

Career Epidemiology Field Officer (CEFO) Program Review

A Report from the Board of Scientific Counselors (BSC)

Office of Public Health Preparedness and Response (OPHPR)

Centers for Disease Control and Prevention (CDC)

Department of Health and Human Services (DHHS)

- **Thomas Inglesby, MD, Chair**
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Career Epidemiology Field Officer (CEFO) Program Review

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Executive Summary

External peer review is a highly regarded mechanism for critically evaluating the scientific and technical merit of research and scientific programs. This rigorous process identifies strengths, gaps, redundancy, and research or program effectiveness to inform decisions regarding scientific direction, scope, prioritization, and financial stewardship. The Career Epidemiology Field Officer (CEFO) program was initiated in 2002 following the 2001 terrorist attacks, which required a generalized response from CDC involving hundreds of CDC staff who conducted field epidemiology investigations in collaboration with law enforcement. At the time of the CEFO program inception, the intention was to place CDC-trained epidemiologists in each state and major metropolitan health department to address critical gaps in public health preparedness by strengthening epidemiologic capacity, and thereby strengthening public health emergency response capability. An ad hoc workgroup (Workgroup) was developed (see Appendix A) and empanelled by the Office of Public Health Preparedness and Response (OPHPR) Board of Scientific Counselors (BSC). The members of the workgroup were provided briefing documents, as well as the analysis of survey information received from CEFO field assignees, headquarters staff, CDC stakeholders, and public health official assessments. The workgroup met June 29 through July 1, 2011 in Atlanta, GA. Four stakeholder panels discussed the program with the Workgroup and the results of three surveys were presented.

The CEFO Program, with 30 assignees in 23 states, is responsible for the full-time assignment of career staff epidemiologists to U.S. state and local health departments. Field assignees have a diversity of professional expertise (MD, DVM, PhD, RN, MPH), skill sets, and experience levels. The Office of Science and Public Health Practice (OSPHP) in the OPHPR provides oversight for the management of the CEFO Program.

The workgroup concluded that the CEFO program was a vital part of the work of CDC and the OPHPR and should continue with enhancements. We found ample evidence to support the finding that CEFOs support, enhance and augment public health emergency preparedness (PHEP) epidemiologic capabilities, however, the workgroup is concerned that the current funding strategy poses significant risk to its sustainability.

There is a high level of satisfaction among CEFO stakeholders and CEFOs themselves as evidenced by the testimony before the workgroup and the survey results. The CEFOs themselves are impressive as to their qualifications, duties, and productivity. The CEFO program adds significant value to the sponsoring jurisdictions.

The following recommendations were made:

Recommendations:

1. The CEFO Program should develop an overarching, long-term strategic plan (e.g., 5-10 year) which should be informed by an initial gap analysis of jurisdictional needs for the services provided by CEFOs.
2. The CEFO Program should develop, implement and measure performance metrics that would enable CDC officials to be able to provide empirical data that accurately reflects CEFO program successes/challenges and areas for improvement.
3. CDC should explore alternative funding sources that preserve the positive characteristics of the program (flexibility and simplicity) including:
 - a. Allowing jurisdictions to use multiple, non-PHEP CDC funding sources, with caveat that OPHPR would be the program administrator.

- b. Exploring other internal funding sources by cross-leveraging resources at other CDC Centers, Institutes, and Offices (CIOs), with caveat that OPHPR would be the program administrator.
 - c. Exploring non-CDC external funding sources, with caveat that OPHPR would be the program administrator.
 - d. Enabling jurisdictions to use other resources under their control to fund the CEFO
 - e. Enabling jurisdictions to share a CEFO.
4. The CEFO program should clarify supervision and coordination of CEFO supervisors management by implementing the following:
 - a. Ensuring improved coordination between CDC and field supervisors.
 - b. Exploring the feasibility of providing greater access to and use of scientific support and consultation as a core headquarters management capability.
 - c. Adopting a proactive (lean forward) approaches to linking CEFOs with key operational resources across CDC CIOs, such as informatics, statistics, GIS.
5. CEFO program strategy and policy should ensure greater assurance to CEFOs of continued employment and opportunities for advancement within the context of available funding levels.
6. The CEFO program should ensure CEFOs have a defined set of core competencies through:
 - a. Defining the basic set of core competencies.
 - b. Ensuring this includes cross-cutting competencies such as leadership, policy analysis and development, and informatics.
 - c. Ensuring cross-discipline competencies, including environmental and chronic disease epidemiology, are addressed.
 - d. Ensuring continuous professional development throughout the CEFO tenure.
7. CDC leadership should reinforce and expand the role of the CEFO as a facilitator of bi-directional communication and coordination between CDC and assignee jurisdictions.
8. The CEFO program should ensure widespread dissemination of CEFO products.

1.0 Review Objectives and Process

Background

External peer review is a highly regarded mechanism for critically evaluating the scientific and technical merit of research and scientific programs. This rigorous process identifies strengths, gaps, redundancy, and research or program effectiveness in order to inform decisions regarding scientific direction, scope, prioritization, and financial stewardship. External peer review will address program quality, approach, direction, capability, and integrity and will also be used to evaluate the program's public health impact and relevance to the missions of the Centers for Disease Control (CDC) and the Office of Public Health Preparedness and Response (OPHPR; previously known as the Coordinating Office for Terrorism Preparedness and Emergency Response, or COTPER).

OPHPR has established standardized methods for peer review of intramural research and scientific programs in order to ensure consistent and high quality reviews. A more detailed description of CDC's and OPHPR's peer review policy is available on request.

CDC policy requires that all scientific programs¹ (including research and non-research) that are conducted or funded by CDC be subject to external peer review at least once every five years. The focus of the review should be on scientific and technical quality and may also include mission relevance and program impact. The OPHPR Board of Scientific Counselors (BSC) provides oversight functions for the research and scientific program reviews. The BSC primarily utilizes ad hoc workgroups or expert panels to conduct the reviews. It is anticipated that the BSC will be engaged in most of the reviews and they may elect to utilize workgroups, subcommittees or workgroups under subcommittees to assist in the review. The BSC will evaluate findings and make summary recommendations on all reviews, including those they engage in, as well as reviews performed by other external experts.

The Office of Science and Public Health Practice (OSPHP) in the Office of Public Health Preparedness and Response (OPHPR) provides oversight for the management of the Career Epidemiology Field Officer (CEFO) Program. The CEFO program was initiated in 2002 following the 2001 terrorist attacks, which required a generalized response from CDC involving hundreds of CDC staff who conducted field epidemiology investigations in collaboration with law enforcement. At the time of the CEFO program inception, the intention was to place CDC-trained epidemiologists in each state and major metropolitan health department to address critical gaps in public health preparedness by strengthening epidemiologic capacity, and thereby strengthening public health emergency response capability. At the request of a grantee, the CEFO Program provides CDC epidemiologists with public health emergency preparedness and response skills and experience to assist state, local, and territorial health departments.

Review Process and Timeline

An ad hoc workgroup (Workgroup) was empanelled by the OPHPR Board of Scientific Counselors (BSC). The members of the workgroup were provided briefing documents, as well as the analysis of survey information received from CEFO field assignees, headquarters staff, CDC stakeholders, and public health official assessments. The following cohorts were surveyed:

¹ Scientific program is defined as the term "scientific program" includes, but is not necessarily limited to, intramural and extramural research and non-research (e.g., public health practice, core support services).

1. State Epidemiologists and Public Health Preparedness Directors in state and large local (e.g., Chicago, Los Angeles County, New York City, Maricopa County, Arizona) health departments who:
 - a. Currently have CEFO assignees
 - b. Previously had CEFO assignees
 - c. Have never had CEFO assignees
2. Current CEFOs

The Workgroup met via webinar on June 20, 2011. Staff provided an introduction to the review process and basic information about the CEFO program. The reviewers then requested additional information which was provided. The agenda for the webinar is shown at Appendix B.

The Workgroup met again on June 29 through July 1, 2011 (see Appendix C for agenda). Background information requested by the Workgroup was reviewed and discussed (see Appendices D-I). The meeting included a presentation of the results of the surveys and four stakeholder panels including State Public Health Preparedness Directors, State Health Officials and State Epidemiologists, Local Health Officials and CEFO assignees. The first draft of the Workgroup's report was outbriefed to OPHPR and CEFO staff on July 1, 2011. This final report will be presented to the OPHPR BSC for deliberation on September 14, 2011.

2.0 Scope of the Review

Background

The CEFO Program, with 30 assignees in 23 states, is responsible for the full-time assignment of career staff epidemiologists to U.S. state and local health departments. CEFO assignee salaries are funded through an allocation from a health department's Public Health Emergency Preparedness (PHEP) Cooperative Agreement award. The PHEP Cooperative Agreement funds efforts by state and local public health departments to build and strengthen their preparedness and infrastructure to respond to all-hazards events, including infectious diseases, natural disasters, and biological, chemical and radiological threats. Approximately \$6.3 billion has been awarded to 62 grantees since 1999. Grantees include 50 states, four U.S. territories, four Freely Associated States of the Pacific, and four metropolitan areas (Washington, D.C., Chicago, Los Angeles County and New York City). Funds to support the CEFO headquarters in Atlanta are from the same budget line as OPHPR's DSLR. CEFO field assignee positions are funded through the Direct Assistance mechanism (i.e., in-kind rather than financial support) as part of each participating state and local public health department's PHEP grant.

Field assignees have a diversity of professional expertise (MD, DVM, PhD, RN, MPH), skill sets, and experience levels. This breadth gives the program the flexibility to assign field staff who can meet the specific needs of the requesting public health departments. Various key roles of CEFOs include:

- Advancing the science of public health practice in the areas of public health preparedness and response by:
 - Developing or strengthening surveillance systems that provide essential data to inform public health preparedness decision making and guide response efforts
 - Developing or strengthening informatics linkages between laboratory reporting and public health surveillance systems through the use of electronic reporting of laboratory data in order to improve both timeliness and accuracy

- Enhancing epidemiologic capability by leading epidemiologic investigations of major public health problems, by assisting health department officials with the process of requesting epidemiologic assistance from CDC (and other resources), and by mentoring and training junior staff such as Epidemic Intelligence Service (EIS) Officers, and state and local health department staff.
- Supporting epidemiologic capacity and execution of priorities within the PHEP grant by providing consultation and support to health department Preparedness Director, PHEP Grant Administrator, state epidemiologist, and division directors on policy development, the writing and reviewing of public health emergency plans, and the development of exercises to address all hazards.
- Serving as liaison officers and trusted interlocutors between health departments, Emergency Operations Center staff, and CDC or HHS programs in order to enable and coordinate timely and appropriate engagement of federal assets needed in support of health department emergency responses, and
- Actively engaging with key partners, including emergency responders, healthcare providers, and other agencies or organizations that have responsibilities for preparedness and response, to prioritize and address the most urgent needs identified by the health departments, while ensuring that these interactions take place in a “seamless manner.”

Objectives

Although the stability of individual assignments and the steady growth of the program may be viewed as anecdotal indicators of success, to date there has not been a systematic evaluation of the CEFO program’s impact on public health preparedness and response, the utility of CDC headquarters’ support to both field assignees and health departments, and the significance of the contributions made by CEFOs at their respective health departments. The review will assess the program’s strengths, weaknesses, and opportunities for improvement, as well as assess the enhancements that the CEFO program has provided to sustaining and improving public health preparedness and emergency response. In addition, an assessment of how value is added to public health preparedness and response through the utilization of the CEFO program by health departments will be reviewed, and potential high effort but low impact activities at headquarters and in the field will be identified.

Specific objectives of the review include:

1. Delineating the strengths, weaknesses and opportunities for improvement and growth regarding:
 - a. The ability of the CEFO program field assignees to support, enhance, and augment PHEP epidemiologic capabilities of key partners, and specifically the emergency preparedness directors and epidemiologists in state and local health departments.
 - b. The CEFO Program headquarters role in sustaining a strong field assignment program, including:
 - Staffing and organization of the headquarters office
 - Scientific, technical, administrative, and supervisory/mentoring support of field staff
 - Program and policy development
2. Evaluating the significance of the contributions made by CEFOs at their respective health departments.
3. Evaluating the funding model for the CEFO program, including assessment of who benefits from the current model (equity among PHEP grantees) as well as optimal and sustainable models for funding of headquarters staff.

3.0 Workgroup Findings and Recommendations

General Findings

We found ample evidence to support the finding that CEFOs support, enhance and augment PHEP epidemiologic capabilities, however, the workgroup is concerned that the current funding strategy poses significant risk to its sustainability.

The workgroup identified that response to all-hazards events requires utilization of diverse skills and approaches. They need to be applied in situations that are variable from jurisdiction to jurisdiction. Flexibility in meeting the diverse needs of multiple jurisdictions is one of the strong points of the CEFO program.

There is a high level of satisfaction among CEFO stakeholders and CEFOs themselves as evidenced by the testimony before the workgroup and the survey results. The CEFOs themselves are impressive as to their qualifications, duties, and productivity. The CEFO program adds significant value to the sponsoring jurisdictions.

Findings:

Through the testimony and surveys emerged a sense of lack of clarity as to the mission and vision and strategic direction of the program. The placement of CEFOs is dependent on the willingness of a jurisdiction to allocate PHEP funding. It was not clear to the workgroup why some jurisdictions had multiple CEFOs and others had none, including those jurisdictions that testified they expressed an interest. Quantifiable measures of success of this program were not presented.

The workgroup also identified that there are changing needs within the field of preparedness epidemiology, including but not limited to, informatics, at the same time resources are restricted or declining. Therefore there is a need for an overarching strategy for performance, including a gap analysis for jurisdictional needs.

Recommendations:

1. The CEFO program should develop an overarching, long-term strategic plan (e.g., 5-10 year) which should be informed by an initial gap analysis of jurisdictional needs for the services provided by CEFOs.
2. The CEFO Program should develop, implement and measure performance metrics that would enable CDC officials to be able to provide empirical data that accurately reflects CEFO program successes/challenges and areas for improvement.

Findings:

The CEFO program enhances the ability of state and local health agencies to support, enhance and augment PHEP epidemiologic capabilities, and should be considered for expansion should funds become available in the future.

Current funding strategy favors CEFO placements in state agencies (proportion of placement in state agencies outweighs tribal, territorial and local health departments).

As mentioned above, we found ample evidence to support the finding that CEFOs' support enhances and augments PHEP epidemiologic capabilities, however, the workgroup is concerned that the current funding strategy poses significant risk to its sustainability.

Recommendation:

3. CDC should explore alternative funding sources that preserve the positive characteristics of the program (flexibility and simplicity) including:
 - a. Allowing jurisdictions to use multiple, non-PHEP CDC funding sources, with caveat that OPHPR would be the program administrator.
 - b. Exploring other internal funding sources by cross-leveraging resources at other CDC Centers, Institutes, and Offices (CIOs), with caveat that OPHPR would be the program administrator.
 - c. Exploring non-CDC external funding sources, with caveat that OPHPR would be the program administrator.
 - d. Enabling jurisdictions to use other resources under their control to fund the CEFO
 - e. Enabling jurisdictions to share a CEFO.

Findings:

Current administrative supervisory management was found to be strong, however enhancements could be made in two specific areas: scientific support and communication with jurisdictional supervisors. The CEFO panel and the CEFO survey identified the need for enhanced communication between the OPHPR supervisor and the field supervisors. In addition, testimony from CEFO staff and CEFOs identified the need for facilitated access to specific scientific technical support, such as informatics and statistics. CEFO management identified efforts to standardize quarterly reporting to enhance their ability to prepare statistical reports and we encourage that effort.

Recommendations:

4. The CEFO program should clarify supervision and coordination of CEFO supervisor management by implementing the following:
 - a. Ensuring improved coordination between CDC and field supervisors.
 - b. Exploring the feasibility of providing greater access to and use of scientific support and consultation as a core headquarters management capability.
 - c. Adopting a proactive (lean forward) approach to linking CEFOs with key operational resources across CDC CIOs, such as informatics, statistics, GIS.

Findings:

The workgroup was impressed with the high quality of the CEFOs based on their presentations as well as the resumes that were part of the review material. CEFO managers and CEFOs both noted that the two-year initial field placement followed by optional annual renewal created significant anxiety and insecurity. Anecdotal evidence indicated that this reduced the potential pool of high quality CEFOs. Some of the CEFOs also expressed concern about the perceived lack of value that CDC places on CEFO field work assignment and the subsequent implications for career advancement.

Recommendation:

5. CEFO program strategy and policy should ensure greater assurance to CEFOs of continued employment and opportunities for advancement within the context of available funding levels.

Findings:

The workgroup found that within the scope of the PHEP Cooperative Agreement guidance, field placements were diverse in their requirements for skill sets and scope of responsibility. Further, the workgroup identified that the tasks of field epidemiology are expanding due to advancements in information technology and the demands of all-hazards response.

Recommendations:

6. The CEFO program should ensure CEFOs have a defined set of core competencies through:
 - f. Defining the basic set of core competencies.
 - g. Ensuring this includes cross-cutting competencies such as leadership, policy analysis and development, and informatics.
 - h. Ensuring cross-discipline competencies, including environmental and chronic disease epidemiology, are addressed.
 - i. Ensuring continuous professional development throughout the CEFO tenure.

Findings:

Testimony provided by the stakeholders emphasized the unique value of the CEFO assignees' ability to facilitate linking state/local/tribal/territorial jurisdictions to additional Federal resources and expertise. In addition, stakeholders and CEFOs remarked on the importance of providing CDC with real-time field information and perspectives (e.g., "boots on the ground").

Recommendation:

7. CDC leadership should reinforce and expand the role of the CEFO as a facilitator of bi-directional communication and coordination between CDC and assignee jurisdictions.

Findings:

The workgroup heard testimony from stakeholders and CEFOs regarding CEFO enhancements in epidemiology systems, training, drills and exercises, etc. These work products, enhancements to system operations and other innovations developed by CEFOs were determined to be of value to the entire public health preparedness field.

Recommendation:

8. The CEFO program should ensure widespread dissemination of CEFO products.

4.0 Appendices

Appendix A. Workgroup Member Biographies

Ad Hoc Peer Review Workgroup Members



Herminia Palacio, M.D., M.P.H. – Executive Director, Harris County Public Health and Environmental Services, Houston, TX

Workgroup Co-Chair

Herminia Palacio applies a broad range of academic, clinical, and public policy experience to meet the diverse public health challenges of today. In January, 2003 Palacio was appointed to the post of Executive Director of Harris County Public Health and Environmental Services (HCPHES), the local health department for approximately 1.8 million people.

Palacio received her medical degree from the Mount Sinai School of Medicine in New York City, where she was also inducted into the Alpha Omega Alpha Honor Medical Society. She completed her residency training at the University of California San Francisco (UCSF) Primary Care Internal Medicine Program at San Francisco General Hospital. After becoming a Board Certified Internist, she obtained a Masters of Public Health, with an emphasis in Epidemiology, from the University of California Berkeley, School of Public Health.

She spent several years on the faculty of UCSF, where she served as Principal Investigator or Co-Investigator in several federally funded and private foundation HIV epidemiology and health services research studies. She is an author of numerous articles in peer-reviewed scientific journals, and was featured in a permanent exhibit entitled "AIDS: The War Within" established by the Chicago Museum of Science and Industry in 1994. She currently holds faculty appointments at the Baylor College of Medicine and the University of Texas, School of Public Health. In 2009 she was appointed to the National Advisory Committee of the Robert Wood Johnson Foundation Clinical Scholars Program.

In addition to her administrative responsibilities, as a local public health authority in the third largest county in the U.S. Palacio provides oversight for a wide variety of public health emergency responses. For example, she served as the Medical Branch Director for the Astrodome/Reliant Park mega-shelter operation for over 27,000 evacuees from Hurricane Katrina, as the Incident Commander for the public health response to many infectious disease incidents and environmental incidents, and is currently tasked with playing a lead role in local pandemic influenza preparedness planning.

Her early activities in the public policy arena have included service on the San Francisco Mayor's Blue Ribbon Committee on Universal Health and the Mayor's HIV Scientific Advisory Committee. She developed additional expertise in public policy during her tenure as Special Policy Advisor to the Director, San Francisco Department of Public Health. In Texas, she currently serves as Chair of the Harris County Healthcare Alliance, Chair of the Texas Public Health Coalition and served previously as President of the Texas Association of Local Health Officials (2005-2006). She is currently a member of the National Association of County and City Health Officials (NACCHO) Board of Directors, the NACCHO Chronic Disease Prevention Workgroup and several ad hoc NACCHO workgroups. Palacio was awarded the Excellence in Health Administration Award by the American Public Health Association in 2007.



John R. Lumpkin, M.D., M.P.H. - Senior Vice President and Director, Health Care Group, Robert Wood Johnson Foundation, Princeton, NJ

Workgroup Co-Chair

John Lumpkin is the senior vice president and the director of the Health Care Group. He is responsible for the overall planning, budgeting, staffing, management and evaluation of all program and administrative activities for the Robert Wood Johnson Foundation's Health Care Group. Before joining the Foundation in April 2003, Lumpkin served as director of the Illinois Department of Public Health for 12 years. During his more than 17 years with the department, he served as acting director and prior to that as associate director.

Lumpkin has participated directly in the health and health care system, first practicing emergency medicine and teaching medical students and residents at the University of Chicago and Northwestern University. After earning his M.P.H. in 1985, he began caring for the more than 12 million people of Illinois as the first African-American director of the state public health agency with more than 1,300 employees in seven regional offices, three laboratories and locations in Springfield and Chicago. He led improvements to programs dealing with women's and men's health, information and technology, emergency and bioterrorism preparedness, infectious disease prevention and control, immunization, local health department coverage and the state's laboratory services.

Lumpkin is a member of the Institute of Medicine of the National Academies and a fellow of the American College of Emergency Physicians and the American College of Medical Informatics. He has been chairman of the National Committee on Vital and Health Statistics, and served on the U.S. Department of Agriculture's Council on Maternal, Infant and Fetal Nutrition, the Advisory Committee to the Director of the U.S. Centers for Disease Control and Prevention, and the National Institute of Medicine's Committee on Assuring the Health of the Public in the 21st Century. He has served on the boards of directors for the Public Health Foundation and National Quality Forum, as president of the Illinois College of Emergency Physicians and the Society of Teachers of Emergency Medicine, and as speaker and board of director's member of the American College of Emergency Physicians. He has received the Arthur McCormack Excellence and Dedication in Public Health Award from the Association of State and Territorial Health Officials (ASTHO), the Jonas Salk Health Leadership Award and the Leadership in Public Health Award from the Illinois Public Health Association. Lumpkin also has been the recipient of the Bill B. Smiley Award, Alan Donaldson Award, African American History Maker, and Public Health Worker of the Year of the Illinois Public Health Association. He is the author of numerous journal articles and book chapters.

Lumpkin earned his M.D. and B.M.S. degrees from Northwestern University Medical School and his M.P.H. from the University of Illinois, School of Public Health. He was the first African American trained in emergency medicine in the country after completing his residency at the University of Chicago. He has served on the faculty of the University of Chicago, Northwestern University, and University of Illinois at Chicago and has taught at Princeton University.



David W. Gruber, M.M.A.S. – Special Assistant to the Director, New Jersey Office of Homeland Security and Preparedness, Voorhees, NJ

David Gruber received his B.A. in Microbiology from Rutgers University and his Masters in Strategy from the U.S. Army Command and General Officer Staff College. He spent twenty-one years in the U.S. Navy serving as a pilot, Intelligence Officer, and, Chemical/Biological Warfare specialist. After retiring from the Navy, he was the Senior

Planner for the Dallas County Health Department, Dallas, TX.

From 2003 to 2010, Mr. Gruber was the Senior Assistant Commissioner at the New Jersey Department of Health and Senior Services where his responsibilities included Public Health Department oversight, Emergency Preparedness and Response, and the Office of Emergency Medical Services (OEMS). During this time he was also Director of the NJ State Public Health and Environmental Laboratories.

Mr. Gruber is now Special Assistant to the Director of New Jersey's Office of Homeland Security and Preparedness.

Julia E. Gunn, R.N., M.P.H. - Director, Communicable Disease Control Division, Infectious Disease Bureau, Boston Public Health Commission, Boston, MA

Julia E. Gunn, RN, MPH, has worked for the Boston Public Health Commission in the Communicable Disease Control Division for over 10 years, assuming the position of Associate Director in 2003. During this time she has contributed to dozens of publications and presentations enhancing the understanding of communicable disease surveillance and response, tuberculosis, food-borne illness, and other communicable illnesses. She has played a key role in the development and integration of enhanced surveillance systems in Boston, including the city's EARS based syndromic surveillance system and patient tracking for mass casualty events. Ms. Gunn's Society committee membership includes the conference program and workshop committees and the public health practice committee of the International Society of Disease Surveillance. In addition, she is a member of NACCHO's public health informatics workgroup which represents the interests of local health departments.



