationship between health care and public health.
- Using partnerships, CSTE can develop public health informatics training opportunities for the existing applied epidemiology workforce.



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