Paul K. Halverson, Dr.P.H., F.A.C.H.E. – Director and State Health Officer, Arkansas Department of Health; and Professor at the University of Arkansas for Medical Science, Little Rock, AR.

As a member of Governor Mike Beebe's cabinet, Dr. Paul Halverson serves as Director and State Health Officer of the Arkansas Department of Health. In this position since 2005, Dr. Halverson provides senior scientific and executive leadership for the agency with nearly 5000 personnel with a budget of over 400 million dollars delivering services throughout the state in over 94 different locations. Dr. Halverson also serves as the Secretary of the Arkansas State Board of Health.

Dr. Halverson is the Immediate Past President of the Association of State and Territorial Health Officials (ASTHO) and the Immediate Past Chairman of the Public Health Accreditation Board (PHAB). He continues as a member of the Board of Directors and Executive Committees of each of these organizations. Prior to his move to Arkansas, Dr. Halverson served as a member of the senior scientific and management staff at the Centers for Disease Control and Prevention in Atlanta, Georgia as the Director of the Division of Public Health Systems Development and Research. Prior to his appointment at CDC, Professor Halverson was a member of the faculty in the Department of Health Policy and Administration at the University of North Carolina School Of Public Health. For nearly 15 years prior to his appointment at UNC, Dr. Halverson served as a hospital administrator in Arizona, Minnesota and Michigan.



Jose L. (Toti) Sanchez, M.D., M.P.H. - Colonel (Retired), U.S. Army Medical Corps, Leader, Influenza Team, AI-PI Program Division of GEIS Operations Armed Forces Health Surveillance Center, Silver Spring, MD

Dr. Sanchez was born in Santurce, Puerto Rico on 7 October 1955, the 3rd son of his parents, Jose Luis (Pepe) and Ada Sanchez. He graduated from high school in 1972, obtained a Bachelor's in Science (BS) degree in 1976 and a Medical degree (MD) from the University of Puerto Rico's Medical School in 1979. Completed an internship in internal medicine at the William Beaumont Army Medical Center in El Paso, Texas, in 1980 and obtained his Master's in Public Health (MPH) from the Johns Hopkins University School of Hygiene and Public Health in 1981. He went on to complete a residency in General Preventive Medicine and Public Health at the Walter Reed Army Institute of Research (WRAIR) in 1982.

After one year at the Division of Preventive Medicine, WRAIR, Dr. Sanchez was assigned two operational tours as a preventive medicine officer at the Gorgas Army Community Hospital, Panama (1983-86) and at the Womack Army Community Hospital in Fort Bragg, NC (1986-88). He then returned to work at the WRAIR in 1988 as Chief, Department of Field Studies, Div Preventive Medicine, in charge of the WRAIR's Epidemiology Consultation Service (EPICON) until 1993-94 when he was on duty as the Cholera vaccine study project officer at the US Navy's Medical Research Institute Detachment (NAMRID) in Lima, Peru. Dr. Sanchez served a 3-year tour of duty at the US Army Medical Research Unit in Rio de Janeiro, Brazil, including the last 2 years (1995-97) as Commander, USAMRU-B, then returned to CONUS to serve as Chief, Epidemiology Services, US Army Center for Health Promotion and Preventive Medicine (USACHPPM) during the period of 1997-2000. He served his 4th and last assignment overseas as a military officer at the US Navy Medical Research Center Detachment in Lima, Peru (NMRCD-Lima) during the period of 2000-03, returning to work at the Division of Retrovirology, WRAIR until his retirement from active duty on 1 Feb 05.

Dr. Sanchez then went to work with the US Military HIV Research Program (USMHRP), WRAIR, coordinating HIV surveillance work in Latin America/Central Asia and the President's Emergency Plan for AIDS Relief (PEPFAR) work with militaries in East Africa/Vietnam until the end of 2005 when he took a position as consultant scientist at the US Army Medical Research and Development Command (Dec 2005-Jun 2006).

Dr. Sanchez now serves at the Armed Forces Health Surveillance Center's Division of Global Emerging Infections Surveillance and Response System's (GEIS) Operations as Influenza Team Leader working with US military research laboratories in continental United States (CONUS) as well as overseas (OCONUS) providing support and oversight for emerging infectious disease surveillance projects by more than 30 DoD stakeholders since Jun 2006. He has been a public health practitioner and scientist who has been dedicated to infectious disease outbreak investigation and applied medical research in countries such as Panama, Peru, Brazil, Thailand, East & Central Africa and Somalia, to include work on the epidemiology of acute diarrheal diseases, cholera, malaria, leptospirosis, hepatitis, HIV, sexually-transmitted infections as well as influenza and other respiratory infections.

He has authored or co-authored over 130 papers in peer-reviewed journals and textbooks and given over 300 oral/poster presentations dealing with infectious diseases, outbreak epidemiology and drug/vaccine intervention evaluations.

Appendix B. Pre-Meeting Web Conference, June 20, 2011

AGENDA

Pre-Meeting Web Conference
Career Epidemiology Field Officer (CEFO) Program Review
Office of Public Health Preparedness and Response (OPHPR)
Centers for Disease Control and Prevention (CDC)

Monday, June 20, 2011
1:00 – 3:00 p.m. (EDT)

Purpose: To orient the workgroup members to the scope and charge for the external peer review of the Career Epidemiology Field Officer (CEFO) program.

AUDIO: *Please call the toll-free number below to hear the audio for this meeting.*
Toll-Free Number: 1-866-541-2669
Passcode: 6131352

WEB: To view meeting presentations online, participants can join the event directly at:
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1:00 – 1:10 p.m.	Welcome Barbara Ellis, Ph.D., Associate Director for Science, OPHPR
1:10 – 1:15 p.m.	Welcome and Introductions Workgroup Co-Chairs, Board of Scientific Counselors, OPHPR
1:15 – 1:35 p.m.	Review of BSC-WG Scope, Charge to Reviewers, Review Questions, Briefing Materials Barbara Ellis, Ph.D., Associate Director for Science, OPHPR
1:35 – 1:50 p.m.	Discussion and Questions
1:50 – 2:15 p.m.	Orientation to CEFO Program John Horan, Ph.D., Director, CEFO Program, OPHPR
2:15 – 2:30 p.m.	Discussion and Questions
2:30 – 2:45 p.m.	Primer on Direct Assistance Funding Mechanism Sharon Sharpe, Associate Director, Grants Management and Compliance, Division of State and Local Readiness, OPHPR
2:45 – 3:00 p.m.	Next Steps and Adjourn Workgroup Co-Chairs, Board of Scientific Counselors, OPHPR


Appendix B: Presentations

**Career Epidemiology Field Officer Program
External Peer Review**

**Program Impact and Contributions to Public
Health Preparedness and Response**

Barbara A. Ellis, Ph.D.
Associate Director for Science
Office of Science and Public Health Practice
Office of Public Health Preparedness & Response
Centers for Disease Control and Prevention

Premeeting Webconference
June 20, 2011



U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

Objectives

- Provide an overview of the BSC workgroup purpose and process
- Orient workgroup members to review topic and scope

Workgroup Purpose

- All scientific programs (including research and non-research) at CDC are subject to external peer-review at least once every five years.
- External Peer Review Goals:
 - Identify meaningful, actionable recommendations that can be implemented by the program
 - Evaluate the quality of CDC science
 - Enhance accountability and transparency
 - Enhance CDC program's focus on the agency's priorities and maximum impact on public health

Review Objectives (1)

1. Delineate the strengths, weaknesses and opportunities for improvement regarding:
 - a. The ability of the CEFO program field assignees to support, enhance, and augment PHEP epidemiologic capabilities of key partners, and specifically the emergency preparedness directors and epidemiologists in state and local health departments.
 - b. The CEFO Program headquarters role in sustaining a strong field assignment program, including:
 - o Staffing and organization of the headquarters office
 - o Scientific, technical, administrative, and supervisory/mentoring support of field staff
 - o Program and policy development

Review Objectives (2)

2. Evaluate the significance of the contributions made by CEFOs at their respective health departments.
3. Evaluate the funding model for the CEFO program, including assessment of who benefits from the current model (equity among PHEP grantees) as well as optimal and sustainable models for funding of headquarters staff.

Review Process

- External expert panel co-chaired by two members of OPHPR's Board of Scientific Counselors (BSC)
- Consensus not required for workgroup findings and recommendations
 - Herminia Palacio, M.D., M.P.H., Harris County Public Health and Environmental Services (Workgroup Co-Chair)
 - John Lumpkin, M.D., M.P.H., Robert Wood Johnson Foundation (Workgroup Co-Chair)
 - David W. Gruber, M.M.A.S., New Jersey Office of Homeland Security and Preparedness
 - Julia E. Gunn, R.N., M.P.H., Boston Public Health Commission
 - Jose L. Sanchez, M.D. M.P.H., Armed Forces Health Surveillance Center (AFHSC)
 - Paul K. Halverson, Dr.P.H., F.A.C.H.E., Arkansas Department of Health

Workgroup Process



Workgroup Questions: CEFO Program Effectiveness and Organization (Tab 4 and 10C, briefing book)

- What are the **strengths, weaknesses, and opportunities for improvement regarding:**
 - The ability of the CEFO program assignees to support, enhance, and augment PHEP epidemiologic capabilities of key partners, and specifically the emergency preparedness directors and epidemiologists in state and local health departments?
 - The CEFO Program headquarters role in sustaining a strong field assignment program, including:
- Staffing and organization of the headquarters office
 - Scientific, technical, administrative, and supervisory/mentoring support of field staff
 - Program and policy development

Workgroup Questions: CEFO Program Impact (Tab 4 and 10C, briefing book)

- Evaluate the significance of the contributions made by CEFOs at their respective health departments.
- The following are examples of CEFO activities:
 - Achieve deliverables of PHEP Cooperative Agreement
 - Address immediate public health needs
 - Improve public health preparedness
 - Provide education, training, and workforce development
 - Improve communications
 - Increase health department's access to professional networks and resources
 - Contribute to scientific knowledge base
 - Provide policy input or guidance

Workgroup Questions: Funding Model Used for CEFO Program (Tab 4 and 10C, briefing book)

- Who benefits from the current funding model?
- Who does not benefit from the current funding model?
- What are alternative sustainable models for funding the headquarters staff?
- What are more cost-effective models for funding the headquarters staff?
- What are the advantages of the current funding model?
- What are the disadvantages of the current funding model?

Information Sources for Workgroup Review

- Briefing materials
 - Background documents
 - CEFO Stakeholder Survey Report
 - CEFO survey report
 - Quarterly report analysis white paper
 - CEFO publications white paper
- Stakeholder Panels:
 - State Public Health Preparedness Directors
 - State Health Officials and State Epidemiologists
 - Local Health Officials
 - Career Epidemiology Field Officers (CEFOs)
- CEFO headquarters staff
- Webinar, June 20, 2011

Qualities of Actionable Recommendations

- **Based on factual evaluation**
 - Let us know if you need more data or if recommendation should be for CDC to collect more data
- **Not based solely on increasing resources**
- **May include a wider perspective based on creative thought**
- **Challenges program to be innovative**
- **Realistically can be accomplished**

Career Epidemiology Field Officer Program

John M. Horan, MD, MPH

Director, Career Epidemiology Field Officer Program
Office of Science and Public Health Practice
Office of Public Health Preparedness & Response
Centers for Disease Control and Prevention

BSC Workgroup Review of CEFO Program
June 20, 2011



U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

Career Epidemiology Field Officer (CEFO) Program

- **Created:** 2002 after terrorist events of 9/11 & anthrax incidents
- **Purpose:** To help address critical gaps in epidemiologic capacity as part of public health preparedness
- **Method:** Assign epidemiologists to state or local health departments to enhance epidemiologic capacity

CEFO Program Location in CDC Organization

- 2002 - Epidemiology Program Office
- 2004 - Coordinating Center for Health Information and Service
- 2006 – Coordinating Office for Terrorism Preparedness and Emergency Response (COTPER), Division of State and Local Readiness
- 2007 - COTPER, Office of Science and Public Health Practice

(COTPER was renamed the Office of Public Health Preparedness and Response (OPHPR) in 2009)



Career Epidemiology Field Officers Type of Appointment and Professional Discipline June 2011 (n = 30)

- **By Type of Appointment**
 - ♦ USPHS Commissioned Corps Officers 73%
 - ♦ Civil Servants 20%
 - ♦ Senior Service Fellows 7%
- **By Professional Discipline**
 - ♦ Physicians 33%
 - ♦ Veterinarians 30%
 - ♦ Public Health Scientists 23%
 - ♦ Nurses 13%

CEFO Duties & Responsibilities State Level

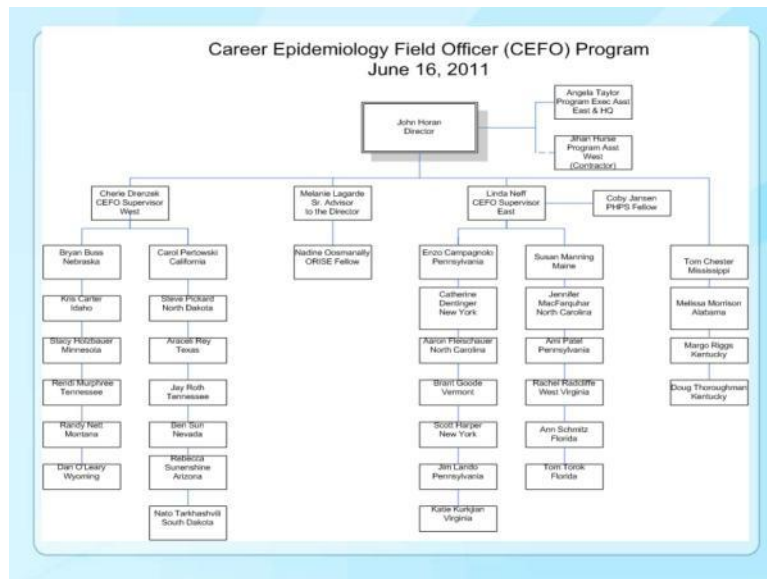
- Support Public Health Preparedness and Response Capacity
 - Planning, policy development, exercises, training
 - Emergency response – e.g., pandemic influenza, Gulf oil spill
- Build and Sustain Epidemiologic Capacity
 - Surveillance
 - Outbreak investigation
- Partnerships and Collaborations
- Training/Workforce Development

CEFO Duties & Responsibilities Federal

- Response & deployments
- Participation in CDC or federal-level workgroups
- CDC and HHS training requirements
- USPHS deployment readiness requirements

CEFO Headquarters

- Staffing
 - Program Director
 - Senior Advisor
 - 2 Supervisory Epidemiologists
 - 1 ORISE Fellow
 - 1 PHPS Fellow
 - 2 Administrative Assistants
- Funding
 - OPHPR program funds



CEFO Program Strategic Planning

- Series of 3 meetings (Nov 2009 – Mar 2010)
- Vision and mission statements
 - Vision - Sustained epidemiologic capability nationwide for public health preparedness and response
 - Mission - To strengthen state, local, tribal, and territorial epidemiologic capability for public health preparedness and response
- Key program outcomes and objectives
 - Enhancing epidemiologic and scientific output from state and local programs
 - Strengthening epidemiologic support of preparedness (PHEP) activities
 - Defining, building, and sustaining the CEFO Program network

CEFO Assignments

- 30 epidemiologists are assigned at state and local health departments in 23 states
- Funded through Public Health Emergency Preparedness (PHEP) Cooperative Agreement via direct assistance (DA) mechanism
- Initial 2-year assignment period
- Assignment may be extended annually, based on need and available funding

Funding for CEFO Positions

- **FY2002 – 04**
CDC's funds for Terrorism Preparedness and Emergency Response (TPER)
- **FY 2005 – present**
Direct assistance (DA) from states' Public Health Emergency Preparedness (PHEP) cooperative agreements

Funding for CEFO Positions Choice about using PHEP funds

- **CEFO personnel**
or
- **Other preparedness-related investments**
- **Shift in strategy**
 - From - Placement in areas of perceived risk and need
 - To - Placement where states choose to fund a CDC epidemiologist

Funding Options

- **Direct assistance from PHEP for CEFO positions (current status)**
 - State or Local health agency pays for a CEFO position
 - Headquarters costs come from OPHPR internal funds
- **Direct assistance from PHEP and other grants**
 - Combine funds from two or more grants

Funding Nonactionable Options

- **Direct assistance from PHEP “off the top”**
 - CEFO funding removed from total, then remaining PHEP funds allocated to all recipients
- **CDC funding**
 - CDC pays for all CEFO positions
- **Cost sharing**
 - Between CDC and state and or local agency

Personnel Options

- Short-term federal assignees
- Contract
- Full time equivalent Civil Service or Commissioned Corps
 - May be done through Intergovernmental Personnel Act (IPA)
- Senior Service Fellowships (Title 42)

Preparedness & Response CEFO Funding and Role(s)

- Best defense against disasters – a healthy community

Preparedness & Response CEFO Funding and Role(s)

- Best defense against disasters – a healthy community
- PHEP funding supports all CEFO field positions
- CEFOs have a responsibility to help meet PHEP deliverables

Preparedness & Response CEFO Funding and Role(s)

- Best defense against disasters – a healthy community
 - PHEP funding supports all CEFO field positions
 - CEFOs have a responsibility to help meet PHEP deliverables
- In addition,
- CEFOs are asked to work in other areas that are priorities for promoting healthy communities
 - This other work is also an important contribution to public health preparedness

Current and Future Issues

- Breadth of CEFOs' roles and activities
- CEFOs in supervisory roles
- Duration of field assignments
- Funding options: Current approach
PHEP + other CDC grants?
Other funding models?
- Field assignments in other disciplines (eg, Informatics)
- CEFO Program HQ function and size



Direct Assistance Funding Mechanism for Placement of CEFO Positions

Presented by:

Sharon Sharpe, Associate Director,
Grants Management and Compliance, OPHPR, DSLR
June 20, 2011



Office of Public Health Preparedness and Response
Division of State and Local Readiness

Direct Assistance (DA) – personnel

What is Direct Assistance (DA) in the form of personnel?

Direct assistance is a request by the grantee for federal personnel to be physically located (i.e., detailed) within their program to provide technical assistance and advice for the successful completion of cooperative agreements in lieu of a portion of their PHEP financial assistance. The authority to provide DA is authorized within the PHS Act as described below and per the guidance provided in the PHEP cooperative agreement.

Requested DA through the PHEP cooperative agreement can support the assignment of (federal personnel) as a PHA or CEFO. This type of direct assistance is provided based on its contribution to the PHEP program and the recipient's documented need.

How does it work within the PHEP cooperative agreement?

- Direct assistance is provided in lieu of cash and is primarily used to support payroll and travel expenses of federal employees detailed to recipients of the PHEP cooperative agreement.
- Costs incurred to support direct assistance activities are to be recorded in the current fiscal year only and any unused balances may be converted to financial assistance (FA) prior to June 1 of the current fiscal year.
- Work performed by CDC staff, as with all salaries of government employees, must be obligated at the time the salaries are earned, and when the services are rendered.

How does it work within the PHEP cooperative agreement (continued)?

In other words...

...personnel-related services for any work must be obligated in the fiscal year of the services performed. Because the budget period for the PHEP cooperative agreement is from August 10, XXXX to August 9, XXXX, a direct assistance position funded through the PHEP cooperative agreement will be split between two fiscal years.

For example, a position would be funded through direct assistance with FY11 funding provided with this award from August 10-September 30, 2011, and from October 1, 2011-August 9, 2012 with FY12 funding. For this reason, the total amount of the salaries and benefits estimated on the NOA will only be equal to the amount of applicable salaries and benefits for the full amount within the *obligation year*.

Timeline:

• October 1:

- Cost starts to be incurred by staff for salaries, benefits, travel, and training against a CAN established for each State.

• February:

- Estimates per state are developed based on actual cost incurred to date and projected cost. Vacancies must be known and projected also.

• March:

- Projections are finalized and DA is removed and held by CDC from the FA proposals going out to the States.

• June:

- Prior to the States submitting their final proposals, adjustments to DA are made to give back or to reduce the FA amount.

Annual Cost to Support Positions

Annual cost projections are done by job series and include salary, benefits, travel, and award funding.

The professional background and level of experience required by the host agency for a particular position are the major determining factors in projecting the costs.

How to request a PHA or CEFO position

- Twice a year a call for PHEP DA positions will be announced to all PHEP Directors. The host agency PHEP Director develops and submits a position description for all DA requests for PHA's and CEFO's to CDC's OPHPR, Division of State and Local Readiness (DSLRL), Program Services Branch (PSB), Field Coordination Unit during.
- A completed DA request for a PHA or CEFO acknowledges a minimum two-year commitment from the host agency to support the position including salary, fringe benefits, travel, and relocation cost.

Special Thanks to

Cheryl Stauss, Team Lead Supporting DSLR
OPHPR, Office of Management Services
for providing the background information
for this presentation

Appendix C. BSC Workgroup Meeting, June 29-July 1, 2011

AGENDA

Board of Scientific Counselors Ad Hoc Workgroup Meeting
Career Epidemiology Field Officer (CEFO) Program Review
Office of Public Health Preparedness and Response (OPHPR)
Centers for Disease Control and Prevention (CDC)

Mountain Laurel Room, Emory Conference Center Hotel, 1615 Clifton Road, Atlanta, GA 30329
June 29 – July 1, 2011

Wednesday, June 29, 2011

- 8:30 - 8:45 am **Welcome and Individual Introductions**
Ali Khan, M.D., M.P.H., Director, Office of Public Health Preparedness and Response (OPHPR)
Dan Sosin, M.D., M.P.H., Deputy Director and Chief Medical Officer, OPHPR
BSC Workgroup Co-Chairs, Board of Scientific Counselors, OPHPR
- 8:45 - 9:00 am **Workgroup Charge and Logistics**
Barbara Ellis, Ph.D., Associate Director for Science, OPHPR
- 9:00 - 9:30 am **Presentation of CEFO Survey Results and Quarterly Report Analysis**
Linda Neff, Ph.D., Career Epidemiology Field Officer Program, OPHPR
- 9:30 - 10:00 am **Discussion**
- 10:00 - 10:15 am **BREAK**
- 10:15 - 10:45 am **Presentation of Stakeholder Survey Results**
Cherie Drenzek, D.V.M., M.S., Career Epidemiology Field Officer Program, OPHPR
- 10:45 - 11:15 am **Discussion**
- 11:15 am - 12:00 pm **Stakeholder Session: State Public Health Preparedness Directors (part 1)**
Facilitator: Herminia Palacio, M.D., M.P.H., BSC Workgroup Co-Chair
Purpose:
 - *To assess the strengths and weaknesses of the current CEFO Program*
 - *To evaluate the funding model for the CEFO Program*Panel Members:
 - Tim Wiedrich, North Dakota Department of Health
 - Jim Craig, Mississippi State Department of Health
 - R. Max Learner, South Carolina Department of Health and Environmental Control
 - Rebecca Hathaway, New York State Department of Health
- 12:00 - 1:00 pm **LUNCH**
- 1:00 - 1:30 pm **Stakeholder Session: State Public Health Preparedness Directors (continued)**
- 1:30 - 2:45 pm **Stakeholder Session: State Health Officials and State Epidemiologists**
Facilitator: Herminia Palacio, M.D., M.P.H., BSC Workgroup Co-Chair
Purpose:
 - *To evaluate the ability of the CEFO Program field assignees to support, enhance, and augment epidemiologic capabilities in their assigned jurisdictions*
 - *To evaluate the significance of the contributions made by CEFOs at their respective health departments*

Panel Members:

- Stephen Ostroff, Pennsylvania Department of Health
- Megan Davies, North Carolina Department of Health and Human Services
- Christina Tan, New Jersey Department of Health and Senior Services
- Katrina Hedberg, MD, MPH, Oregon Public Health Division (*BY PHONE*)

2:45 - 3:00 pm

BREAK

3:00 - 4:15 pm

Stakeholder Session: Local Health Officials

Facilitator: Herminia Palacio, M.D., M.P.H., BSC Workgroup Co-Chair

Purpose:

- *To evaluate the ability of the CEFO Program field assignees to support, enhance, and augment epidemiologic capabilities in their assigned jurisdictions*
- *To evaluate the significance of the contributions made by CEFOs at their respective health departments*

Panel Members:

- Marci Layton, New York City Department of Health
- Bob England, Maricopa County Department of Public Health, Arizona
- Paul Hopkins, Pike County Health Department, Kentucky
- Joe Wanner, Southwestern District Health Unit, North Dakota

4:15 - 5:15 pm

Closed session for BSC Workgroup discussion

5:15 pm

Adjourn Day 1

~6:30 pm

*(Optional) BSC workgroup dinner with CEFO and OPHPR senior staff
Location: The Club Room (Emory Conference Center Hotel)*

Thursday, June 30, 2011

8:30 - 8:45 am

Welcome Day 2 / Announcements

BSC Workgroup Co-Chairs, Board of Scientific Counselors, OPHPR

8:45 - 10:15 am

Stakeholder Session: Career Epidemiology Field Officers (CEFOs)

Facilitator: John Lumpkin, M.D., M.P.H., BSC Workgroup Co-Chair

Purpose:

- *To assess the strengths and weaknesses of the current CEFO Program*
- *To evaluate the ability of CEFO Program headquarters to sustain a strong field assignment program*

Panel Members:

- Ami Patel PhD, MPH,, Philadelphia Department of Public Health
- Katie Kurkjian, DVM, MPH, Virginia Department of Health
- Randall Nett, MD, MPH, Montana Department of Public Health and Human Services
- Doug Thoroughman, PhD, MS, Kentucky Department for Public Health

10:15 - 10:30 am

BREAK

10:30 am - 12:00 pm

Deliberations and Report Writing (closed to BSC Workgroup and CEFO Staff)

12:00 - 1:00 pm

LUNCH

1:00 - 5:00 pm

Deliberations and Report Writing (closed to BSC Workgroup)

Friday, July 1, 2011

8:30 - 8:40 am **Welcome Day 3 / Announcements**
BSC Workgroup Co-Chairs, Board of Scientific Counselors, OPHPR

8:40 - 11:00 am **Deliberations and Report Writing (closed to BSC Workgroup)**

11:00 am -11:30 am **Briefing to OPHPR and CEFO Senior Staff**
BSC Workgroup Co-Chairs, Board of Scientific Counselors, OPHPR

12:00 pm **ADJOURN**

Appendix C: Presentation of CEFO Survey Results and Quarterly Report Analysis

Results of Survey and Qualitative Review of CEFO Field Assignee Work Activities and Satisfaction with CDC Support and Program Elements

Linda J. Neff, PhD MSPH

Senior Epidemiologist, Career Epidemiology Field Officer Program
Office of Science and Public Health Practice
Office of Public Health Preparedness & Response
Centers for Disease Control and Prevention

**Board of Scientific Counselors
Ad Hoc Workgroup Review of CEFO Program
June 29, 2011**



Centers for Disease Control and Prevention
Office of Public Health Preparedness and Response

Background

- The CEFO Program was created in 2002 to strengthen state and local epidemiologic capability for public health preparedness and response
- CEFO positions are filled by CDC epidemiologists serving as field assignees
- As of June 2011, there are 30 CEFOs assigned to 26 state or local health departments

2

Career Epidemiology Field Officers Assignment Locations, June 2011



Background (Cont'd)

- CEFO positions are supported by direct assistance (DA) from the CDC PHEP cooperative agreement.
- CEFOs have a supervisor in their field location, and also have a supervisor from CEFO Program Headquarters at CDC.
- CEFO Headquarters provides administrative and technical support to the CEFOs.

4

SCOPE

An internal assessment was conducted to:

To provide information to an external peer review by an ad hoc BSC workgroup was requested.

A survey of 30 CEFO Field Assignees and a qualitative review of quarterly activity reports were conducted to inform two scope objectives of the external review.

METHODS

- **Mixed method approach:**
 - web-based survey
 - qualitative review of reports submitted by CEFOs
- **Assessment conducted among 30 CEFO field assignees in 23 states**

WEB-BASED SURVEY

- ❑ **Composed of four modules:**
 - Occupational characteristics,
 - Level of involvement in specific work activities,
 - Level of satisfaction with CDC support and
 - Level of satisfaction with elements of CEFO program.
- ❑ **Responses constructed as:**
 - Multiple choice,
 - Likert-scale ratings and
 - open-ended.
- ❑ **Launched via a link to a web-site for a total of 9 days**
- ❑ **Response rate was 87% (n=26)**

QUALITATIVE REVIEW OF QUARTERLY REPORTS

- ❑ **CEFO field assignees required to submit a report on a quarterly basis.**
- ❑ **Standard template used to report work activities in 5 categories.**
 1. Building epidemiologic, surveillance and emergency response capacity
 2. Partnership and collaboration activities that support public health infrastructure
 3. Education, training, and workforce development
 4. Communications and information technology capacities and risk communications and health information dissemination
 5. Federal obligations
- ❑ **Reviewed 143 reports submitted by 23 CEFOs.**
- ❑ **Review period between 10/01/2008 and 09/30/2010.**
- ❑ **Framework used to standardize coding of activities.**

Framework for Coding CEFO Activities



RESULTS (survey)

Occupational Characteristics

Years at CDC	n	%
1-5	6	23
6-10	11	42
>10	9	35

Years as CEFO	n	%
1-4	16	61
5-7	8	31
>7	2	8

First Field Placement	n	%
Yes	12	46
No	14	54

Commissioned Corps	18	69
Civil Service	8	31

ASSESSMENT CATEGORIES for CEFO Activities

Categories of CEFO Activities:

1. Improve epidemiologic capacity
2. Improve public health preparedness and response
3. Provide education, training, and workforce development
4. Improve communications
5. Improve policy recommendations
6. Increase health department's access to professional networks and resources
7. Contribute to scientific knowledge base

EPIDEMIOLOGIC CAPACITY

Most CEFOs are *moderately to greatly* involved in:

- Consulting on surveillance projects 93% (n=24)
- Supervising or conducting outbreak investigations 77% (n=20)
- Linking epidemiology and laboratory capacities 70% (n=18)

EPIDEMIOLOGIC CAPACITY

(QUARTERLY REPORTS)

Example activities:

- Surveillance on mental health and physical effects related to disaster
- Expanded and improved syndromic surveillance
- Developed and assessed new surveillance systems
- Conducted multiple outbreak investigations:
 - salmonella, norovirus, Escherichia coli 0157:H7
 - respiratory virus outbreaks in institutions
 - multi-state outbreak of campylobacteriosis
 - health-care associated infections
 - suspected bioterrorism agent

PUBLIC HEALTH PREPAREDNESS AND RESPONSE

Most CEFOs are *moderately to greatly* involved in:

- | | |
|--|------------|
| ▪ Developing state or local preparedness plans | 73% (n=19) |
| ▪ Conducting response trainings | 57% (n=15) |
| ▪ Evaluating state or local preparedness plans | 53% (n=14) |
| ▪ Conducting response exercises | 53% (n=14) |
| ▪ Evaluate state or local emergency response | 50% (n=13) |

PUBLIC HEALTH PREPAREDNESS AND RESPONSE

(QUARTERLY REPORTS)

Example activities:

- Facilitated trainings in Community Assessment for Public Health Emergency Response (CASPER)
- Conducted CASPER planning exercise
- Led exercise for medical countermeasure dispensing in a community
- Developed protocols, staffing, and training for Epidemiology Strike Teams
- Led development of epidemiology modules in state's electronic incident management tracking system

EDUCATION, TRAINING, AND WORKFORCE DEVELOPMENT

Most CEFOs are *moderately to greatly* involved in:

- Mentoring students, epidemiologists, EIS, or other staff 100% (n=26)
- Provide workshops and training 81% (n=21)

EDUCATION, TRAINING, AND WORKFORCE DEVELOPMENT (QUARTERLY REPORTS)

Example activities:

- Primary or secondary supervisor to EIS officers, epidemiology staff, CSTE fellows and student interns
- Trained epidemiology staff on how to use data from ESSENCE syndromic surveillance system
- Facilitated EPIINFO training for staff epidemiologists
- Conducted incident command system, disease-specific, and epidemiology trainings for public health practitioners, healthcare professionals and other community partners.

COMMUNICATIONS

Most CEFOs are *moderately to greatly* involved in:

- Contributing to public outreach 77% (n=20)
- Contributing to briefing statements 73% (n=19)
- Contributing as subject matter expert on campaigns 69% (n=18)
- Consulting on public health recommendations 69% (n=18)

COMMUNICATIONS

(QUARTERLY REPORTS)

Example activities:

- Developed outbreak investigation manuals and guides for local health departments.
- Collaborated on project to evaluate the effectiveness of message venues for sending public health alerts to healthcare providers.

POLICY RECOMMENDATIONS

Most CEFOs are *moderately to greatly* involved in:

- Consultative role in revisions of public health policies 69% (n=18)
- Consultative role in state or local public health department policy development 65% (n=17)

POLICY RECOMMENDATIONS

(QUARTERLY REPORTS)

Example activities:

- Assisted with the development of guidance for alternate standards of care for pandemic influenza.
- Assisted with the development of standing orders (with policy) for dispensing prophylactic medications to large populations.

PROFESSIONAL NETWORKS AND RESOURCES

Most CEFOs are *moderately to greatly* involved in:

- Collaborate with federal partners 100% (n=26)
- Collaborate with state partners 96% (n=25)
- Consult with subject matter experts (SMEs) 92% (n=24)
- Collaborate with local health departments 81% (n=21)

PROFESSIONAL NETWORKS AND RESOURCES

(QUARTERLY REPORTS)

Example activities:

- Served on advisory committees and workgroups to provide epidemiology expertise, including:
 - Preparedness and Emergency Response Research Center (PERRC) Advisory Committee.
 - State Agroterrorism working groups.
 - Hospital Bioterrorism Preparedness Planning Group.
 - Epidemiology expert for state's BioWatch planning group.
 - Emergency Management Agency Disaster Shelter Planning Work Group.
- Established and fostered partnerships with community organizations, including the American Red Cross, to enhance preparedness.

CONTRIBUTING TO THE SCIENTIFIC BASE

Most CEFOs are *moderately to greatly* involved in:

- Facilitate special projects 92% (n=24)
- Other consultations as subject matter expert (SME) 88% (n=23)
- Provide conference presentations 81% (n=21)

CONTRIBUTING TO THE SCIENTIFIC BASE

(QUARTERLY REPORTS)

Example activities:

- Edited and contributed to state-specific surveillance publications and newsletters.
- Authored and co-authored several peer-reviewed publications (see TAB 13).

INTERACTIONS WITH CDC HEADQUARTERS

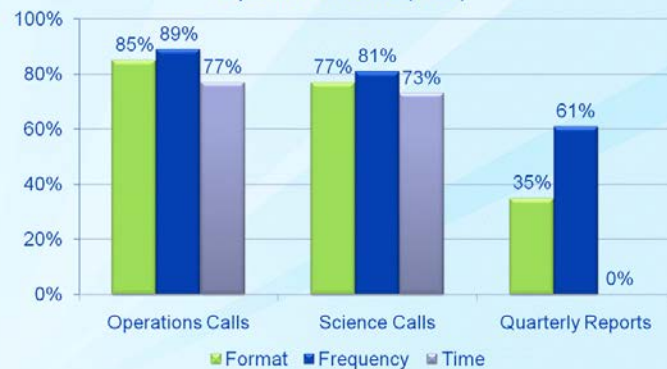
□ The survey respondents rated their level of satisfaction with each of the following statements about their interactions with CDC headquarters:

- My expectations for CEFO Headquarters interactions are met.
- I receive the amount of support that I would like to receive from the CEFO Program Headquarters staff.
- The CEFO Program Headquarters staff are accessible when I try to contact them.
- The CEFO Program Headquarters are responsive when I make requests.

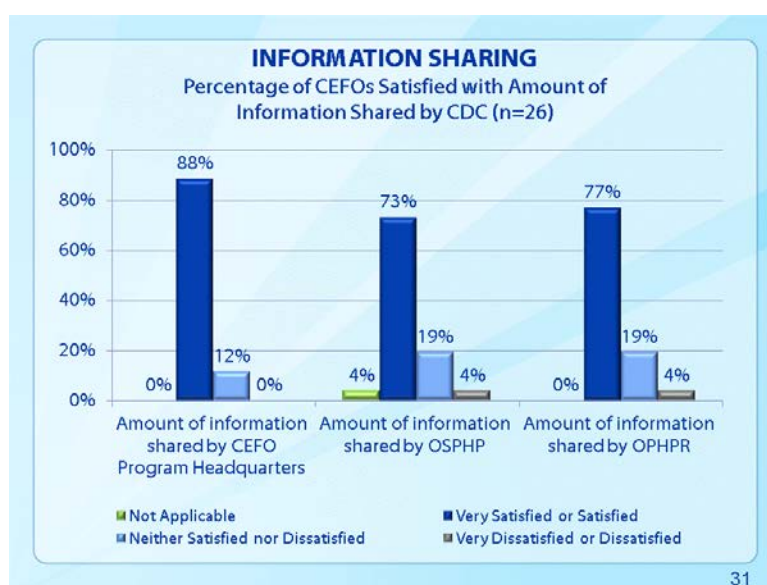
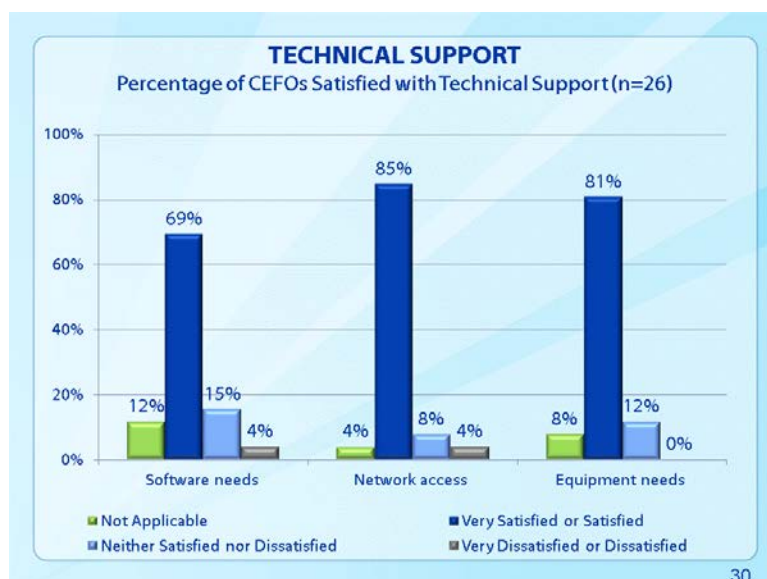
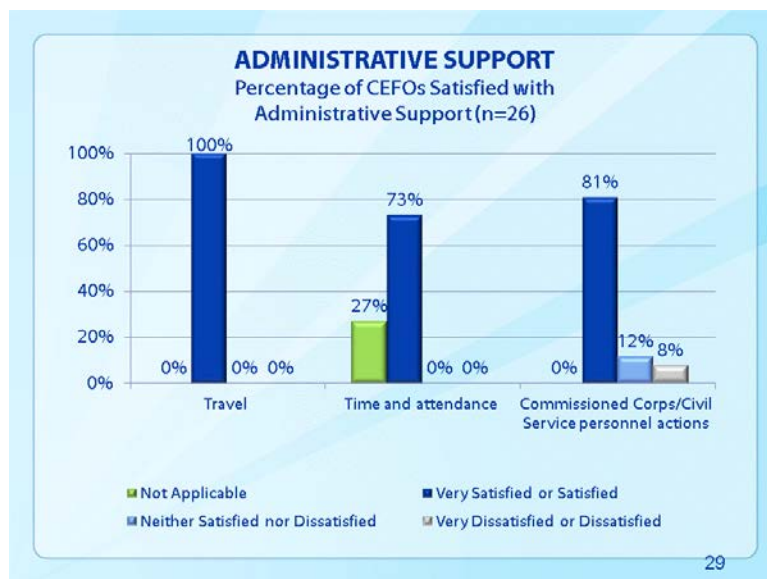
96 % (n=25) of the respondents agreed or strongly agreed with each statement.

OPERATIONAL ISSUES

Percent CEFOs Satisfied or Very Satisfied with Operational Issues (n=26)



28



SATISFACTION WITH CEFO PROGRAM

- **Strengths**
 - CEFO HQ communication is very good.
 - CEFO operations and science calls are useful and informative.
- **Weaknesses**
 - Need more feedback on quarterly reports.
 - Need more support with Commissioned Corps issues.
- **Opportunities for Improvement**
 - Quarterly Report template may not capture all CEFO work.

Qualitative Data from Open-Ended Survey Questions

SATISFACTION WITH SUPPORT FROM CDC

- **Strengths**
 - Supervisors are supportive and understand competing demands CEFOs face as field assignees.
 - HQ administrative staff provides excellent service.
 - HQ and OPHPR staff support is critical to the success of field staff.
 - HQ staff is responsive when CEFOs need consultation.
 - HQ staff is doing a good job with providing support to a diverse set of epidemiologists.
- **Weaknesses**
 - Staff changes have inhibited support for long-term planning and objectives.
 - Support for Commissioned Corps personnel.
- **Opportunities for Improvement**
 - HQ needs additional supervisors.

Qualitative Data from Open-Ended Survey Questions

LIMITATIONS

- Response categories for level of involvement for CEFO activities were ill-defined.
- The quarterly report template is too general-no standard terms.
- Activities are limited to what CEFO assignee chose to report.

SUMMARY

- Overall, the CEFO field assignees are serving in various roles and are engaged in work activities that contribute to the integration of epidemiology and public health preparedness.
- The CEFO field assignees are satisfied with the administrative and technical support they receive from CDC headquarters staff.
- There continues to be challenges with the format of the quarterly reports.
- CEFO field assignees would like to receive more feedback from supervisors on the reports that they submit.

ACKNOWLEDGMENTS

Cherie Drenzek, DVM, MS
Nadine Oosmanally, MSPH
Coby Jansen, MPH

CEFO Field Assignees

Appendix C: Presentation of Stakeholder Survey Results

Results of Career Epidemiology Field Officer (CEFO) Stakeholder Survey

Cherie L. Drenzek, DVM, MS

Supervisory Epidemiologist, Career Epidemiology Field Officer Program
Office of Science and Public Health Practice
Office of Public Health Preparedness & Response
Centers for Disease Control and Prevention

BSC Workgroup Review of CEFO Program
June 29, 2011



U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

1

Background

- The 30 CEFO positions are supported by direct assistance (DA) from the CDC Public Health Emergency Preparedness (PHEP) cooperative agreement.
- CEFOs have a supervisor in their field location, and also have a supervisor from CEFO Program Headquarters at CDC.
- CEFO Headquarters provides administrative, managerial, and scientific support to the CEFOs.

2

Objective

- To evaluate CEFO Program strengths, weaknesses, and opportunities for improvement, an external peer review by an ad hoc BSC workgroup is being conducted.
- To inform all three objectives of the review (refer to Tab 2), a survey of 145 key stakeholders of the CEFO Program was performed.
- Presentation of highlights of report, "Results of Survey Conducted among CEFO Stakeholders"(Tab 10)

3

Methods

▪ Web-Based Survey

- Developed with IBM-SPSS® Data Collection tool
- OMB approval for one-time use of the FDA generic information collection mechanism (OMB Control No. 0910-0360)
- Administered to all 62 PHEP Directors, all 59 State and Territorial Epidemiologists, and 24 others who work with CEFOs (n=145)
- Survey open from May 12 - May 25, 2011 (reminder on May 17)
- No respondent identifiers were collected

4

Methods (Cont'd)

▪ Survey Format:

- Seven sections
- Multiple-choice, Likert-scale rating, open-ended questions

▪ Collected information on:

- Respondent demographics
- Awareness of CEFO Program
- Currently, ever, or never had a CEFO
- Satisfaction with support provided by CEFO Program Headquarters
- Satisfaction with CEFO activities and contributions
- Satisfaction with the CEFO funding model

▪ Data analyses:

- Performed using Microsoft Excel® and IBM-SPSS® survey tool

- Response rate was 44% (64/145)

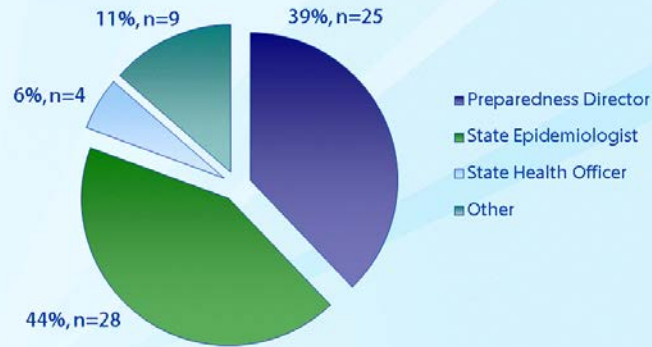
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Results

6

Profile of Survey Respondents (n=64)

By Primary Role in Health Department*

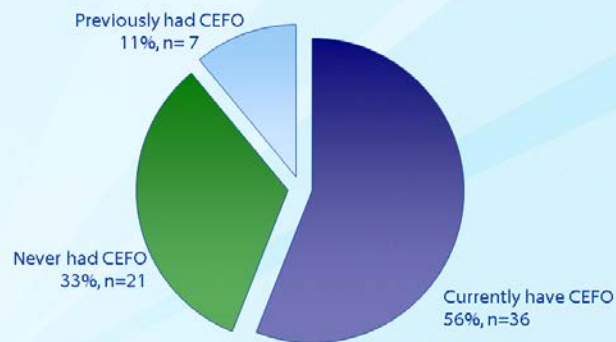


* Respondents were able to select multiple roles, if applicable. Two State Epidemiologists noted dual roles, so the total number of responses was 66 (among the 64 respondents).

7

Profile of Survey Respondents (n=64)

By CEFO Assignee Status



8

Profile of Survey Respondents, by Relationship to Current or Former CEFO

Position of CEFO Field Supervisors (n=43)

	Primary Supervisor	Secondary Supervisor	Supervisor of CEFO Supervisor	No Responsibility	Other	Total
Preparedness Director/Manager	3	4	0	4	4	15
State Epidemiologist	10	4	4	2	1	21
State Health Officer	2	1	1	0	0	4
Other*	3	2	0	1	1	7
Total	18	11	5	7	6	47*

* 43 respondents answered these survey questions but four respondents (3 State Epidemiologists and 1 PHEP Director) selected two types of relationships with current CEFOs and are represented twice in this table (total = 47)

Other Positions: Case and Outbreak Investigation Section Chief, Communicable Disease Bureau Chief, Epidemiology Manager, Program Manager

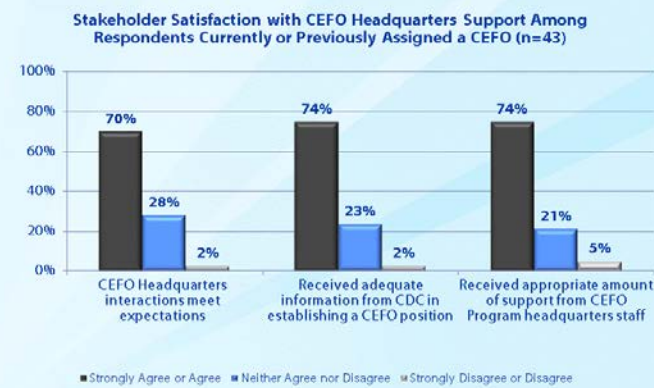
9

Assessment of Stakeholder Knowledge about CEFO Program



10

Assessment of CEFO Program Headquarters Support



11

Assessment of CEFO Program Headquarters Support

Percentage of Respondents Reporting that CEFO Program Headquarters Activities Meet Expectations, among Stakeholders Currently or Previously Assigned a CEFO (n=43)

Information	Minimally Meets Expectations	Meets or Exceeds Expectations	Not Applicable
Information			
Update about plans and policies related to CEFO positions	19%	65%	16%
Establish networks and linkages	30%	58%	12%
Administrative Support			
Develop relevant work plans	28%	63%	9%
Recruit and select CEFOs	7%	81%	12%
Orient new CEFOs	9%	77%	14%
Support for CEFOs' travel plans	12%	84%	5%
Support for reimbursements	7%	88%	5%
Managerial Support			
Technical support and leadership	14%	72%	14%
Support for clearance process	12%	72%	16%
Evaluate program performance	14%	74%	12%
Scientific Support			
Scientific writing and editing	14%	47%	40%
Advice on investigations or facilitating connections with CDC subject matter experts (SMEs)	9%	70%	21%

For most activities (8 of 12), at least 70% of respondents reported that Headquarters met or exceeded expectations

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Stakeholder Assessment of the Value of CEFO Assignments (n=64)



13

Stakeholder Satisfaction with CEFO Activities

- Stakeholders rated satisfaction with CEFO activities falling under these broad categories:

1. Improve epidemiologic capacity
2. Improve public health preparedness and response
3. Provide education, training, and workforce development
4. Improve communications
5. Improve policy recommendations
6. Increase health department's access to professional networks and resources
7. Contribute to scientific knowledge base

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Satisfaction with CEFO Activities among Stakeholders Currently or Previously Assigned a CEFO (n=43)

- Highest satisfaction rating: Over 90% of respondents reported that CEFOs met or exceeded expectations for six activities:
 - Consulting with subject matter experts (SMEs) (98%)
 - Collaborating with federal partners (95%)
 - Consulting on surveillance activities (93%)
 - Surveys related to public health investigations (91%)
 - Collaborating with state partners (91%)
 - Participating in workgroups or other councils (91%)

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Satisfaction with CEFO Activities among Stakeholders Currently or Previously Assigned a CEFO (n=43)

CEFO Activity	Minimally Meets Expectations	Meets or Exceeds Expectations	Not Applicable
Serving as adjunct faculty in institutes of higher learning	12%	33%	56%
Conducting policy analysis	21%	51%	28%
Providing national training	14%	47%	40%

Lowest satisfaction rating:

- At least 60% of respondents believed that CEFO contributions met or exceeded expectations for all but **three** activities
- However, these 3 activities were also most frequently rated as not applicable to the work of CEFOs.

16

Stakeholders' Views about the Strengths of the CEFO Program for their Health Department (n = 43)

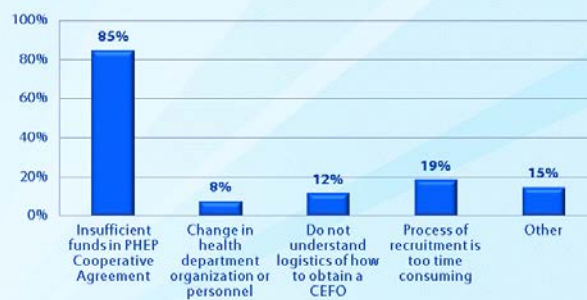
A selection of open-ended responses to:

7.1 In your opinion, what are the strengths of the CEFO Program for your health department?

- "CEFO filled a critical technical and leadership gap that we had been unable to fill for - literally - years."
- "We get access to a talent pool we could not otherwise afford or attract to our organization"
- "Access to well-trained medical epis, with outbreak leadership skills, usually well-connected to the centers, excellent at recruiting and supervising EISOs, and able to push projects to closure"
- "Provides epidemiologic support, connects emergency preparedness with epidemiology, provides scientific expertise, and staff mentoring"
- "Additional highly-trained staff in the face of state hiring freezes"

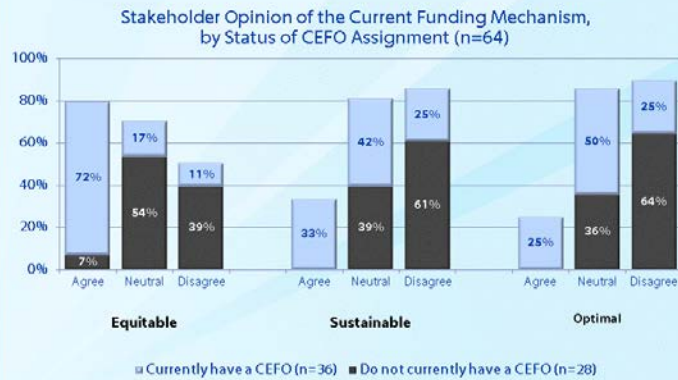
17

Challenges in Requesting a CEFO Among Respondents Interested But Not Currently Assigned a CEFO (n=26)



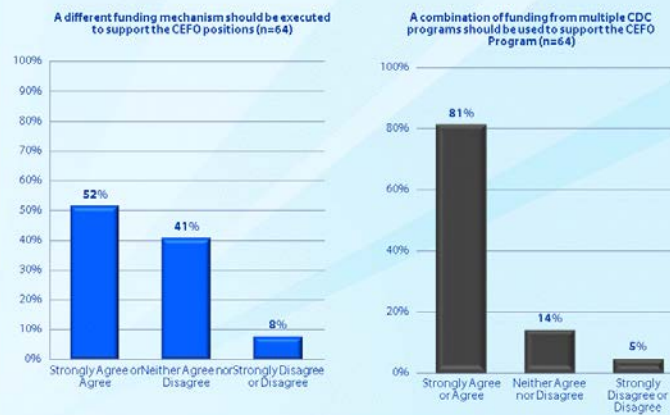
18

Assessment of Stakeholder Satisfaction with Current CEFO Funding Mechanism



19

Assessment of Stakeholder Satisfaction with Current CEFO Funding Mechanism (n= 64)



20

Stakeholders' Views about the Funding Mechanism for CEFO Field Assignees (n = 64)

A selection of open-ended responses to:

6.1 Do you believe that the existing CEFO funding mechanism is working well for your health department? If no, why not?

- "We lost our CEFO, who worked extremely well for us and we really liked, due to decreases in PHEP funding."
- "The continuing decline in PHEP funding does not allow us to make a two-year commitment in funding for CEFO."
- "PHEP funding is too restrictive in that activities have to be related to preparedness. That precludes our CEFO from working on many epi activities for which we have a need."
- "We need a CDC assignee, but this is very expensive to the state. These should be funded by CDC directly, like EIS."

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Stakeholders' Views about the Funding Mechanism for CEFO Field Assignees (n = 64)

A selection of open-ended responses to:

- **6.6 A different funding mechanism should be executed to support the CEFO positions. If you responded "strongly agree" or "agree," please describe the different funding mechanism that you would suggest be considered."**
 - *"Would prefer for CDC to have an appropriation for the CEFO Program and then the officers could be distributed based on need"*
 - *"I would suggest the combined approach: ELC, PHEP, EIP, there could be several different funding mechanisms or contributors given the range of activities that CEFOs perform."*
 - *"Direct funding by CDC and time-limited assignment to the states"*

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Summary of Results

- **In summary, CEFO Program stakeholders:**
 - Had a high level of awareness about the CEFO Program and its mission
 - Had a high level of satisfaction with the support provided by CEFO Program Headquarters
 - Had a high level of satisfaction with the contributions that CEFO assignees make in their health departments
 - Had a moderate level of dissatisfaction with the current CEFO funding model (particularly among those who do not have a CEFO [n=28/64])

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Survey Results: Summary



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Survey Limitations

- Participant self-selection (i.e. possible differences between those who chose to respond to the survey versus those who did not)
- Low response rate
- Self-reported data

25

Conclusions

- Stakeholders believe that, overall, the CEFO Program meets or exceeds expectations to strengthen state, local, tribal, and territorial epidemiologic capability for public health preparedness and response.
- Ongoing challenges exist in the area of the funding mechanism used to support the CEFO positions.

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Acknowledgments

- Coby E. Jansen, MPH
- Nadine Oosmanally, MSPH
- Linda J. Neff, PhD
- CEFO Program Stakeholders

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Appendix C: List of Invited Stakeholders

CEFO Stakeholder Panel Members

State Public Health Preparedness Directors

Tim Wiedrich, Section Chief and Education Technology Director, Emergency Preparedness and Response, North Dakota Department of Health

Jim Craig, Director, Office of Health Protection, Mississippi State Department of Health

R. Max Learner, Director, Office of Public Health Preparedness, South Carolina Department of Health and Environmental Control

Rebecca Hathaway, Deputy Director, Office of Health Emergency Preparedness, New York State Department of Health

State Health Officials and State Epidemiologists

Dr. Stephen Ostroff, Acting Physician General, Pennsylvania Department of Health

Dr. Megan Davies, State Epidemiologist and Chief, Epidemiology Section, Division of Public Health, North Carolina Department of Health and Human Services

Dr. Christina Tan, State Epidemiologist/Assistant Commissioner, Environmental and Occupational Health Services, New Jersey Department of Health and Senior Services

Dr. Katrina Hedberg, State Epidemiologist and Administrator, Office of Disease Prevention and Epidemiology, Oregon Public Health Division

Local Health Officials

Dr. Marci Layton, Assistant Commissioner, Communicable Disease Program, New York City Department of Health

Joe Wanner, Regional Emergency Preparedness and Response Planner, Southwestern District Health Unit, North Dakota

Paul Hopkins, Director, Pike County Health Department, Kentucky

Dr. Robert England, Health Officer, Maricopa County Department of Public Health, Arizona

Career Epidemiology Field Officers

Dr. Ami Patel, Philadelphia Department of Public Health

Dr. Katie Kurkjian, Virginia Department of Health

Dr. Randall Nett, Montana Department of Public Health and Human Services

Dr. Doug Thoroughman, Kentucky Department for Public Health

Appendix C: Guidance to Stakeholders

Guidance for Stakeholder Panels June 29-July 1, 2011

Background

CDC's Office Public Health Preparedness and Response (OPHPR) Board of Scientific Counselors (BSC) will be conducting an external peer review of the Career Epidemiology Field Officer (CEFO) Program. The review will be conducted by an ad hoc Board of Scientific Counselors Workgroup. The purpose of the review is to assess the program's strengths and opportunities for improvement, as well as assess the enhancements that the CEFO Program has provided to sustaining and improving public health preparedness and emergency response.

The stakeholder panels will provide an opportunity for stakeholders to share viewpoints and insights in a face-to-face dialog with the reviewers. These sessions are critical in assisting the reviewers to understand the issues as part of their deliberations and will help in the development of realistic, actionable recommendations to improve the CEFO Program.

The in-person input from our stakeholder panelists, together with the results of recent surveys of stakeholders and CEFOs and analyses of reports of CEFOs' activities and accomplishments, are the major information sources that will inform the workgroup's deliberations. Topics for the stakeholder sessions were selected to align with the focus and objectives of the external review.

Panel Format

Panels will operate in **one** of these formats:

- Presentation format/discussion period: Each panelist will be asked to provide a 10 minute presentation on specific topics and then engage in a question and answer session following all the panelist presentations.
- Round robin question and answers: A series of predetermined questions will be provided to the panelists. Each panelist will be asked to answer each question. After all the panelists have answered question number 1, a brief discussion session will follow. Once the discussion session on question 1 is complete, each of the panelists will be asked to answer question 2, followed by a discussion period, and so forth.
- Series of presentations & discussions (CEFO panel): In the last panel session, one CEFO will give a 10 minute presentation in response to the first predetermined question, followed by a facilitator-moderated discussion among the reviewers and all four CEFOs. Then the next CEFO will present for 10 minutes in response to the second predetermined question, again followed by discussion, and so forth.

Stakeholder Panelists

Panel #1 State Public Health Preparedness Directors

Format: Round Robin Questions / Discussion

Purpose: Assess the strengths and opportunities for improvement of the current CEFO Program and evaluate the funding model for the CEFO Program.

- Panel Facilitator: Dr. Herminia Palacio, Workgroup Co-Chair, BSC, OPHPR
- Each panel member will respond to a series of predetermined questions in a round robin format. A 3-minute response is allotted for each question per person with a 5-minute discussion by the workgroup after each question.

Panel Members	Questions
<p>Public Health Preparedness Directors in states where CEFOs are assigned</p> <p>Mr. Tim Wiedrich, State Public Health Preparedness Director, North Dakota Dept of Health</p> <p>Mr. Jim Craig, Director, Office of Health Protection, Mississippi Dept of Health</p>	<ul style="list-style-type: none"> ▪ What are the strengths and opportunities for improvement for the current CEFO Program? ▪ How does the CEFO Program benefit your state? (Please give specific examples.) ▪ Is the current CEFO funding model optimal, equitable, and sustainable? ▪ Which alternative funding mechanisms should CDC consider to support CEFO positions?
<p>Public Health Preparedness Directors in states where CEFOs are not assigned</p> <p>Mr. Max Learner, Preparedness Director, South Carolina Dept of Health & Environmental Control</p> <p>Ms. Rebecca Hathaway, Deputy Director, Office of Health Emergency Preparedness, New York State Department of Health</p>	<ul style="list-style-type: none"> ▪ What are the strengths and opportunities for improvement for the current CEFO Program? ▪ Why hasn't your health department requested a CEFO? ▪ If funding were not an issue, would you request a CEFO? Why or why not? ▪ Which alternative funding mechanisms should CDC consider to support CEFO positions?

Panel #2 – State Health Officials and State Epidemiologists

Format: Presentation Topic / Discussion

Purpose: Evaluate the significance of CEFO contributions and assess the ability of CEFOs to enhance and augment epidemiologic capabilities in their assigned states.

- Panel Facilitator: Dr. Herminia Palacio, Workgroup Co-Chair, BSC, OPHPR
- Presentations Topics - 10 minutes per panel member followed by 25 minute discussion session after all four panel members have presented.

Panel Members	Questions
<p>State Health Officials and Epidemiologists in states where CEFOs are assigned</p> <p>Dr. Stephen Ostroff, Director, Bureau of Epidemiology, Pennsylvania Dept of Health</p> <p>Dr. Megan Davies, State Epidemiologist, North Carolina</p>	<ul style="list-style-type: none"> ▪ What are the strengths and opportunities for improvement for the current CEFO Program? ▪ How does the CEFO Program benefit your state? (Please give specific examples.) ▪ Describe two CEFO activities that have had significant impact in your state.
<p>State Epidemiologists in states where CEFOs are not assigned</p> <p>Dr. Christina Tan, State Epidemiologist, New Jersey</p> <p>Dr. Mel Kohn, State Health Officer, or Dr. Katrina Hedberg, State Epidemiologist, Oregon</p>	<ul style="list-style-type: none"> ▪ What are the strengths and opportunities for improvement for the current CEFO Program? ▪ Why hasn't your health department requested a CEFO? ▪ If funding were not an issue, would you request a CEFO? Why or why not?

Panel #3 – Local Health Officials

Format: Round Robin Questions/ Discussion

Purpose: Evaluate the significance of CEFO contributions and assess the ability of CEFOs to enhance and augment epidemiologic capabilities at the local level.

- Panel Facilitator: Dr. Herminia Palacio, Workgroup Co-Chair, BSC, OPHPR
- Each panel member will respond to a series of predetermined questions in a round robin format. A 4-minute response is allotted for each question per person with a 7-minute discussion session by the workgroup after each question.

Panel Members	Questions
<p>Health officials in local health departments where CEFOs are assigned</p> <p>Dr. Marci Layton, Assistant Commissioner, New York City Dept of Health</p> <p>Dr. Bob England, Director, Maricopa County Dept of Health, Phoenix, Arizona</p>	<ul style="list-style-type: none"> ▪ Describe two CEFO activities that have had significant impact in your jurisdiction. ▪ What is unique about CEFO assignments at the local level? ▪ What specific challenges and opportunities do CEFOs face at the local level?
<p>Health officials in local health departments who have not had a CEFO assigned to their office, but have worked with CEFOs in their states</p> <p>Mr. Paul Hopkins, Director, Pike County, Health Dept, Pikeville, Kentucky</p> <p>Mr. Joe Wanner, Regional Emergency Preparedness and Response Planner, Southwestern District Health Unit, Dickinson, North Dakota</p>	<ul style="list-style-type: none"> ▪ How does the CEFO Program benefit your jurisdiction? (Please give specific examples.) ▪ What relevant contributions can a state-assigned CEFO make to support local health departments? ▪ If funding were not an issue, would you request a CEFO? Why or why not?

Panel #4 – Career Epidemiology Field Officers (CEFOs)

Format: Presentation Topic / Discussion:

Purpose: Assess the strengths and opportunities for improvement for the current CEFO Program and assess the ability of CEFO Program Headquarters to sustain a strong field assignment program.

- Panel Facilitator: Dr. John Lumpkin, Workgroup Co-Chair, BSC, OPHPR
- Presentations Topics – One question and one 10-minute response per panel member, with each response followed by general discussion.

Panel Members	Questions
<p>Career Epidemiology Field Officers (CEFOs)</p> <p>Dr. Katie Kurkjian, Virginia Dept of Health</p> <p>Dr. Doug Thoroughman, Kentucky Dept for</p>	<ul style="list-style-type: none"> ▪ What are the strengths opportunities for improvement for the current CEFO Program in enabling CEFOs to support, enhance, and augment PHEP epidemiologic capabilities of key partners, including the emergency preparedness directors and epidemiologists in state and local health departments? ▪ Describe elements that contribute to a successful CEFO placement. Consider the impact of organizational structures, the CEFO's placement within the organization,

<p>Public Health</p> <p>Dr. Randall Nett, Montana Dept of Public Health & Human Services</p> <p>Dr. Ami Patel, Philadelphia Dept of Public Health</p>	<p>the funding mechanism, and other factors that influence the significance of contributions made by CEFOs at their respective health departments.</p> <ul style="list-style-type: none"> ▪ Describe the types and quality of support you receive from CEFO Program headquarters. How can headquarters support be improved? ▪ What are your recommendations for the CEFO Program headquarters office to sustain a strong field assignment program? Comment specifically on: <ul style="list-style-type: none"> o Expertise, staffing, and organization of the headquarters office o Program and policy development
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Appendix C: Presentations by Stakeholders

Perspectives on the CEFO Program: PA Department of Health

STEPHEN OSTROFF
DIRECTOR, BUREAU OF EPIDEMIOLOGY



Pennsylvania

- Early adapter of the CEFO program
- Currently 3 officers assigned to PA
 - Headquarters assignment – Enzo Campagnolo
 - Philadelphia assignment – Ami Patel
 - Allegheny County (Pittsburgh) assignment – Jim Lando

Strengths of the CEFO program

- Superb quality of the officers
 - Challenge of recruiting and retaining at state & local level
- Assignees not viewed as feds but as part of the staff
- Ability for “reach back” into CDC when needed
- **Flexibility** regarding the assignment
 - Tailored to meet local needs
 - Duration of assignment - continuity
- Ease of working with central office
 - Establishing position and finding candidates
 - Minimal paperwork requirements
 - Low maintenance relationship

Opportunities for Improvement

- Cost, cost, cost
 - Not a problem in PA when preparedness funding was up
 - Will likely be a problem soon
- Need to explore alternative mechanisms for cost-sharing
 - Between CDC and state/local
 - Regional CEFO
 - Among various programs at CDC or other HHS components
 - Should this remain a preparedness program?
 - × Non-preparedness CEFOs
 - Chronic disease/injury
 - Informatics

Opportunities for Improvement

- Strategic approach to CEFO placement
- Career enhancement for officers
 - Out-of-site, out-of-mind

Benefits of CEFO program in PA

- Alternative staffing mechanism
- Leadership & credibility
- Provides high-quality skills where needed
 - Veterinary with headquarters
 - Environmental (Lando)
 - General capacity at local level
- Builds relationship with our two largest local health departments
 - Pittsburgh and Philadelphia
- Eyes and ears at local level
- Improves preparedness posture and training

Examples of CEFO impacts

- **Lando**
 - Planning and implementation during G-20
 - Supervision during investigations
 - Solidify epi capacity in ACHD
- **Campagnolo**
 - Development of pandemic preparedness plan
 - × Veterinary component
 - × Training, training, training
 - Enhanced collaboration with veterinary community and Dept of Agriculture
 - Veterinary field capacity during investigations
 - × Raw milk
 - × Rabies in captive herds
 - × Swine flu

CEFO Program: The North Carolina Experience

Megan Davies, MD
State Epidemiologist
North Carolina Division of Public Health

STRENGTHS

- Workforce capacity strengthening
 - Direct
 - Mentoring and training
 - "Tipping point" affect
- Flexibility of assignment
- Linkage with CEFO network
- Linkage with CDC subject matter experts
- Continuity of leadership
- State perspective to federal activities

OPPORTUNITIES

- Increase CEFO network capability
 - Number of CEFOs in the field
 - Range of projects CEFOs work on
- Have CEFO program serve as reviewers of CDC epidemiology and surveillance guidance before they are disseminated to states (when state input is valuable)
- It ain't broke, so please don't "fix" it!

Hospital-based Public Health Epidemiologists

- Established network of public health epidemiologists (PHEs) in 11 largest hospital systems in the state
- Trained and mentored PHEs (workforce development)
- Ensured that activities were useful to public health
 - Preparedness focus
 - Broad public health utility
 - Flexibility that comes with trained workforce
- Ensured system could thrive without CEFO
 - SOPs
 - Cultivated widespread buy-in from LHDs, hospitals, DPH

ENHANCED DISASTER EPIDEMIOLOGY CAPACITY

- Evaluated CASPER methodology and usefulness in the disaster and non-disaster setting
- Developed surveillance infrastructure for all-hazard disasters response
- Cross-trained staff and implemented an epidemiology surge capacity operational plan
- Designed plan and tools for environmental health inspection of shelters
- Published disaster epidemiology website and provide national consulting expertise

North Carolina Disaster Epidemiology Workgroup (NC DEW), Spring, 2010

NC DEW

PHP&R disaster epidemiology program is a state, regional and local collaboration to develop disaster epidemiology capacity and tools for all hazard response. The workgroup is divided into teams that focus on surveillance, community-based needs assessment (CASPER) and environmental health data collection.

CASPER

Check out the CASPER webpage at: <http://www.epi.state.nc.us/epi/phpr/casper.html>. A CASPER standard operations guide was recently published and available on our webpage that now provides health departments across the country access to CASPER methods, codes, questionnaires and processes. We conducted a CASPER during pandemic influenza H1N1 to assess potential vaccine uptake in the community – the findings were published in MMWR: <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5950a1.htm>. We are funding UNC CPHP to conduct an inventory and evaluation of CASPER; findings will be published.

Surveillance

Check out our disasters surveillance webpage at: <http://www.epi.state.nc.us/epi/phpr/disaster.html>. Now available within NC DETECT are customized disaster-related syndromes and outcomes for real-time monitoring of health effects from all hazard disasters. Also available are downloadable active morbidity and mortality surveillance forms for use in the disaster setting where electronic data collection is not feasible.

Environmental Health

We conducted a survey of local health department involvement in shelter planning and found variable involvement. Recommendations were made to the Association of County Health Directors. A standardized shelter environmental health assessment (e.g., inspection) form was recently developed and will soon be posted on our webpage for use by local health departments when shelters are opened.

CSTE Disaster Epidemiology Sub-committee

PHP&R is actively participating and leading efforts for the national disaster epidemiology sub-committee through CSTE. Upcoming meeting will be May 11-14 in Atlanta.

Heart of the CEFO Program

- Extraordinary people
 - Well-educated
 - Seasoned professionals
 - Dedicated to public health mission
 - Able to effect change
 - Willing to do whatever is needed
- Instructions for the field
 - "Go out and do good."

Stakeholder Session: SHOs and State Epidemiologists, Panel 2

*CEFO Program Review
June 29, 2011*



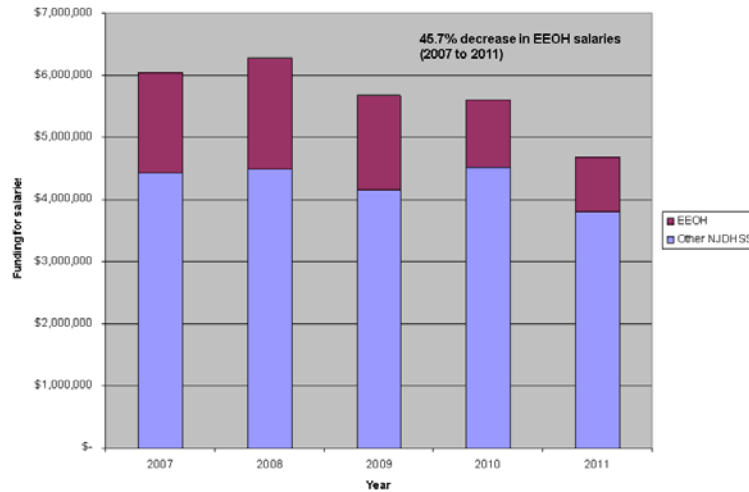
Strengths/Opportunities for Program Improvement?

- Flexibility in funding sources to support CEFOs
- Flexibility to expand CEFO's scope
 - Broaden epi subject areas
 - Broaden roles/responsibilities

Why NJDHSS Hasn't Requested CEFO?

- Background: NJDHSS context regarding epi staff structure and PHEP funding role
- Past: opportunity to build capacity at local health departments through regional epidemiologists
- Present: FUNDING
 - Decreased PHEP dollars
 - Decreased state dollars for preparedness

PHEP Funding for Salaries, New Jersey, FFYs 2007-2011



Would NJDHSS Request a CEFO?

- YES!
- Positive previous and current experiences with CDC assignees
 - Program managers (direct assistance)
 - EISOs and other trainees
- Opportunity to sustain highly skilled staff
 - Dwindling workforce with limited options to hire
 - Current NJDHSS staff w/ limited time to invest in basic training for new hires

CEFO Program: The Oregon Perspective

Katrina Hedberg, MD, MPH
Oregon State Epidemiologist

Oregon
Health
Authority

(Date)

Issues for Discussion

Oregon does not have a CEFO

Issues:

- Resources: costs; capacity
- CDC connection: allegiance; partnerships
- Content focus areas

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Resource Issue

Costs:

- Limited \$-- CEFO more expensive than Oregon FTE
- Oregon FTE not currently an issue
- Oregon can attract qualified candidates

Capacity:

- Does federal FTE help to develop local capacity (or replace it)?

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Connection to CDC

Allegiance:

- When staff person is in a federal FTE, more allegiance to CDC than state?

Partnerships:

- Oregon has many CDC EIS alums, CDC funded grants, on CDC workgroups

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Content Focus Areas

Oregon needs:

- Broad-based skills
- Non-infectious disease epi:
 - injury;
 - environmental;
 - Climate change;
 - informatics

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Sustaining a Strong Field Assignment Program

Ami S. Patel, PhD MPH

Career Epidemiology Field Officer – Philadelphia, PA

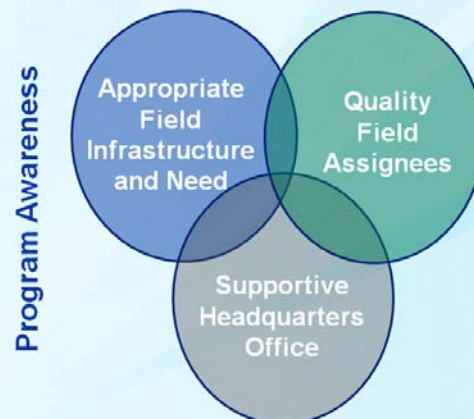
Board of Scientific Counselors

CEFO Program Review

June 29, 2011

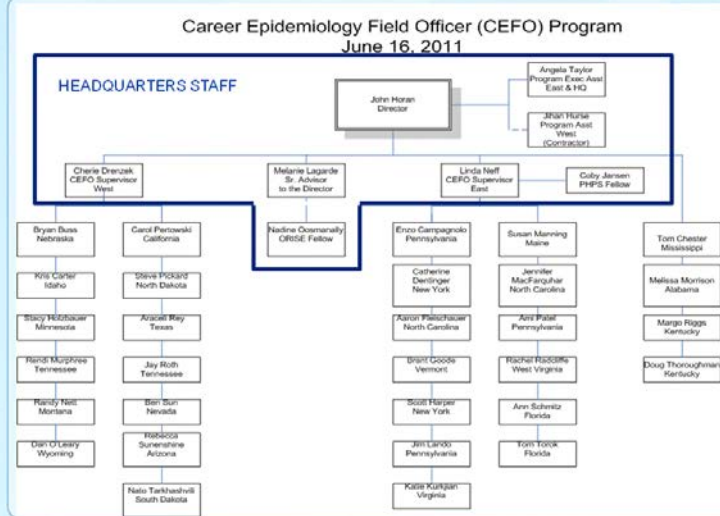


What makes a strong field assignment program?



Sustaining a Field Assignee Program

- **Headquarters Office**
 - Organization and Staffing
 - Expertise
- **Program Awareness**
- **Policy Development**
 - Funding Mechanisms



Headquarters Expertise

- **Administrative Procedures**
 - Personnel
 - Travel
 - Scheduling and organizing meetings/calls
- **Supervision/Management**
 - Program vision and advocacy
 - Conflict resolution
- **Scientific**
 - Technical assistance
 - Access to statistical support

Headquarters Supervisor and CEFO Interactions

- ❑ **Annual performance reviews**
- ❑ **Clearance procedures**
- ❑ **Approval for leave and outside activities**
- ❑ **Technical assistance as requested**
- ❑ **Administrative support as requested**
- ❑ **Minimal contact with local supervisor**
- ❑ **Minimal feedback on quarterly reports**

Recommendations for Headquarters Office Expertise, Staffing, and Organization

- ❑ **Evaluate ratio of CEFOs to supervisors**
- ❑ **Evaluate need for CEFO dedicated support staff**
 - Statistician, clearance officer, personnel liaison
- ❑ **Ensure headquarters office staff are aware of personnel systems and related procedures**
- ❑ **Improve communication with field**
 - Site visits
 - Consultations with local supervisors on a more regular basis
- ❑ **Provide feedback on CEFO activities**
 - Encourage professional development

Program Development

- ❑ **Facilitate CEFO Network**
 - Monthly calls
 - Annual Meeting
 - Distribution list
- ❑ **Promote CEFO Network Within CDC**
 - Addition of CEFOs to CDC workgroups
 - Marketing, annual meeting
 - Deployments
- ❑ **Promote CEFO Network Outside of CDC**
 - Stakeholder meetings
 - Representation on CSTE workgroups

Recommendations for CEFO Program Development

- **Sustain annual meeting and regular monthly conference calls**
- **Identify and engage stakeholders on an annual basis to evaluate program**
- **Continue to promote program through internal and external mechanisms**
- **Characterize role of CEFO within assignment**
 - Promote best practices among similar projects
 - Highlight CEFO as subject matter expert

Policy Development

- **Assist jurisdictions with procedures to request new CEFO through PHEP Direct Assistance**
- **Administrative policies**
- **Support OPHPR Science Office in development of policies for clearance**

Recommendations for CEFO Program Policy Development

- **Evaluate funding mechanism for program**
 - Allow for support of epidemiology expertise in various areas including preparedness, general infectious diseases, environmental health
 - Ensure adequate support of headquarters office
- **Creation of new CEFO assignments**
 - Evaluate jurisdiction's need for CEFO support
 - Ensure local support and adequate level of supervision for CEFO
 - Consider fit of skills and interests with assignment
 - Transparency
- **Review clearance procedures for state-led publications**
- **Convene a CDC workgroup for field assignee programs to discuss procedures, best practices, etc.**

Core Themes and Recommendations

- **CEFO Headquarters has made significant improvements in support of field staff**
 - Continue strides made in program awareness
 - Retain high quality staff
- **Key areas for review and improvement include:**
 - Funding mechanisms
 - Communication with local supervisors
 - Better understanding of role of CEFOs within jurisdiction

Enabling CEFOs to Support , Enhance and Augment PHEP Epidemiologic Capabilities

Katie M. Kurkjian, DVM, MPH
Career Epidemiology Field Officer — Virginia

CEFO Program Review
June 30, 2011



PHEP Capabilities: Public Health Surveillance and Epidemiologic Investigation

- **Outlined in CDC's *Public Health Preparedness Capabilities: National Standards for State and Local Planning***
- **Defined as ability to create, support, and strengthen surveillance systems and epidemiological investigation processes and to expand these in response to incidents of public health significance**
- **Involves conducting surveillance and epidemiologic investigations, implementing mitigation strategies and improving epidemiologic systems**

Needs of Health Departments for Developing PHEP Epidemiologic Capabilities

- ❑ Personnel infrastructure
- ❑ Trained workforce
- ❑ Robust systems for surveillance and epidemiologic investigation
- ❑ Written plans and protocols
- ❑ Demonstration through activities
- ❑ Equipment

Strengths of CEFO Program: Flexibility of Assignments

- ❑ Establish CEFO assignments to address specific needs
- ❑ Allow CEFOs to participate in wide-range of activities
 - Conduct surveillance and outbreak investigations
 - Develop emergency response plans and protocols
 - Provide consultation, technical assistance and training

Strengths of CEFO Program: Workforce Capacity

- ❑ Recruit and retain CEFOs
 - Highly trained
 - Diverse background
 - Understanding of federal, state, and local perspectives
- ❑ Serve as valuable resource for epidemiologic activities
- ❑ Provide personnel stability and leadership continuity

Strengths of CEFO Program: Collaboration

- **Promote intra-agency collaboration**
 - Between epidemiology and emergency preparedness and response divisions
 - Across surveillance and investigation units
- **Encourage collaboration among local and state health departments**
 - Monthly CEFO Operations and Science Calls
 - CEFO network

Strengths of CEFO Program: Link to CDC

- **Provide situational awareness of health department issues and needs**
- **Foster communication between CDC and health department**
- **Improve access to CDC subject matter experts**

Strengths of CEFO Program: Protection from Administrative Barriers

- **Administrative support of CEFO program**
 - Allows CEFOs to work on epidemiological issues
- **Travel allowance**
 - Enables attendance to regional and national meetings
 - Provides representation of health departments
- **Individual learning account**
 - Supports education and training

Opportunities for Improvement: Promotion of CEFO Program

- ❑ **Identify opportunities for CEFOs, especially those that also affect health department**
 - Involve CEFOs in national-level initiatives
 - Engage CEFOs in vetting process
- ❑ **Encourage use of CEFOs as a resource to CDC staff**
 - Use CEFOs as points of contact
- ❑ **Build collaborations within CDC and with other partners**

Opportunities for Improvement: Assignment Duration and Renewal

- ❑ **Requesting agency agrees to support initial 2-year assignment with option to renew request annually**
 - Restricts CEFO recruitment
 - Creates job uncertainty
 - Limits long-term planning
- ❑ **Alternative schedules should be considered**

Opportunities for Improvement: Enhance CEFO Training

- ❑ **PHEP epidemiological investigations include environmental exposure investigations**
- ❑ **Some CEFOs may have less experience in environmental and disaster epidemiology**
- ❑ **CEFO training should include information about these investigations, including performing Community Assessments for Public Health Emergency Response (CASPERs)**

Summary

- ❑ CEFO Program plays significant role in assisting health departments increase PHEP epidemiologic capabilities
- ❑ Flexible assignments and administrative support allow CEFOs to work on a variety of projects
- ❑ CEFOs improve health department workforce capacity, collaboration and communication with CDC
- ❑ Opportunities for improvement include promoting CEFO Program , evaluating assignment duration and renewal processes and providing relevant training

Support Provided by the Career Epidemiology Field Officer (CEFO) Program Headquarters

Randall J. Nett, MD, MPH

Career Epidemiology Field Officer — Montana

CEFO Program Review

June 30, 2011



Office of Public Health Preparedness and Response
Career Epidemiology Field Officer Program

CEFO Program Support

- ❑ Administrative
- ❑ Scientific
- ❑ Advisory

Administrative Support — Activities

- **Assignment orders**
 - Civil service
 - Commissioned Corps
- **Travel**
 - Travel arrangements
 - Travel request and reimbursement paperwork
- **Conferences**
 - Annual CEFO meeting
 - Conference listings
 - Registrations
 - Submittal of names for HHS travel memos

Administrative Support — Activities

- **Equipment**
 - Laptop computers
 - Blackberries
- **Leave tracking**
- **Annual performance evaluations**
 - Civil service
 - Commissioned Officer Effectiveness Rating (COER)

Administrative Support — Activities

- **Monthly CEFO operations calls**
- **Miscellaneous**
 - Meeting minutes
 - Commissioned Corps Award nominations
 - Commissioned Corps pay

Administrative Support — Quality

- ❑ **Administrative support highly regarded among CEFOs**
 - Accessible
 - Responsive to suggestions by CEFOs
 - High level of performance

- ❑ **Two administrative professionals received the 2010 OPHPR Excellence in Administration Award**
 - Angela Taylor — CEFO Program Specialist
 - Jihan Hurse — CEFO Program Management Assistant

Scientific Support — Activities

- ❑ **Quarterly report review**

- ❑ **Project consultation**

- ❑ **Statistical consultation**

Scientific Support — Activities

- ❑ **Monthly CEFO science call**

- ❑ **Scientific presentation review/critique**

- ❑ **Scientific manuscript review and clearance**

- ❑ **CEFOs directed to appropriate CDC subject matter experts**

Scientific Support — Quality

- **Highly regarded among CEFOs, but utilized infrequently**
 - Staff highly accessible, responsive, and capable
 - Majority of support activities considered optional
 - Overlapping scientific support offered by other CDC offices
- **Staff turnover leads to temporary gaps in availability of support**
- **Lack of feedback to CEFOs regarding quarterly reports**

Advisory Support — Activities

- **Establishing new CEFO assignments**
 - Planning
 - Interviewing and selecting candidates
- **Career counseling**
- **Assignment evaluation/site visits**
 - Initial evaluation of assignment soon after CEFO placement and ad hoc support thereafter
 - Counseling

Advisory Support — Quality

- **Role of establishing functional CEFO assignments and selecting quality candidates has lasting impact**
- **Advisory support utilized infrequently**
 - Mostly used within three months of initial assignment or if problems develop
 - Rare communication with state supervisors
 - Certain situations in states not reconcilable despite attempts at mediation and counseling
- **Regarded as sufficient quality among CEFOs**
 - Staff accessible, caring, and determined to make assignments successful

Summary

- ❑ **Administrative support highly rated among CEFOs**
- ❑ **Scientific support of high quality, but utilized infrequently**
- ❑ **Advisory support adequate and typically used during initial 3 months of assignment and if problems develop**

Recommendations — Administrative Support

- ❑ **Continue with current activities**
- ❑ **Minimize staff turnover**

Recommendations — Scientific Support

- ❑ **Minimize staff turnover**
- ❑ **Provide regular feedback on work activities**
- ❑ **Develop and lead scientific projects that utilize collaboration among multiple CEFOs**
 - Enhance scientific output of CEFO program
 - Provide opportunity for collaboration among CEFOs
 - Increase visibility of CEFO program
 - Increase inter-state communication and collaboration

Recommendations — Advisory Support

- ❑ **Ensure adequate communications with state supervisors**
 - Earlier identification of assignment problems/challenges
 - Increase likelihood of solving assignment problems
- ❑ **Conduct ≥3 site visits per supervisor each year**
 - Better relationship among state supervisors and CEFO program staff
- ❑ **Make routine calls to each CEFO quarterly**
- ❑ **Improve efforts to get CEFOs recognition for work**

Elements that Contribute to a Successful CEFO Placement

Douglas A. Thoroughman, PhD, MS
Career Epidemiology Field Officer — Kentucky

CEFO Program Review
June 30, 2011



Office of Public Health Preparedness and Response
Career Epidemiology Field Officer Program

Background & Methods

- ❑ **What is a “successful CEFO Placement?”**
 - From current CEFO perspective
 - Based on individual perception of success
 - Varied by years of CEFO experience
- ❑ **How data was collected**
 - Email poll of CEFO's
 - Top 3 elements that contributed to success
 - Anything that detracted from success
 - Aggregated and summarized data

Descriptive Statistics

- ❑ **16 CEFO's responded**
 - 1-2 years as a CEFO – 5
 - 3-5 years as a CEFO – 5
 - 6-8 years as a CEFO – 6
- ❑ **CEFO experience varied**
 - Success and lack of success represented
 - Experience with multiple placements (3)
 - Difficulties during placements
- ❑ **Four factors stand above rest as characterizing success**
- ❑ **Several factors detracting from success reported**

Elements of Success

1) Organizational Structure and Placement

- ❑ **10 CEFO's noted this and 8 indicated it was their top element – Average: 1.3**

Reasons given:
- ❑ **Placement under Epi rather than Preparedness (7)**
 - Epi is focus and preparedness interfaced with
 - Help align/inform activities between these entities
- ❑ **High level placement in state organization**
- ❑ **Good fit between CEFO and assignment – CEFO's skills match needs of state**
- ❑ **Report to someone who values CDC/state connection**
- ❑ **Longer-term CEFO's valued this item highly**

2) Supervision

- ❑ **8 CEFO's noted this and 6 indicated it was their 1st or 2nd most important element – Average: 2.0**

Reasons given:
- ❑ **Autonomy, not micromanagement**
- ❑ **A flexible and understanding supervisor**
- ❑ **Supervisor knows what to expect from me and vice versa**
- ❑ **Puts trust in me/relies on me**
- ❑ **More valued by shorter-term CEFO's**

3) CEFO Flexibility

- 7 CEFO's noted this and 3 indicated it was their 1st or 2nd most important element – Average: 2.4

Reasons given:

- Must be able to adapt to varying requests
 - Drills, outbreaks, whatever comes up
- *Patience* to quietly endure , e.g. "recreational fed-bashing"
- Customer-oriented approach (I do whatever state wants me to do, not necessarily preparedness)
- Having a flexible view of preparedness and what it can cover
- Servant Leader model was very effective in my role
- More valued by mid-range CEFO's

4) Flexibility of Assignment

- 7 CEFO's noted this – Average: 2.9

Reasons given:

- Ability to work in different areas than only preparedness
- Involved in day-to-day epi activities and then work on emergency preparedness items as they are needed
- Harmony between preparedness and epi
- Valued by short-, mid-, and long-term CEFO's

Additional Success Elements

- **Funding (4 commented)**
 - CDC funding worked better than PHEP funding
 - Having travel funds is very helpful
 - Available and sustainable funding
- **Longevity (2 of 5 commented)**
 - Allowed me to be successful at tasks with long event horizon
 - Lots to get engaged in, seeing the big picture really helps
- **Clear Expectations (2 commented)**
 - Clear understanding of host regarding what they want from CEFO
 - "I knew what I was coming into"
- **HQ Support/Communication (2)**

Final Success Elements

- ❑ **CEFO receives adequate orientation to state/local HD overall**
- ❑ **Support for CEFO role from leadership at state**
- ❑ **Being in a low capacity state**
- ❑ **Prior state experience**
- ❑ **State staff excellence**

Detractors From a Successful CEFO Placement

- ❑ **Lack of support of local leadership (2)**
 - High level or managers
 - Insufficient time or experience on part of supervisor
 - Supervisor threatened by CEFO's expertise or experience
- ❑ **Lack of authority/ownership (2)**
 - Not being seen as in a leadership role
- ❑ **Funding – PHEP**
 - Can limit flexibility of work
 - Funding is decreasing, job is threatened
- ❑ **Limited Term/Assignment**
- ❑ **Inability to supervise state employees**
- ❑ **CEFO skill sets don't match those needed by state**

Summary

- ❑ **Success supported by many elements**
 - Organizational structure and placement
 - Local supervisor
 - CEFO flexibility
 - Assignment flexibility
 - Stable funding
 - HQ Support
 - Clear Expectations

Summary II

- ❑ **Success can be hampered by:**
 - Lack of support of leadership
 - Lack of authority/ownership
 - Funding stream and instability of funding
- ❑ **Success depends on all players**
 - State leadership
 - CDC HQ program staff and leadership
 - The CEFO

Recommendations

- ❑ **Continue to place CEFO's in Epi vs. PHP (as appropriate)**
- ❑ **Match CEFO skills to assignment**
- ❑ **Set clear expectations with both state and CEFO**
 - Emphasize expertise and leadership role of CEFO from outset
- ❑ **Assess supervisor carefully before placement**
- ❑ **Continue to assess CEFO's carefully for flexibility**
 - Orient them to this once hired
- ❑ **Continue to assess placements carefully**
 - Interplay between epi and preparedness
 - Flexibility of assignment duties for CEFO

Recommendations (continued)

- ❑ **Stabilize funding sources**
 - Expand (as possible) to non-PHP sources
- ❑ **Maintain HQ support**
- ❑ **Keep CEFO's on board as long as possible**
 - Longevity brings additional benefits to state
 - De-emphasize initial limited tour of 2-years
- ❑ **Consider allowing CEFO's to supervise state staff**
 - Only as desired by state
 - Regulated by CDC or CEFO Program guidance to protect CEFO

Appendix D. Results of Survey Conducted among CEFO Stakeholders - Summary Report, June 24, 20

Results of Survey Conducted among CEFO Stakeholders

Summary Report

June 24, 2011

Prepared for:
An ad hoc Board of Scientific Counselors (BSC) Workgroup

By
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Career Epidemiology Field Officer Program
Office of Science and Public Health Practice
Office of Public Health Preparedness and Emergency Response (OPHPR)

Centers for Disease Control and Prevention (CDC)
Atlanta, GA

EXECUTIVE SUMMARY

The Career Epidemiology Field Officer (CEFO) Program was launched in 2002 to strengthen state, local, tribal, and territorial epidemiologic capability for public health preparedness and response. CEFO positions are filled by Centers for Disease Control and Prevention (CDC) epidemiologists serving as field assignees. The CEFO Program is managed by the Office of Science and Public Health Practice (OSPHP) within the Office of Public Health Preparedness and Response (OPHPR) at CDC. As of June 2011, there are 30 CEFOs assigned to 26 state or local health departments.

To evaluate the CEFO Program strengths, weaknesses, and opportunities for improvement, an external peer review will be conducted by an ad hoc OPHPR Board of Scientific Counselors workgroup during June 2011. To inform the review, the OSPHP conducted a web-based survey of 145 key stakeholders of the CEFO Program: all 62 Directors of state, local, and territorial Public Health Emergency Preparedness (PHEP) Programs and all 59 State and Territorial Epidemiologists, as well as 24 other public health officials that either supervise or interact with CEFOs in their field assignments. Stakeholders were surveyed to obtain information about their awareness of the CEFO Program, their assessment of the significance of CEFO contributions, their opinions about the funding model used to support CEFO positions, and their perceptions of the support provided by the CEFO Program Headquarters office.

The survey was developed using the IBM-SPSS® Data Collection web-based survey tool, and consisted of multiple-choice, Likert-scale rating, and open-ended response questions. The survey received approval from the Office of Management and Budget (OMB) for one-time use of the Food and Drug Administration's (FDA) generic information collection mechanism entitled *Customer/Partner Customer Satisfaction Service Surveys*, OMB Control No. 0910-0360. No identifying information for respondents was collected. Data analyses were performed using Microsoft Excel® and the IBM-SPSS® survey tool. The response rate for the survey was 44% (64/145).

Results from the survey demonstrate that CEFO Program stakeholders (no matter whether they currently, previously, or never have been assigned a CEFO in their jurisdictions) had a high level of awareness about the CEFO Program and its mission, a high level of satisfaction with the contributions that CEFO assignees make in their health departments and the support provided by CEFO Program Headquarters, and a moderate level of dissatisfaction with the current CEFO funding model (i.e. direct assistance via the CDC PHEP cooperative agreement).

The findings of the survey support the conclusion that the CEFO Program has been successful in fulfilling its mission to strengthen state, local, tribal, and territorial epidemiologic capability for public health preparedness and response, but that ongoing challenges exist in the area of the funding model used to support the field assignee positions.

BACKGROUND

The Career Epidemiology Field Officer (CEFO) Program was launched in 2002 to strengthen state, local, tribal, and territorial epidemiologic capability for public health preparedness and response. CEFO positions are filled by Centers for Disease Control and Prevention (CDC) epidemiologists serving as field assignees. The CEFO field assignees have diverse professional backgrounds, skill sets, and experience levels, which enhance their ability to assist health departments in filling critical gaps in the public health infrastructure. The overarching aim of the CEFO field activities is to integrate the science of epidemiology and surveillance into preparedness planning efforts and emergency response activities. The CEFO Program is managed by the Office of Science and Public Health Practice (OSPHP) within the Office of Public Health Preparedness and Response (OPHPR) at CDC.

The funding mechanism used to support the CEFO positions is direct assistance via the CDC Public Health Emergency Preparedness (PHEP) cooperative agreement. State or local health departments requesting a CEFO agree to support the position for a minimum of two years with the option to renew the request annually. As of June 2011, there are 30 CEFOs assigned to 26 state or local health departments.

In their field assignments, CEFO contributions include:

- Strengthening state and local surveillance systems
- Conducting outbreak investigations
- Developing response plans for major public health emergencies
- Building partnerships with government agencies and other organizations for emergency preparedness
- Serving as liaisons to CDC and U.S. Department of Health and Human Services response teams and other resources
- Leading portions of the state's planning and response activities for pandemic influenza
- Leading or participating in federal, state, or local emergency response exercises
- Providing expertise on the design of epidemiologic investigations, conducting epidemiologic studies, analyzing data, and publishing findings

CEFOs are assigned a state or local supervisor in their field assignment, and are also assigned a supervisor housed at CEFO Program Headquarters at CDC in Atlanta. CEFO Headquarters also provides administrative and technical support to the CEFOs.

The role of CEFO Program Headquarters includes:

- Supporting Program operations
- Providing administrative support
- Financial management (budget activities)
- Implementing standard policies and procedures

- Recruiting CEFOs
- Providing workforce development
- Providing technical support and leadership
- Building partnerships
- Evaluating CEFO and Program performance

To evaluate the CEFO Program strengths, weaknesses, and opportunities for improvement, an external peer review will be conducted by an ad hoc OPHPR Board of Scientific Counselors workgroup during June 2011. To inform the review, the OSPHP conducted a web-based survey to obtain information from key CEFO stakeholders about their awareness of the CEFO Program, their assessment of the significance of CEFO contributions, their opinions about the funding model used to support CEFO positions, and their perceptions of the support provided by the CEFO Program Headquarters office. The purpose of this report is to document the results of the survey.

OBJECTIVE

The findings in this report are intended to inform all three scope objectives of the CEFO Program external peer review: (1) Delineating the strengths, weaknesses, and opportunities for improvement and growth regarding: a) the ability of the CEFO Program field assignees to support, enhance, and augment PHEP epidemiologic capabilities of key partners, specifically the emergency preparedness directors and epidemiologists in state and local health departments; and, b) the CEFO Program Headquarters' role in sustaining a strong field assignment program; (2) Evaluating the significance of the contributions made by CEFOs at their respective health departments; and, 3) Evaluating the funding model for the CEFO Program.

METHODS

Data for this assessment were derived from a web-based survey of 145 key stakeholders of the CEFO Program: all 59 State and Territorial Epidemiologists and 86 stakeholders representing all 62 state, local, and territorial Public Health Emergency Preparedness (PHEP) Programs. Survey recipients (and their respective email addresses) were identified via current rosters maintained by the Council of State and Territorial Epidemiologists (CSTE), CDC OPHR staff, and the CEFO Program Headquarters. For some PHEP grantees, the rosters included more than one PHEP point of contact for a jurisdiction; all received surveys. Survey recipients represented jurisdictions that currently have CEFO assignees, previously had CEFO assignees, and have never had CEFO assignees.

The survey was developed using the IBM-SPSS® Data Collection web-based survey tool, pilot-tested among nine potential respondents (5 State Epidemiologists and 4 PHEP Directors selected by a convenience sample), and finalized following incorporation of pilot test results and recommendations. The final survey (Appendix 1) received approval from the Office of Management and Budget (OMB) for one-time use of the Food and Drug Administration’s (FDA) generic information collection mechanism entitled *Customer/Partner Customer Satisfaction Service Surveys*, OMB Control No. 0910-0360.

The survey format consisted of seven sections and included multiple-choice, Likert-scale rating, and open-ended response questions. The sections were designed to collect information on stakeholder/respondent demographics; awareness of the CEFO Program; whether respondents currently, ever, or never had a CEFO field assignee in their health department; their satisfaction with CEFO activities and contributions in their health departments; satisfaction with support provided by CEFO Program Headquarters; and satisfaction with the CEFO funding model. No identifying information for respondents was collected. Data analyses were performed using Microsoft Excel® and the IBM-SPSS® survey tool. The response rate for the survey was 44% (64/145). All responses received were eligible to be included in the analyses.

RESULTS

Respondent Demographics

The majority of survey respondents were either State Epidemiologists (44%, n=28) or managers of their department’s Public Health Emergency Preparedness (PHEP) cooperative agreement (39%, n=25). Two State Epidemiologists noted dual roles as Deputy Director and PHEP Manager.

Table 1. Demographics of Survey Respondents and Corresponding Health Departments

Primary Role in Health Department (n=66)*	
<i>PHEP Director or Manager</i>	25 (39%)
<i>State Epidemiologist</i>	28 (44%)
<i>Health Commissioner</i>	-
<i>State Health Official</i>	4 (6%)
<i>Local Epidemiologist</i>	-
<i>Other</i>	9 (14%)
Health Department Location (n=64)	
<i>West</i>	16 (25%)
<i>Midwest</i>	14 (22%)
<i>Northeast</i>	15 (23%)
<i>South</i>	17 (27%)
<i>US Territory or Puerto Rico</i>	2 (3%)
CEFO Assignment (n=64)	
<i>CEFO is currently assigned</i>	36 (56%)
<i>No current CEFO, but CEFO assigned in the past</i>	7 (11%)
<i>CEFO has never been assigned</i>	21 (33%)
Relationship to CEFO (n=47)**	
<i>Primary supervisor</i>	18 (42%)
<i>Secondary supervisor</i>	11 (26%)
<i>Supervisor of CEFO supervisor</i>	5 (12%)
<i>No responsibility</i>	7 (16%)
<i>Other</i>	6 (14%)

* Two State Epidemiologists hold concurrent positions as Deputy Director and PHEP Manager, respectively, therefore n=66 for this response. "Other" roles include leadership positions in health departments and in Epidemiology and Communicable Disease Programs.
 ** Reported by 43 respondents who currently or previously were assigned a CEFO. They were able to select all options that apply.

Table 2. Supervisory Relationship Between Stakeholder and Current CEFO Assignee, by Respondent's Role at the Health Department (n=43)*

	Primary Supervisor	Secondary Supervisor	Supervisor of CEFO Supervisor	No Responsibility	Other	Total
PHEP Director/Manager	3	4	0	4	4	15
State Epidemiologist	10	4	4	2	1	21
State Health Official	2	1	1	0	0	4
Other	3*	2**	0	1	1	7
Total	18	11	5	7	6	47

* 43 respondents answered these survey questions; four respondents (3 State Epidemiologists and 1 PHEP Director) selected two types of relationships with current CEFOs and are represented twice in this table.

**Other (Primary Supervisor): Case and Outbreak Investigation Section Chief; PHEP/Communicable Disease Bureau Chief; Epidemiology Manager

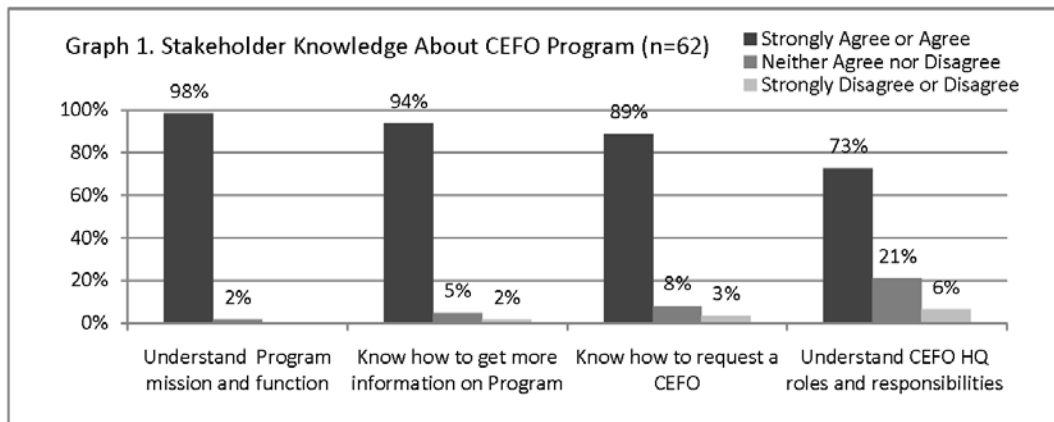
*** Other (Secondary Supervisor): Director of Epidemiology/Interim State Epidemiologist; Program Manager

Respondents were evenly distributed throughout four main geographic regions of the United States (West, Midwest, Northeast, and South, 22-27%) and two respondents (3%) worked in a US Territory or Puerto Rico. Over half of respondents reported that their health department is currently assigned a CEFO (56%, n=36). There are only 30 CEFOs currently assigned to health departments throughout the nation, yet there were 36 respondents who reported that a CEFO is currently assigned to their jurisdiction. This is because: 1) there may be more than one respondent from a jurisdiction with a CEFO; and/or, 2) respondents could select more than one "relationship with CEFO" if applicable. About a third of respondents had never been assigned a CEFO (33%, n=21), and the remaining seven respondents (11%) do not currently have a CEFO but were assigned one in the past. Respondents currently or previously assigned a CEFO (n=43) held several roles in relation to field assignees: primary supervisor (42%, n=18), secondary supervisor (26%, n=11), and the supervisor of a CEFO supervisor (12%, n=5). The remaining respondents (14%) worked in collaboration with CEFOs but did not supervise them (n=6). Note that respondents could select more than one role if applicable (Table 1).

The majority of current or previous CEFO primary supervisors who responded to the survey were State Epidemiologists (56%, n=10) (Table 2). Respondents' occupation and supervisory relationship with CEFOs may not be representative of all current CEFO supervisors; however, it does provide an illustrative example of the types of positions that CEFO supervisors hold within health departments.

Assessment of CEFO Program Headquarters Support

Of the 62 respondents who answered the question, almost all (98%, n=61) understand the CEFO Program’s mission and function and know how to get more information about the Program (94%, n=58) (Graph 1). Most respondents (89%, n=55) know how to request a CEFO, and the two respondents who reported not knowing how to request a CEFO either have never been assigned a CEFO or are not currently assigned a CEFO. About three quarters (73%, n=45) of respondents understood the roles and responsibilities of CEFO Headquarters. Over 20% (n=8) of respondents currently assigned a CEFO either reported a neutral response to this question (n=6) or did not understand the role of Headquarters (n=2).



Of the 43 respondents previously or currently assigned a CEFO, about three quarters were satisfied with CEFO Headquarters support in establishing a CEFO position and in the CEFO Program’s ongoing interactions and support (Graph 2). The majority were also satisfied with CEFO Program’s accessibility and responsiveness (Graph 3).

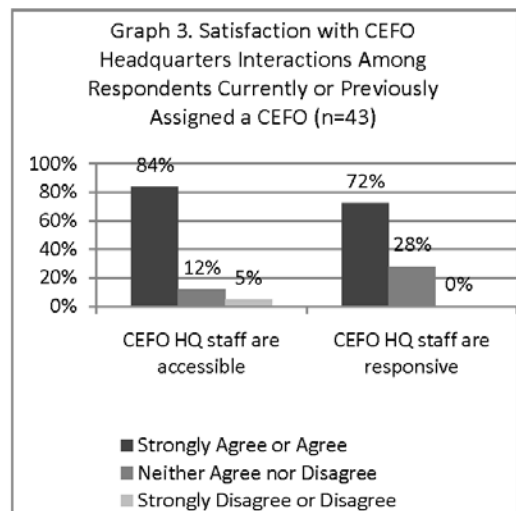
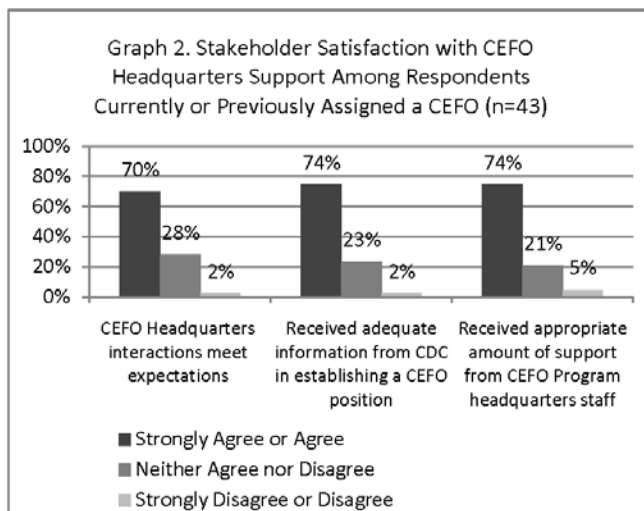


Table 3. Percentage of Respondents Reporting that CEFO Program Headquarters Activities Meet Expectations, Among Stakeholders Currently or Previously Assigned a CEFO (n=43)

Information	Minimally Meets Expectations	Meets or Exceeds Expectations	Not Applicable
Update about plans and policies related to CEFO positions	19%	65%	16%
Establish networks and linkages	30%	58%	12%
Administrative Support			
Develop relevant work plans	28%	63%	9%
Recruit and select CEFOs	7%	81%	12%
Orient new CEFOs	9%	77%	14%
Support for CEFOs' travel plans	12%	84%	5%
Support for reimbursements	7%	88%	5%
Managerial Support			
Technical support and leadership	14%	72%	14%
Support for clearance process	12%	72%	16%
Evaluate program performance	14%	74%	12%
Scientific Support			
Scientific writing and editing	14%	47%	40%
Advice on investigations or facilitating connections with CDC subject matter experts (SMEs)	9%	70%	21%

Table 3 displays a rating of CEFO Program Headquarters support, categorized by function, as rated by respondents who previously or currently were assigned a CEFO (n=43). For most activities (8 of 12), at least 70% of respondents reported that Headquarters met or exceeded their expectations. Respondents' expectations were most frequently met or exceeded by CEFO Headquarters for three administrative support activities: 1) support for reimbursements (88%); 2) support for CEFOs' travel plans (84%); and, 3) recruiting and selecting CEFOs (81%). Only two activities were rated by fewer than sixty percent of respondents as meeting or exceeding expectations of CEFO Headquarters: 1) establishing information networks and linkages (58%); and, 2) scientific writing and support (47%). However, the latter activity was not considered to be an applicable Headquarters activity by 40% of respondents.

All 64 respondents were asked what additional support they needed from CEFO

Program headquarters. Respondents who never or were previously assigned a CEFO were also included to assess whether they might need current information from CEFO Program headquarters. Most respondents did not specify any additional support needed from the CEFO Program (64%, n=41). Nine respondents (14%) indicated a desire for alternate or increased funding, and six respondents (9%) requested technical assistance from the Program. The types of assistance requested included assistance with the PHEP application process, access to biostatisticians or other experts, and detailed information on how CEFOs can assist with meeting preparedness and response goals. Four respondents (6%), all of whom currently or previously hosted a CEFO, requested clarification on the role of the CEFO Program Headquarters office.

CEFO Contributions to State and Local Health Departments

Table 4. Percentage of Respondents Reporting that CEFOs Met Expectations for Specified Activities, Among Stakeholders Currently or Previously Assigned a CEFO (n=43)

	Minimally Meets Expectations	Meets or Exceeds Expectations	Not Applicable
Improve epidemiologic capacity			
Conduct surveillance activities	7%	86%	7%
Conduct outbreak investigations	9%	77%	14%
Consult on surveillance activities	5%	93%	2%
Supervise outbreak investigations	16%	63%	19%
Build linkages between epidemiologic and laboratory capacity	28%	65%	7%
Assist with surveys related to public health investigations	7%	91%	2%
Improve public health preparedness and response			
Serve a role in the state emergency operations center	9%	70%	21%
Draft state or local health department preparedness plan	14%	65%	21%
Conduct response exercises	19%	60%	21%
Conduct response trainings	14%	72%	14%
Evaluate state or local health department preparedness plans	16%	70%	14%
Evaluate state or local health department emergency response	16%	65%	19%
Provide education, training, and workforce development			
Provide workshops and other trainings to local staff	7%	86%	7%
Provide national training	14%	47%	40%
Mentor student intern(s), epidemiologist(s), EIS Officer(s), or other staff	9%	77%	14%
Serve as adjunct faculty to institutes of higher learning	12%	33%	56%
Improve Communications			
Consultative role in public health recommendations for communicating emergency messages	9%	86%	5%
Contribute to briefing statements	12%	79%	9%
Contribute to public outreach	7%	86%	7%
Contribute to health education campaigns as subject matter expert	9%	86%	5%
Contribute to health department newsletters	12%	72%	16%

Respondents currently or previously assigned a CEFO (n=43) were asked to identify CEFOs' three most important contributions to their respective health departments. The three most-commonly selected contributions were: 1) improving epidemiologic capacity (81%, n=35); 2) improving public health preparedness and response (74%, n=32); and, 3) providing education, training, and workforce development (44%, n=19).

Table 4 (continued on page 10) displays a detailed rating of CEFO contributions to their respective health departments. Categories of activities that frequently met or exceeded respondent expectations were: increasing the department's access to professional networks and resources, contribution to the scientific knowledge base, improvement of communications, and improvement of epidemiologic capacity. Over 90% of respondents reported that CEFOs met or exceeded expectations in six activities: 1) consulting with subject matter experts (SMEs) (98%); 2) collaborating with federal partners (95%); 3) consulting on surveillance activities (93%); 4) assisting with surveys related to public health investigations (91%); 5) collaborating with state partners (91%); and, 6) participating in workgroups or other councils (91%). At least 60% of all respondents believed that CEFO contributions met or exceeded expectations in all but three listed categories (serving as adjunct faculty in

Table 4. Percentage of CEFOs Meeting Expectations for Specified Activities (n=43) (continued from page 9)

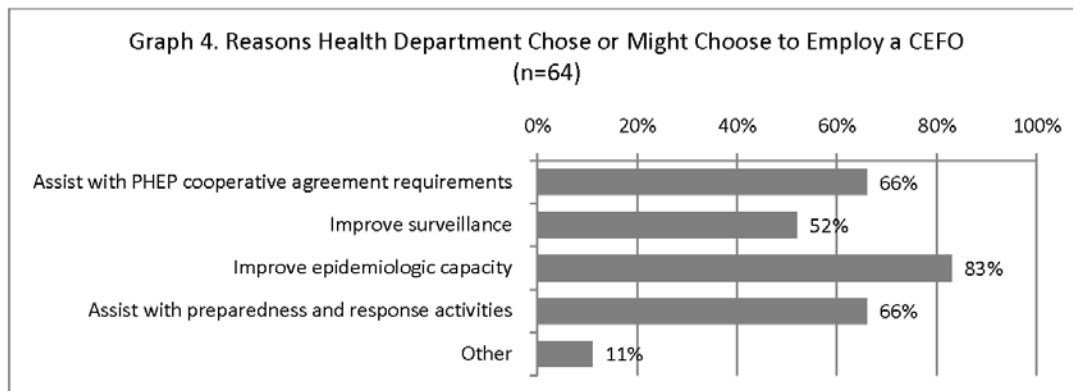
	Minimally Meets Expectations	Meets or Exceeds Expectations	Not Applicable
Improve policy recommendations			
Consultative role in state or local public health department policy development	12%	70%	19%
Consultative role in revisions of public health policies	9%	72%	19%
Conduct policy analysis	21%	51%	28%
Assist with implementing policies or policy changes	16%	63%	21%
Increase health department's access to professional networks and resources			
Collaborate with federal partners	5%	95%	0%
Collaborate with state partners	5%	91%	5%
Collaborate with local health departments	2%	81%	16%
Collaborate with academic institutions	19%	65%	16%
Collaborate with other CEFOs	9%	86%	5%
Participate in workgroups or other councils	9%	91%	0%
Consult with subject matter experts (SMEs)	2%	98%	0%
Contribute to scientific knowledge base			
Facilitate special projects	7%	88%	5%
Develop scientific protocols	9%	77%	14%
Contribute to peer-reviewed journals	12%	67%	21%
Provide conference presentations	9%	88%	2%
Consult on grants as subject matter expert (SME)	16%	79%	5%
Other consultations as subject matter expert (SME)	2%	98%	0%

institutes of higher learning, conducting policy analysis, and providing national training), although many respondents indicated that these activities were “not applicable” to CEFOs (56%, 28%, and 40%, respectively).

All survey respondents were asked to explain (open-ended questions) the strengths of the CEFO Program for their health department. The majority of respondents (72%, n=46) reported that the field assignee's robust epidemiology skills and contributions to strengthening epidemiology and preparedness capacity were strengths of the CEFO Program. One respondent's comment is illustrative of the types of feedback provided: the "CEFO filled a critical technical and leadership gap that we had been unable to fill for - literally - years. In just a short period of time, she has established a cohesive, constructive, and productive team." All responses to open-ended survey questions are available in Appendix 2.

Eight percent (n=5) of respondents reported that the CEFO Program provides a unique mechanism to attract highly skilled epidemiologists using competitive salaries. For example, one respondent commented: "Since the CEFO keeps the connection to CDC, and federal wages and benefits, it is possible to recruit talent to states that might otherwise stay in Atlanta or go to industry." A few respondents specifically highlighted the value of the Program's ability to attract epidemiologists with medical and veterinary training. About 9% (n=6) of respondents also noted that the Program enables health departments to recruit talented people who are not subject to local hiring caps or freezes.

Other strengths noted by respondents include the connection with CDC (11%, n=7) and CEFOs' contribution to mentoring staff and fellows.



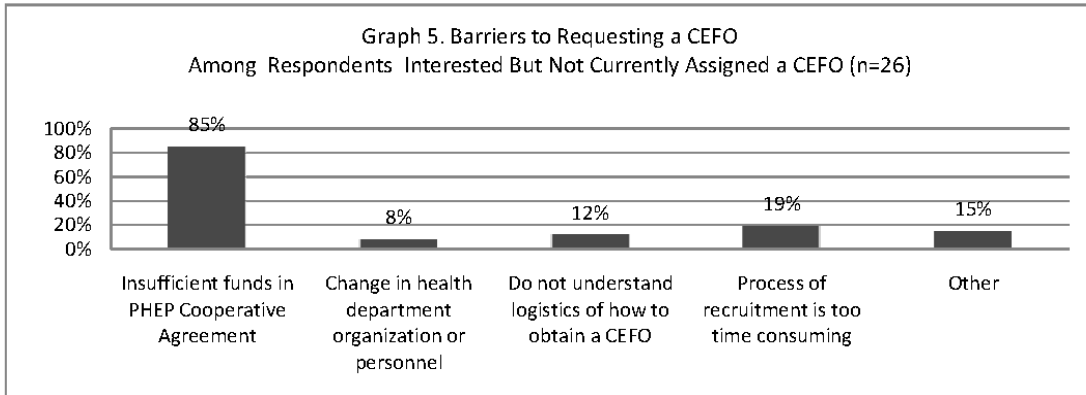
As indicated in Graph 4, respondents recognized the value or potential value in employing a CEFO, particularly with respect to improving epidemiologic capacity (83%, n=53), assisting with PHEP deliverable requirements (66%, n=42), and assisting with preparedness and response activities (66%, n=42).

Barriers to Establishing and Maintaining a CEFO Assignee

Respondents were asked to indicate their interest in requesting a CEFO (or an additional CEFO); 41% (n=26) of respondents indicated an interest. The remaining respondents either did not want a CEFO or an additional CEFO (34%, n=22) or did not know whether they wanted one (25%, n=16).

The majority of the 22 respondents not interested in requesting a CEFO or an additional CEFO currently employ one in their jurisdiction (73%, n=16) and most reported that their need for assistance is met. About 41% (n=9) identified funding restraints as a reason for not wanting a CEFO. Other respondents were not interested in establishing a CEFO or an additional CEFO at their health department because CEFO activities are too restricted (n=1) or the health department is independently able to recruit and retain needed personnel (n=1).

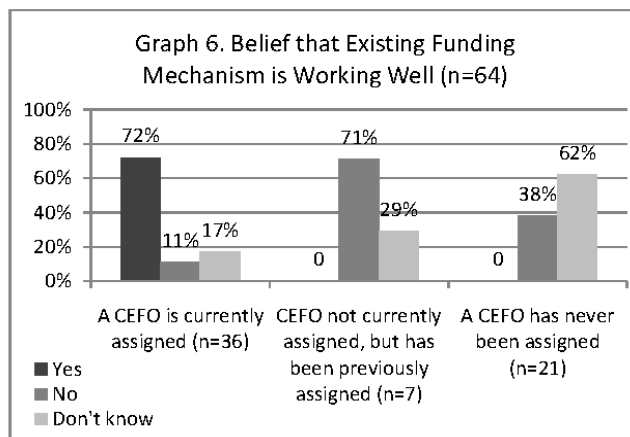
Of the 26 respondents who indicated an interest in requesting a CEFO, five had never hosted a CEFO. These five respondents wanted a CEFO because of their epidemiology skills and experience. Respondents who currently or previously hosted a CEFO and would like to request another one (n=21) often reported satisfaction with past or current CEFO performance and an interest in improving preparedness and surveillance capacity. As one respondent noted, "Our current CEFO has been extremely helpful to our overall preparedness capacity. We greatly appreciate the level of expertise and professionalism."



The majority of respondents who would like a CEFO, but are not currently assigned one, reported insufficient funds in the PHEP cooperative agreement as a limiting factor (85%, n=22) (Graph 5). Among these 26 respondents, the time demands of the recruitment process and lack of understanding about the logistics of obtaining a CEFO were also mentioned as challenges to acquiring a CEFO.

Seven of the 64 respondents were assigned a CEFO in the past, but are not currently assigned a CEFO. The majority (86%, n=6) indicated insufficient funds in the PHEP cooperative agreement as a reason that the CEFO was discontinued. Two other reasons identified by respondents was that the duties of the CEFO assignment had been completed (n=1) and the CEFO decided to leave the position (n=1).

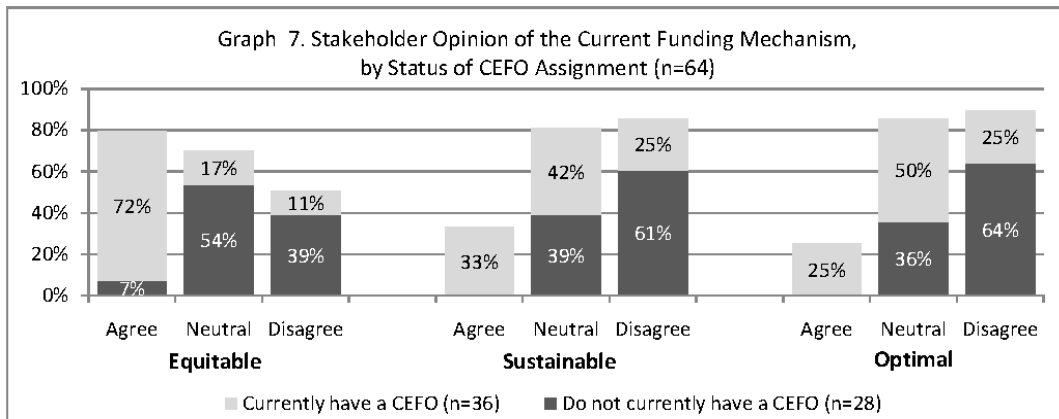
All respondents were asked to explain the major risks for their ability to support a CEFO in their health department and the most commonly identified concern was lack of funds (78%, n=50). Many respondents expressed concern over PHEP funding levels, indicating that the “PHEP grant may not provide sustainable funding as [the] trend towards smaller and smaller awards continues.” Eight percent (n=5) indicated that changes in local leadership (i.e. department director, PHEP Director) priorities may result in decreased ability to support a CEFO. A few respondents (6%, n=4) noted that the relatively high salary for CEFOs compared with local staff salaries could result in prioritizing the hiring of local staff. Funding levels remained the ultimate concern, as “cuts to funding will result in dropping of [a CEFO position] from our state as these costs are more than other employees.” One respondent was concerned that CEFO functions were restricted to preparedness activities regardless of other unmet epidemiologic needs. The



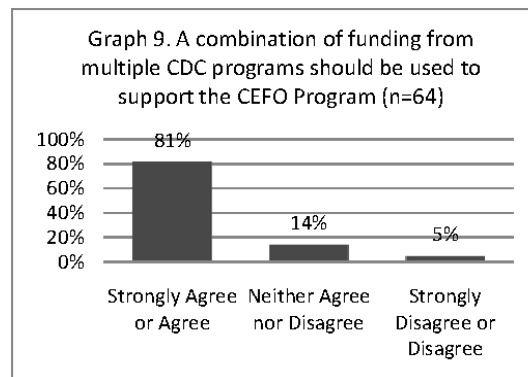
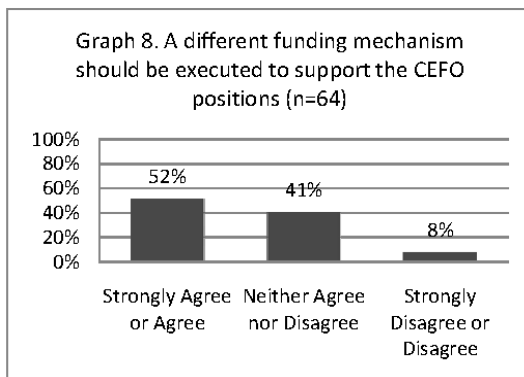
remaining respondents did not indicate any specific risks to supporting a CEFO.

Assessment of Current Funding Model

The majority of respondents currently assigned a CEFO (n= 36) reported that the existing funding mechanism is working well; however, respondents not currently assigned a CEFO were more frequently dissatisfied or unsure of its effectiveness (Graph 6, previous page). Of the 17 respondents for whom the CEFO funding mechanism is not working well, over half (65%, n=11) described an inability to recruit a CEFO due to financial constraints, such as PHEP funding decreases and the relatively high cost of a CEFO salary. One respondent captured the sentiments of many: “There is no carve-out for CEFO assignment. The funds are continuously decreasing while requirements are continuously increasing. While a CEFO could assist in building capability and fulfilling requirements, we simply cannot afford to commit to it, especially for 2 years.” Some respondents suggested that the Direct Assistance mechanism is cumbersome; many preferred a funding source other than the PHEP cooperative agreement.



Graph 7 demonstrates that respondents not currently assigned a CEFO do not believe the current funding model is equitable, sustainable, or optimal. As may be expected, respondents currently assigned a CEFO generally reported that the funding mechanism is equitable; however, only 33% of them indicated the model is sustainable and only a quarter indicated it is optimal.



About half of respondents (52%, n=33) agree or strongly agree that a different funding mechanism should be used to support CEFO positions (Graph 8, previous page). The overwhelming majority (81%, n=52) indicated a preference for blended funding that would draw on resources from multiple CDC Programs (Graph 9, previous page).

Respondents were asked to describe the different funding mechanism that they would suggest be considered. About half discussed diversification of funding sources and indicated two principal reasons:

- *Sustainability*: There is concern about the sustainability of CEFO positions due to ongoing decreases in PHEP awards. Respondents indicated that increasing the variety of funding options or using non-PHEP funds would facilitate broader, more sustainable support for the positions.
- *Flexibility*: Respondents reported that PHEP funding restrictions preclude CEFOs from filling epidemiology gaps and state priorities not related to preparedness. Some respondents commented that CEFOs should support epidemiology capacity more broadly; therefore, they suggested it would be appropriate to expand the funding base to include general epidemiology-related sources.

The most commonly-mentioned potential alternate or additional funding source was to use funds from the CDC Epidemiology and Laboratory Capacity for Infectious Diseases (ELC) Cooperative Agreement, (even though this is actually not feasible due to direct assistance restrictions in the ELC). One respondent also commented that "[if] a blended funding mechanism is used, it needs to be administered in a straightforward way by CDC, or it could become unworkable in a state system." As one respondent noted, it would be beneficial to have a sustainable funding stream that did not exclusively impact a grantee's ability to fund preparedness activities. Another commonly-recommended alternate funding mechanism was for CDC to directly fund all or part of CEFO salaries (30%, n=10/33).

Opportunities for CEFO Program Improvement

Nearly a third of respondents (31%, n=20) identified issues related to funding as an area where the CEFO Program could improve. The most commonly identified funding issues were requests for diversification of funding sources (13%, n=8) and increasing the sustainability of funding (6%, n=4). Again, the amount of funding available was a concern: "Funding of CEFOs will be a challenge in the future - their salaries are 2-3 times that of state employees with epi (sic) and surveillance experience. We need funding assistance to continue with CEFOs." The discrepancy between CEFO and state employee salaries was noted as a concern by a respondent who had never been assigned a CEFO.

Respondents also suggested:

- simplifying and clarifying the hiring process (n=4)
- increasing equity in the placement process (n=2)
- disseminating more information about the role of CEFOs (n=2) and the CEFO Program (n=2)
- recruiting CEFOs with informatics (n=2) and statistics (n=1) expertise

A few (n=3) respondents proposed allowing greater flexibility in CEFO activities. It was noted that "preparedness funds tend to dictate priorities" and that a diversification of funding sources could enable flexibility while maintaining the focus on epidemiology and surveillance capacity.

CONCLUSIONS

In summary, results from this survey demonstrate that CEFO Program stakeholders (no matter whether they currently, previously, or never have been assigned a CEFO in their jurisdictions) had a high level of awareness about the CEFO Program and its mission, a high level of satisfaction with the contributions that CEFO assignees make in their health departments and the support provided by CEFO Program Headquarters, and a moderate level of dissatisfaction with the current CEFO funding model.

Survey results identified the following strengths of the CEFO Program:

- Ability of CEFO Headquarters to promote and sustain Program awareness
- The majority of respondents previously or currently assigned a CEFO reported that the support provided by CEFO Program Headquarters meets or exceeds their expectations
- The robust epidemiologic skill sets and diverse clinical backgrounds of CEFO field assignees
- The ability of the CEFO field assignees to improve epidemiologic capability, improve public health preparedness and response, and provide education, training, and promote workforce development in their assigned jurisdictions.

Survey results identified the following weaknesses and/or opportunities for improvement in the CEFO Program:

- Nearly a third of respondents (31%, n=20) identified issues related to funding as an area where the CEFO Program could improve
- Insufficient funds in the PHEP cooperative agreement was cited as the primary barrier to establishing and maintaining a CEFO assignee (among respondents who previously or never had a CEFO)

- A majority of respondents indicated a preference for using a different funding model to support CEFO positions, for example, using a combination of funds from various CDC grants and/or cooperative agreements
- PHEP funding may lead to a lack of flexibility for the CEFO to conduct broad epidemiologic activities to meet a jurisdiction's needs
- Some respondents noted a lack of understanding about the role of CEFO Program Headquarters and/or a need for additional information about PHEP CEFO funding and CEFO hiring processes.

The survey itself was subject to several limitations, including participant self-selection (i.e. possible differences between those who chose to respond to the survey versus those who did not), low response rate, self-reported data, question content validity, and short turnaround time for respondents to complete the survey. Response rate can be influenced by survey length, whether respondents are notified both before and after survey distribution, and, perhaps most importantly, issue salience (Sheehan and McMillan, 1999).

Although a low response rate can give rise to sampling bias, the 64 CEFO Stakeholder Survey respondents were evenly distributed among State Epidemiologists and PHEP Directors and also equally represented all four geographic regions of the United States. As such, it is possible that the non-respondents had similar distribution, which would decrease selection bias and may increase confidence in the representativeness of the respondent sample.

Despite these limitations, the findings of the survey support the conclusion that the CEFO Program has been successful in fulfilling its mission to strengthen state, local, tribal, and territorial epidemiologic capability for public health preparedness and response, but that ongoing challenges exist in the area of the funding model used to support the field assignee positions.

REFERENCE

Sheehan, K. B., & McMillan, S. J. (1999). Response variation in e-mail surveys: An exploration. *Journal of Advertising Research*, 39 (4), 45-54.

Appendix 1. Career Epidemiology Field Officer Program Stakeholder Survey

Form Approved
OMB No: 0910-0360
Exp Date 07/31/2011

Centers for Disease Control and Prevention (CDC) Career Epidemiology Field Officer Program Stakeholder Survey

The purpose of this survey is to elicit information from you as a stakeholder of the Centers for Disease Control and Prevention (CDC), Career Epidemiology Field Officer (CEFO) Program. The survey will collect information about your knowledge of the CEFO Program, and obtain your opinions on the contributions that CEFOs make to the state and local public health infrastructure and the quality of support received by state and local health departments from the assigned CEFOs and the CDC CEFO Headquarters staff. This survey is being sent to all state epidemiologists and Public Health Emergency Response Directors, as well as other public health officials that supervise CEFOs (e.g., county public health epidemiologists, deputy State Epidemiologists, and other emergency response officials).

We would greatly appreciate you taking a few minutes to complete the survey. Responses to this survey are anonymous. CDC cannot and will not identify any individual respondents to this survey, nor will CDC be able to link responses to a particular individual, state or U.S. Territory. The results of the survey will assist program managers in improving the CEFO program. A summary of the survey results will be made available to you by early summer 2011.

The survey is composed of seven sections with a combination of multiple choice and open-ended text questions. The survey will take about 18 minutes to complete. Please make sure that you will have adequate time to complete the survey before you begin because you will not be able to save your responses and return at a later time. You can access the survey by clicking on this link:

<http://OPHPRsurveys.cdc.gov/mrIWeb/mrIWeb.dll?I.Project=CEFOSTAKEHOLDERS>.

Please complete the survey by Monday, April 18, 2011. If you have questions about this survey, please contact Nadine Oosmanally (telephone: (770) 488-8809; email: noosmanally@cdc.gov).

Background: The Centers for Disease Control and Prevention (CDC), Career Epidemiology Field Officer (CEFO) program is dedicated to strengthening epidemiologic capacity within state, local and territorial health departments. A CEFO is a CDC epidemiologist assigned, by request, to a public health department to facilitate and strengthen their epidemiologic capacity and public health preparedness. CEFO positions are funded through direct assistance of the health department's Public Health Emergency Preparedness (PHEP) cooperative agreement. The requesting agency must commit to funding the CEFO initially for two years with the option to renew the request annually. As of October 2010, there are 30 CEFO assignees located in 23 state or local public health departments. Thank you for your contribution to this collaborative effort to help us improve the CEFO Program!

Public reporting burden of this collection of information is estimated to average 18 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to CDC/ATSDR Information Collection Review Office, 1600 Clifton Road NE, MS D-74, Atlanta, GA 30333; ATTN: PRA (0910-0360)

Section 1. Please provide the following information about your primary role at the state or local health department.

1.1 Which of the following best describes your primary role in your state, local, or territorial public health department? (Please select all that apply.)

- Director or Manager of Public Health Emergency Preparedness
- State Epidemiologist
- Health Commissioner
- State Health Official
- Local (city, county, or regional) epidemiologist
- Other _____

1.2 How long have you served in your primary role in your state, local, or territorial health department?

- <1 year
- 1-5 years
- 5-10 years
- 11-15 years
- 16-20 years
- 21-25 years
- >25 years

1.3 In what region of the United States do you serve in your primary role for public health?

- West** (*Alaska, Arizona, California, Colorado, Hawaii, Idaho, Los Angeles County, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming*)
- Midwest** (*Chicago, Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin*)
- Northeast** (*Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, New York City, Pennsylvania, Rhode Island, Vermont*)
- South** (*Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia*)
- United States Territory or Puerto Rico** (*American Samoa, Guam, Marshall Islands, Micronesia, Northern Mariana Islands, Palau, Puerto Rico, Virgin Islands*)

Section 2. Please provide the following information about your awareness of the CEFO Program.

A CEFO is a CDC epidemiologist assigned, by request, to a public health department to facilitate and strengthen their epidemiologic capacity and public health preparedness.

2.1 Were you aware of the CEFO Program prior to receiving this survey?

- Yes, Go to question 2.2.
- No, Go to Section 3.

2.2 How did you learn about the CEFO Program? (Please select all that apply.)

- An interaction with a CEFO
- Conference or professional meeting
- Division of State and Local Readiness (DSLRL)
- Other CDC Program _____
- Partner (e.g., CSTE, ASTHO, NACCHO, etc.)
- CDC Internet website
- Other _____

2.3 Please use the scale provided below to rate the following statements about the CEFO Program.

5 = Strongly Agree, 4 = Agree, 3 = Neither Agree nor Disagree, 2 = Disagree, 1 = Strongly Disagree

- 2.3.1 I understand the mission and function of the CEFO Program
- 2.3.2 I know how to get more information on the CEFO Program
- 2.3.3 I know how to request a CEFO for my public health department
- 2.3.4 I understand the roles and responsibilities of CEFO headquarters
- 2.3.5 The CEFO Program headquarters staff are accessible when I have tried to contact them
- 2.3.6 The CEFO Program headquarters staff are responsive when I have made requests

If you responded to any of the above as disagree or strongly disagree, please provide additional comments. (free text)

Section 3. Please provide the following information about CEFO (s) assignments in your health department.

3.1 Has a CEFO been assigned to your health department? (See the attachment if you are uncertain of your response to this question.)

- A CEFO is currently assigned. [Go to 3.4]
- A CEFO is not currently assigned, but a CEFO has been assigned in the past. [Go to 3.2]
- A CEFO has never been assigned. [Go to 3.4]

3.2 Why was the CEFO's assignment in your health department discontinued? (Please select all that apply.)

- Insufficient funds in PHEP cooperative agreement
- Change in health department organization or personnel
- Process of recruitment was too time consuming
- CEFO decided to leave the position
- CEFO was not adequately addressing health department's needs
- Duties of the assignment had been completed
- Other_____

3.3 How long has your health department been without a CEFO?

- 0-1 year
- 1-2 years
- 3-4 years
- 5-6 years
- ≥7 years

3.4 Which of the following describes why your health department chose or might choose in the future to employ a CEFO? (Please select all that apply.)

- Assist with requirements in Public Health Emergency Preparedness (PHEP) cooperative agreement
- Improve surveillance
- Improve epidemiologic capacity
- Assist with preparedness and response activities
- Other_____

3.5 Would your health department be interested in requesting a CEFO or an additional CEFO?

- Yes
- No
- Do not know

If yes, why? **[Go to 3.6]**

If no, why not? **[Go to 3.7]**

3.6 If you do not currently employ a CEFO, and would like to, what are the challenges preventing you from requesting a CEFO? (Please select all that apply.)

- Insufficient funds in PHEP Cooperative agreement
- Change in health department organization or personnel
- Do not understand logistics of how to obtain a CEFO
- Process of recruitment is too time consuming
- Other: _____

[If CEFO has never been assigned, go to Section 6.]

[If CEFO is currently assigned or a CEFO has been assigned in the past, go to 3.7]

3.7 Currently or in the past, how many years has your health department employed a CEFO? [If you are uncertain of the answer, please see the attachment.]

- <1 yr
- 1-2 yrs
- 3-4 yrs
- 5-6 yrs
- ≥7 yrs

Section 4. Please provide the following information about the past and present contributions of CEFO(s) in your health department.

4.1 Which of the following best describes your responsibility in relation to the CEFO in your health department?

(If a CEFO is not currently assigned, but there has been a CEFO assigned in the past, what was your responsibility in relation to the CEFO in your health department? (Please select all that apply.)

- Primary supervisor
- Secondary supervisor
- I supervise one of the CEFO's supervisors
- No responsibility
- Other _____

4.2 Please use the scale provided below to rate each of the activities that best describes the contributions of the CEFO(s) to fill gaps in epidemiologic capacity in meeting your health department goals. If an activity is not included in the CEFO's work assignment or duties, please select "Not Applicable".

Not Applicable	The activities, knowledge, or resources described are not within the scope of work.
Minimally	Less than 50% of the activity, knowledge or resources described within the question are met.
Meets Expectations	Less than 75% (but greater than 50%) of the activity, knowledge or resources described within the question are met.
Exceeds Expectations	Greater than 75% of the activity, knowledge or resources described within the question are met.

ACTIVITY	Not Applicable	Minimally	Meets Expectations	Exceeds Expectations
4.2.1 Improve epidemiologic capacity				
4.2.1.1 Conduct surveillance activities				
4.2.1.2 Conduct outbreak investigations				
4.2.1.3 Consult on surveillance activities				
4.2.1.4 Supervise outbreak investigations				
4.2.1.5 Build linkages between epidemiologic and laboratory capacity				
4.2.1.6 Assist with surveys related to public health investigations				
4.2.1.7 Other (related to improving epidemiologic capacity)				
4.2.2 Improve public health preparedness and response				
4.2.2.1 Serve a role in the state emergency operations center				
4.2.2.2 Draft state or local health department preparedness plan				
4.2.2.3 Conduct response exercises				
4.2.2.4 Conduct response trainings				
4.2.2.5 Evaluate state or local health department preparedness plans				
4.2.2.6 Evaluate state or local health department emergency response				
4.2.2.7 Other (related to public health preparedness and response)				
4.2.3 Provide education, training, and workforce development				
4.2.3.1 Provide workshops and other trainings to local staff				
4.2.3.2 Provide national training				
4.2.3.3 Mentor student intern(s), epidemiologist(s), EIS Officer(s), or other staff				
4.2.3.4 Serve as adjunct faculty to higher institutes of learning				
4.2.3.5 Other (related to education, training, and workforce development)				

Not Applicable	The activities, knowledge, or resources described are not within the scope of work.
Minimally	Less than 50% of the activity, knowledge or resources described within the question are met.
Meets Expectations	Less than 75% (but greater than 50%) of the activity, knowledge or resources described within the question are met.
Exceeds Expectations	Greater than 75% of the activity, knowledge or resources described within the question are met.

ACTIVITY	Not Applicable	Minimally	Meets Expectations	Exceeds Expectations
4.2.4 Improve communications				
4.2.4.1 Consultative role in state or local public health recommendations for communication messages related to emergencies				
4.2.4.2 Contribute to briefing statements				
4.2.4.3 Contribute to public outreach				
4.2.4.4 Contribute to health education campaigns as subject matter expert				
4.2.4.5 Contribute to health department newsletters				
4.2.4.6 Other (related to communications)				
4.2.5 Improve policy recommendations				
4.2.5.1 Consultative role in state or local public health department policy development				
4.2.5.2 Consultative role in revisions of public health policies				
4.2.5.3 Conduct policy analysis				
4.2.5.4 Assist with implementing policies or policy changes				
4.2.5.5 Other (related to policy)				
4.2.6 Increase health department's access to professional networks and resources				
4.2.6.1 Collaborate with federal partners				
4.2.6.2 Collaborate with state partners				
4.2.6.3 Collaborate with local health departments				
4.2.6.4 Collaborate with academic institutions				
4.2.6.5 Collaborate with other CEFOs				
4.2.6.6 Participate in workgroups or other councils				
4.2.6.7 Consult with subject matter experts (SMEs)				
4.2.6.8 Other (related to increasing access to professional networks and resources)				
4.2.7 Contribute to scientific knowledge base				
4.2.7.1 Facilitate special projects				
4.2.7.2 Develop scientific protocols				
4.2.7.3 Contribute to peer-reviewed journals				
4.2.7.4 Provide conference presentations				
4.2.7.5 Consult on grants as subject matter expert (SME)				
4.2.7.6 Other consultations as subject matter expert (SME)				
4.2.7.7 Other (related to contributing to scientific knowledge base)				24

4.3 Please select the three most important contributions of the CEFO(s) in your health department.
(If a CEFO is not currently assigned, but there has been one assigned in the past, please select the three most important contributions of past CEFO (s).)

- Improve epidemiological capacity
- Improve public health preparedness and response
- Provide education, training, and workforce development
- Improve communications
- Improve policy recommendations
- Increase health department's access to professional networks and resources
- Contribute to scientific knowledge base

Section 5. Please provide the following information about the type (s) of support provided by CDC CEFO Headquarters Staff.

5.1 Please use the scale provided below to rate the following statements.

5 = Strongly Agree, 4 = Agree, 3 = Neither Agree nor Disagree, 2 = Disagree, 1 = Strongly Disagree

5.1.1 My expectations for CEFO Headquarters interactions are or have previously been met .

5.1.2 I received adequate information from CDC during the process of establishing a CEFO position.

5.1.3 I receive(d) the amount of support that I would have liked to receive from the CEFO Program headquarters staff

5.2 If you responded to any of the above as disagree or strongly disagree, please provide additional comments. (free text)

5.3 Please use the scale provided below to rate each of the activities that best describes the support provided by the CDC CEFO Headquarters staff to your health department.

(If you had a CEFO in the past, what type of support did you receive from the CEFO Program headquarters staff?)

Not Applicable	The activities, knowledge, or resources described are not within the scope.
Minimally	Less than 50% of the activity, knowledge or resources described within the question are provided.
Meets Expectations	Less than 75% (but greater than 50%) of the activity, knowledge or resources described within the question are provided.
Exceeds Expectations	Greater than 75% of the activity, knowledge or resources described within the question are provided.

SUPPORT ACTIVITY PROVIDED BY CDC CEFO HEADQUARTERS	Not Applicable	Minimally	Meets Expectations	Exceeds Expectations
5.3.1 Information				
5.3.1.1 Update about plans and policies related to CEFO positions				
5.3.3.2 Establish networks and linkages				
5.3.1.3 Other (related to information)				
5.3.2 Administrative support				
5.3.2.1 Develop relevant work plans				
5.3.2.2 Recruit and select CEFOs				
5.3.2.3 Orient new CEFOs				
5.3.2.4 Support for CEFOs' travel plans				
5.3.2.5 Support for reimbursements				
5.3.2.6 Other (related to administrative support)				
5.3.3 Managerial support				
5.3.3.1 Technical support and leadership				
5.3.3.2 Support for clearance process				
5.3.3.3 Evaluate program performance				
5.3.3.4 Other (related managerial support)				
5.3.4 Scientific support				
5.3.4.1 Scientific writing and editing				
5.3.4.2 Advice on investigations or facilitating connections with CDC subject experts				
5.3.4.3 Other (related to scientific support)				

Section 6. The following questions pertain to the funding mechanism for supporting the CEFO positions.

CEFO positions are funded through the Direct Assistance mechanism of the requesting health department's PHEP cooperative agreement allocation. The requesting agency must commit to funding the CEFO initially for two years with the option to renew the request annually.

6.1 Do you believe that the existing CEFO funding mechanism is working well for your health department?

- Yes
- No
- Do not know

If no, why not?

6.2- 6.6 Please use the scale provided below to rate the statements in 6.2 to 6.6.

5 = Strongly Agree, 4 = Agree, 3 = Neither Agree nor Disagree, 2 = Disagree, 1 = Strongly Disagree

6.2 The current funding mechanism for supporting the CEFO positions is *equitable*.

6.3 The current funding mechanism for supporting the CEFO positions is *sustainable*.

6.4 The current funding mechanism for supporting the CEFO positions is *optimal*.

6.5 A combination of funding from multiple CDC programs should be used to support the CEFO positions. *(e.g., funding combined from PHEP, and Immunization, or Emerging Infections)*

6.6 A different funding mechanism should be executed to support the CEFO positions.

If you responded "strongly agree" or "agree", please describe the different funding mechanism that you would suggest be considered.

Section 7. The following questions are focused on the strengths and opportunities for improvement of the CEFO Program.

7.1 In your opinion, what are the strengths of the CEFO Program for your health department?

7.2 In your opinion, what are the opportunities for improvement in the CEFO program?

7.3 What do you see as the major risks for your ability to support a CEFO in your health department?

7.4 What additional support do you need from the CEFO Program?

Thank you for participating in this survey!

END OF SURVEY

Appendix 2. Responses to All Open-Ended Response Questions, CEFO Stakeholder Survey

2.3 Please use the scale provided below to rate the following statements about the CEFO Program.

5 = Strongly Agree, 4 = Agree, 3 = Neither Agree nor Disagree, 2 = Disagree, 1 = Strongly Disagree

2.3.1 I understand the mission and function of the CEFO Program

2.3.2 I know how to get more information on the CEFO Program

2.3.3 I know how to request a CEFO for my public health department

2.3.4 I understand the roles and responsibilities of CEFO headquarters

2.3.5 The CEFO Program headquarters staff are accessible when I have tried to contact them

2.3.6 The CEFO Program headquarters staff are responsive when I have made requests

If you responded to any of the above as disagree or strongly disagree, please provide additional comments (free text).

- While I understand the role of the CEFO in a state, I do not understand the role of the CEFO headquarters.
- I know of the existence of CEFOs and have former colleagues who are CEFOs but, otherwise, I do not know much about the program
- There seems to be long delays for responding to questions
- I don't really know what CEFO headquarters does

3.5 Would your health department be interested in requesting a CEFO or an additional CEFO? If yes, why?

- The existing CEFO is working out so well. Hard to hire good staff through state government due to salary levels and FTE restrictions.
- Our existing CEFO has been an absolutely wonderful addition to our epidemiology program, working on surveillance issues and emergency preparedness as well as communications and educational documents. She has thoroughly enjoyed her time here so it is definitely a mutually beneficial relationship. We have plenty more than another CEFO could do.
- Need assistance and an experienced staff member to assist in a variety of areas.
- We have two now -- we would want to replace each of them when they move on.
- Nevada is a decentralized state with three local health districts in the most populated counties (Clark, Washoe, and Carson City), while the rest of rural and frontier counties are directly under the Nevada State Health Division's (NSHD) jurisdiction. In order to provide an effective statewide leadership in epidemiology and public health preparedness, the NSHD/State Office of Epidemiology needs to build its capacity (e.g., skilled staff and clear plans, goals and objectives). Currently Nevada is receiving valuable assistance from the CEFO assigned to accomplish these functions.
- We actually requested and were awarded 2nd CEFO effective May 2011
- Excellent skills, experience - only problem is the decreasing funding from CDC and thus freeing the substantial resources needed is currently not feasible as funds are fully committed already.
- Our CEFO has increased our capacity to do high quality surveillance and preparedness work.
- May be interested when the Department's epidemiology staff nears retirement.
- Currently in process upon request of state epidemiologist.

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- Plenty for a CEFO to do - and previous CEFO did plenty. Only limitation has been insufficient funding to support CEFO given other priorities.
- Need a federal assignee with informatics expertise.
- Our current CEFO has been extremely helpful to our overall preparedness capacity. We greatly appreciate the level of expertise and professionalism.
- Quality individuals who enhance capacity within our agency
- Already have one and want to retain
- It is difficult to find a public health physician who knows clinical medicine and public health emergency preparedness. As a group, CEFOs have the best experience in these areas.
- To further enhance emergency response and epidemiological capacity.
- I think that a CEFO would offer a lot to our health department. I have been in conversations with others at the health department about getting a CEFO but funding issues are the primary discussion issue.
- To improve epidemiologic capacity.
- To improve preparedness capacity.
- Need more experienced, senior-level epidemiologists in our agency
- Their contribution to the State Epi Program
- To assist in developing work that contributes to strengthening emergency preparedness capability.
- We have some technical gaps that could be filled with a CEFO
- Our Public Health Department is centralized. There are epidemiologists who work at the state level, but there are no regional epidemiologists. Our CEFO was recently relocated to the area of the state with the greatest need. This allowed the state epis to focus on disease investigations, outbreaks, and incidents in other areas, while the area with the greatest need received individual attention. An additional CEFO would bring support back to the central office. Additionally, the CEFO could help to continue to improve Epi capacity within emergency preparedness.
- To help with coordination and other issues.
- To enhance and strengthen our surveillance capability, to help analyze and interpret surveillance data and provide guidance during public health outbreaks or investigations of cases that may be of public health concern

3.5 Would your health department be interested in requesting a CEFO or an additional CEFO? If no, why not?

- Need currently met. Also too many restrictions on functions they can perform to address other unmet needs.
- No funding
- No current need
- We currently have 2 CEFOs serving in our state. Our PHEP budget cannot support another position.
- We already have an assigned CEFO
- Funding
- The current CEFOs provide enough additional expertise and capacity.

- Due to lack of PHEP and state dollars, will use the unused CEFO dollars to build up Epi infrastructure.
- 1 is the right number--do not need another!
- Funding restraints
- Our current CEFO is doing an excellent job. We do not need an additional one.
- We just had a second CEFO start with us. Give us a year with two CEFOs and we might well ask for a third!
- We have not had a problem recruiting or retaining qualified personnel.
- One CEFO appears to meet our needs, expense of position also a factor.
- One is sufficient at this time.
- The current workload here would not justify an additional CEFO
- We currently have 2 :-)
- Insufficient funding
- CDC budget cuts of 18% have had a devastating impact on us - will not seek additional CEFO.
- We currently have a CEFO and won't be requesting another, only need one.
- Too expensive.
- There is a WHO Epidemiologist that works in the national Department of Health that should help with the need.

5.2 Please use the scale provided below to rate the following statements.

5 = Strongly Agree, 4 = Agree, 3 = Neither Agree nor Disagree, 2 = Disagree, 1 = Strongly Disagree

5.1.1 My expectations for CEFO Headquarters interactions are or have previously been met

5.1.2 I received adequate information from CDC during the process of establishing a CEFO position.

5.1.3 I receive(d) the amount of support that I would have liked to receive from the CEFO Program headquarters staff

5.3 If you responded to any of the above as disagree or strongly disagree, please provide additional comments. (free text)

- Never a site visit or even a call from CEFO CDC office
- Hiring of CEFO and dealing with headquarters was not my responsibility

6.1 Do you believe that the existing CEFO funding mechanism is working well for your health department? If no, why not?

- The CEFO in 2003 could not be funded on PHEP at the time as the funds were committed elsewhere and the CEFO was a big ticket item.
- We cannot afford to support a two year commitment to a CEFO utilizing direct assistance funds.
- With tight and uncertain budgets, the request process is too long and can tie up funding - very poor experience with prior H1N1 DA requests (do understand this is not CEFO)
- Funds are already fully committed and the funds needed are more than a single employee salary in the grant.
- We lost our CEFO, who worked extremely well for us and we really liked, due to decreases in PHEP funding. He didn't want to leave, and we didn't want him to leave, but we had to cut his

funding to support our core staff. This defeats the purpose of providing epidemiologic and preparedness capacity.

- Requires a commitment of too much money from the limited grant resources.
- Dwindling preparedness funds led to decision to not replace CEFO
- Should be a separate funding stream, not out of the PHEP Cooperative Agreement. The dramatic cuts in the PHEP agreement drive us to focus on higher priorities.
- Very difficult to understand the amount that CDC charges our department by grant year. PGO explanations are not clear.
- We pay for last year's services with this year's money making budgeting more complicated
- Since our CEFO left in 2005, we have not been able to recruit another one. We interviewed and selected a new CEFO but she was not able to take up the position because of funding issues.
- There is no carve-out for CEFO assignment. The funds are continuously decreasing while requirements are continuously increasing. While a CEFO could assist in building capability and fulfilling requirements, we simply cannot afford to commit to it, especially for 2 years.
- The assistance should not come out of the PHEP grant.
- The continuing decline in PHEP funding does not allow us to make a two-year commitment in funding for CEFO.
- We never know how much money the DA is going to be, it is just taken out of the funding but we have no accounting of those funds to demonstrate that it is accurate and what it is for.
- We need a CDC assignee, but this is very expensive to the state. These should be funded by CDC directly, like EIS.
- We barely have funds to pay for existing staff on the PHP cooperative agreement.

6.6 A different funding mechanism should be executed to support the CEFO positions.

If you responded "strongly agree" or "agree", please describe the different funding mechanism that you would suggest be considered.

- Would like the CEFO mechanism of direct assistance to be broadened to apply to ELC grant funds
- PHEP funding is too restrictive in that activities have to be related to preparedness. That precludes our CEFO from working on many epi activities for which we have a need.
- Direct federal support
- Direct CEFO funding for states
- ELC grant would allow more flexibility for state priorities in epi capacity
- Would prefer for CDC to have an appropriation for the CEFO program and then the officers could be distributed based on need.
- Unsure but there must be a better system than DA
- Any Epi or Surveillance-based funding sources could and should be used to support the CEFO - depending upon the particular work being addressed by each position in their particular circumstance.
- Separate funding for these positions is needed as funding for positions of this magnitude only is freed up if someone retires or quits.
- I would suggest the combined approach: ELC, PHEP, EIP, there could be several different funding mechanisms or contributors given the range of activities that CEFOs perform.
- A combination of source of funds due to the reduction in PHEP base funds.

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- Direct funding by CDC and time limited assignment to the states
- Similar to that used by the DSNS
- Should be from the ELC Grant or other Epi-focused funding.
- I am concerned about future funding and think a broader base of support would be optimal
- Sustainable source that does not otherwise impact funding for preparedness alone
- Immunization, ELC, preventive block
- I would suggest ELC, since CEFOs support epi capacity in a broad way. If a blended funding mechanism is used, it needs to be administered in a straightforward way by CDC, or it could become unworkable in a state system.
- Another possibility is to fund CEFOs out of OSELS
- Pay for the coming year; make it part of multiple grants; contribution by CDC
- More flexibility in the source of funding would help our public health agency assess the ability to get a CEFO.
- The position should be directly funded by CDC. Principal Investigators on the PHEP grants always complain that there is not enough money to fund a CEFO.
- Funding directly from CDC for the position
- Spread across functional areas
- A separate funding stream or carve-out for CEFOs. If PHEP funds continue to decrease as we expect, the only way we see ability to obtain a CEFO is if CDC funds it some other way.
- It's hard to say, am not aware of all the federal funds that come into the state, so CDC should do a better, much better job by providing better information on all possible funding sources.
- It might be useful to have federal funding available to support CEFO. Given the current economic climate, state funding is inadequate to support these positions.
- A combination funding or committing dedicated dollars to CEFO positions.
- States should be given the breakdown of what the DA is used for, this much for salary, benefits, travel, etc.
- States should be offered maximum flexibility in funding a CEFO. It is a great program, and our CEFO is great, and I would like to be able to retain her if something happens to the threat preparedness grant. I can also see funding additional CEFOs through other mechanisms.
- PHEP funding level is not currently sufficient to support this program. If there's a desire to supplement this capability with federal personnel, then additional funding sources need to be identified.
- Directly funded by CDC, not out of a grant to states.
- Separate funding stream, similar to EIS.
- Funding should be separate from the CDC awards to those jurisdictions seriously needing the expertise.

7.1 In your opinion, what are the strengths of the CEFO Program for your health department?

- Ability to staff a highly skilled epi person at a competitive salary without troubling with the state hiring mechanisms including personnel lids
- Excellent skill set and professionalism
- Meeting preparedness goals imposed by CDC
- States are reluctant to hire MDs/ vet epis etc as they are big ticket items and difficult to retain. Direct support from a highly trained CEFO is invaluable.

- Provides an experienced staff member when hiring may be difficult due to state location, and can provide targeted attention to areas of need that lack resources at the present time
- Not applicable
- We get access to a talent pool we could not otherwise afford or attract to our organization.
- Epi expertise that we could not otherwise attract to our program; support for epi capacity and leveraging of additional resources
- Strengths of the CEFO Program include: 1. Providing skilled epidemiologists to state/local health departments, 2. Securing funding for the position, 3. Providing direct CDC support, 4. Providing quick assistance when needed.
- Ability to get experienced epidemiologist
- Access to well-trained medical epis, with outbreak leadership skills, usually well -connected to the centers, excellent at recruiting and supervising EISOs, and able to push projects to closure
- Enhancing capacity for epidemiological investigations
- From seminars I've attended, the CEFOS generally seem like top notch professionals which would be strongly desired
- Excellent skills and experiences; excellently-trained staff; science-based staff who are not affected by state policies and procedures.
- Familiarity with CDC programs, serve as liaison to CDC and other federal agencies, experience and training.
- The ability to increase onsite preparedness and epidemiologic capacity
- Linkage to CDC
- Subject matter expertise of the CEFO
- Epi support at local level
- The CEFO Program increases our capacity to accomplish our public health goals
- Potential resource for epi talent
- Brings in new perspective
- Not sure of the specific strengths
- Opportunity to obtain experienced, quality assistance to help support state health department staff in a variety of ways that allow state capacity to be increased.
- Allow us to get staff when there is a state hiring freeze
- The combination of subject matter expertise, additional expert capacity, interest in exercises and training of staff, extensive subject matter network, and additional case and outbreak investigation expertise.
- Reliability, expert knowledge, team player, willingness to help wherever needed.
- Diverse PH backgrounds, assisting the Epi and EP folks approach programs from a "different" perspective.
- Brings expertise and connectivity to CDC--helps in mentoring staff
- Access to an outstanding professional who enhances health department capability
- Getting a trained epidemiologist who can assist with program activities. Provide epi capacity in areas where current capacity is limited.
- Provision of skilled and trained personnel to provide medical and infectious disease support /leadership as well as public health preparedness and response consultation
- Expertise level; ability to have another FTE without it counting against the state's FTE numbers
- A well-qualified CEFO brings a unique and rare set of skills and experience.

- Additional highly trained staff in face of state hiring freezes; would facilitate sustaining infrastructure
- Expertise and response capacity
- Ability to attract highly trained and experienced talent to work in a state setting. Since the CEFO keeps the connection to CDC, and federal wages and benefits, it is possible to recruit talent to states that might otherwise stay in Atlanta or go to industry.
- Flexibility in defining specific CEFO activities within the general parameters of the program."
- Additional skilled staffing available
- I would think the program would be of value to us if we found it difficult to maintain capacity in the department.
- Provides subject matter expertise
- N/A (we don't have a CEFO)
- 1. Provides epidemiologic support, 2. Connects emergency preparedness with epidemiology, 3. Provides scientific expertise, 4. Staff mentoring
- Sustaining a CDC staff presence in a state health department
- I have no idea
- Well-qualified expertise readily available, reach of the CEFO program provides additional resources from CDC and other agencies when needed.
- Epi capacity
- Science
- Excellent, experienced epidemiologists do good work!
- Helping us fill gaps in our program
- Already illustrated in previous questions
- Knowledge, skills and abilities provided by CEFO
- Assistance completing work that fosters the building or strengthening of PHEP capabilities.
- Surveillance, Research Capacity, Epidemiological Investigation Support, Community Assessments
- None
- Trained and experienced staff availability
- Trained Epidemiologists that can be deployed to assist state and local health departments
- Ability to add a qualified employee to support activities especially when hiring is difficult at state level. Getting expertise that is difficult to find in state.
- Our CEFO filled a critical technical and leadership gap that we had been unable to fill for - literally - years. In just a short period of time, she has established a cohesive, constructive and productive team. Our CEFO is the greatest strength!!
- Exceeds epi core competencies.
- Understands public health roles in emergency preparedness.
- Builds relationship between Epi Division and EP
- Federal connections and relationship
- Experience and subject matter expert brought to the state.
- N/A
- SME
- SME for the enhancement of public health emergency preparedness.
- None

- No comment; no CEFO currently assigned to my State.
- Provide expertise in epidemiology and emergency preparedness

7.2 In your opinion, what are the opportunities for improvement in the CEFO program?

- Extending the direct assistance mechanism to other areas outside emergency preparedness
- More CEFOs should be available
- More flexibility in epi activities they can work on.
- Philosophy of a chicken in every pot was great--CEFOs should be matched and assigned equitably without huge and onerous application processes from states.
- Don't know as we do not have a CEFO.
- Not applicable
- One of the four recruitments for a CEFO for our state that I participated in was a total bust, going on for over a year without a successful candidate. This was some years ago, so I have to hope this is no longer true.
- CEFOs should be supported through more than one cooperative agreement; time spent by CEFOs on national or international field assignments should be reimbursed to the host jurisdiction; CEFOs should be allowed opportunities for limited on-site supervision of state personnel
- I believe it is a good program in its current format
- No opinion
- Preparedness funds tend to dictate priorities - so either a mix of funds with ELC and HPP might keep the focus on epi and surveillance capacity
- None
- Lack of direct experience with program makes this question difficult to answer
- None to note at this time
- Streamline program funding and recruitment
- Funding mechanisms
- Dissemination of information about the CEFO program
- None that I can identify
- Funding mechanism that does not require commitment of limited program funds for preparedness
- To be determined
- Better understanding of the role and then having the individual work within it
- More flexibility in what CEFOs do to assist with capacity building, including covering existing state health department staff activities so state staff can gain new skills and capacities.
- Attract CEFOs with informatics expertise
- The CEFO Program is currently working well with our CEFOs.
- From where we sit, we are happy with the program, but that could be because we are so happy with our CEFO.
- CEFOs, especially 0-4 and higher, have a proven track record of good work and a good background of CDC/State/Local EP work.
- Connect to more parts of our health department
- Sustainable funding

- Federal employees earn considerably more than state employees. I wonder if there is a way to address this discrepancy
- Exploration of funding outside of PHEP cooperative agreement
- It would be nice if CDC could pick up part of the cost
- The biggest challenge is the cost of the CEFO and unless/until grant funding increases, this may not be resolved
- Diversifying funding sources to support CEFO
- I do have concerns about sustainability giving drops in funding
- Works well for us.
- N/A
- Do not have formed opinions, except perhaps a mechanism of funding that would not involve cooperative agreement funding.
- We are satisfied with the CEFO program
- N/A (We don't have a CEFO)
- 1. Improve the funding process, 2. Educate health directors and Principal Investigators on role of a CEFO
- Need more regional-level CEFO trainings that would benefit state health staff, too.
- See 7.1
- Funding could be partially supported by other programs- not solely PHEP.
- ???
- More responsibility on CEFO position.
- Biggest challenge is for state health department to use the expertise of the CEFO
- Not sure
- Lose the uniforms
- Don't know.
- Funding of CEFOs will be a challenge in the future - their salaries are 2-3 times that of state employees with epi and surveillance experience. We need funding assistance to continue with CEFOs.
- Better funding, better focus
- Need a mechanism in place to provide answers to states in a timely manner.
- Funding to the CEFO positions.
- Providing more information to the PHEP managers on funding and processes.
- Broaden the funding streams that can be used to assign CEFOs to states, including state funds. Broaden the available expertise, such as informatics, statistics. De-mystify the hiring process. Clarify the role of the CEFO program at CDC. Make sure that threat preparedness activities the CEFO gets involved in are actually constructive.
- The CEFO program is working well.
- None
- N/A
- Funding differently
- Continued funding of the program.
- No opinion.
- Places with such expertise limitation should be considered differently than those with such capacities available.

- Don't deal directly with CEFO program

7.3 What do you see as the major risks for your ability to support a CEFO in your health department?

- No guarantee on the federal funding; there is also a risk that new leadership within our agency would have added discretion to de-fund the position---harder to do that with a state funded position---still--it's worth the slight risk
- I don't know
- Functions are too restrictive. May not be able to use that amount of funding solely for preparedness activities with other unmet epi needs.
- No funding
- Funding: having to take monies away from other areas such as local public health funds to support the position.
- Not applicable
- Changes in management of the PHEP grant that would be less supportive of epidemiology as a core discipline in public health emergency response.
- PHEP grant may not provide sustainable funding as trend to smaller and smaller awards continues.
- I don't know, I am not sure about the risks
- Funding
- PHEP budget cuts and relatively high salaries for federal assignees compared to state employees
- Decreasing funding in the preparedness grant.
- We cannot fund existing staff due to limited funding in upcoming budget period, so while CEFO is great way to add staff during a hiring freeze, the position is costly and is like adding a new position to the budget
- Reduction of funding from PHEP CA
- Uncertainty of CDC funding level in the preparedness program
- Lack or decrease in funding--not a risk but a reality for us
- Reduced availability of funds
- Declining federal funding
- Lack of adequate funding for the program
- Continued decrease in PHEP funding
- N/A
- Inadequate funding
- Cost, in the face of cuts in the PHEP grant
- Lack of state bureaucratic recognition of the value of our CEFOs.
- If our funding gets cut, our CEFO may become a target for reduction, so that folks who have historically been supported by the funds can remain supported.
- Out of 3 CEFOs, only 1 was effective in their support of the State Epi and EP programs. The other two were more of a drain on the system, than a positive influence.
- The funding of the program
- Funding
- Expense
- Decline in PHEP funding

- Decrease in federal funding in Preparedness and other programs
- Cost
- Sustained funding in PHEP cooperative agreement
- Decreased federal funding
- Decreasing funding for Preparedness from Congress and decreased emphasis on Preparedness by Dr. Frieden.
- Reduced PHEP funding; limited state funding
- PHEP funding levels.
- Funding.
- Funding source
- The director and PHEP PI may not be interested or not aware of the need for a CEFO. Has not been considered a serious need by the above.
- None
- Rapidly vanishing budgets
- As PHEP budgets are trimmed, the placement could become an issue in small states.
- Funding
- Continued PHEP funding
- N/A
- As PHEP funding diminishes, this may become a non-supportable activity
- Level of PHEP funding and micro-management of the PHEP funds by the CDC
- Inability to sustain funding.
- Their cost. 0-6 CEFOs are expensive and especially expensive when CDC cuts your budget 18% in one year and likely more into the future.
- The cost of a CEFO is a direct reduction to state & local staff
- Decreasing resources
- Unsure of annual funding
- The cost is high and we don't know what the funds are used for or what the breakdown is. Cuts to funding will result in dropping of this from our state as these costs are more than other employees
- I am concerned about the level of threat preparedness funding, especially if it continues to decline. Our local health departments may not support continued assignment of a CEFO if they see the CEFO as competition for 'their' dollars.
- PHEP cuts as well as cuts to the ELC.
- Funding and sustainment
- Lack of understanding at the Executive level.
- Grant funding and cuts
- Lack of funding.
- We can fund two state positions with the funds needed to support a CEFO.
- Funding constraints.
- Lack of funding to have a CEFO long-term (more than 2 years)

7.4 What additional support do you need from the CEFO Program?

- None that I can think of
- I don't know

- None
- An effective, sustainable, dependable program.
- Targeted funding.
- None
- None at this time.
- Possibly more technical support, in the form of readily available biostatisticians and other technical consultants. More guidance on linkage to specific preparedness goals and the new target capabilities in the PHEP cooperative agreement.
- It is doing well. No additional supports are needed at the present time
- None at this time
- No additional support needed
- None at this time
- N/A at this time
- None at this time
- It would help to know who might be interested to come to our state.
- Currently, we don't have a CEFO, but exploring alternative models for funding and support of the program would be great
- None that I can think of.
- None at this time
- To be determined
- None
- Increased flexibility - as noted previously.
- Central CDC office is great
- May need additional support during the funding renewal process
- A public health advisor-type, who in addition to being a subject matter expert, is skilled at the application process would be a boon to a small division that is chronically understaffed.
- Until a funding stream change, none.
- Nothing at this time
- None
- Again, funding is an issue, particularly when there are cuts to federal grants. These CEFO positions are expensive
- None at this time
- No comment
- Greater clarity on how costs are calculated and how they are distributed over grant years. This should be provided on a regular basis, not just annually.
- Unknown
- Sustained, secure funding to maintain CEFO
- None
- N/A
- None
- None
- N/A
- As stated in the previous question
- Sustained funding

- I do not know enough to answer this question
- None at this time
- ??
- Current support is terrific
- N/A
- none
- None
- \$\$
- Funding support.
- None
- None at this time
- More detailed info on how a CEFO can be used in preparedness and response. Examples on how used in CDC or other State programs and direct funded cities.
- Regular information on what other CEFOs are doing and information on 'headquarters'. The idea of being able to allow multiple federally funded programs to fund the CEFO might be good as well.
- I would appreciate clarification of the role of the CEFO program at CDC. I haven't heard from them since our CEFO was hired. Of course, our CEFO is great, so I don't really need to hear from them.
- Sustained funding
- None
- Better understanding of the what, who, and why.
- N/A
- N/A
- None
- Technical assistance that CDC can sponsor.
- Educational advice

**Appendix E. Results of Survey Conducted among Career Epidemiology Field Officers -
Summary Report, June 22, 2011**

Career Epidemiology Field Officer Program: External Review

Results of Survey Conducted among Career Epidemiology Field Officers

Summary Report

June 22, 2011

Prepared for:

An ad hoc Board of Scientific Counselors (BSC) Workgroup

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EXECUTIVE SUMMARY

To evaluate the Career Epidemiology Field Officer (CEFO) Program strengths, weaknesses, and opportunities for improvement, an external peer review will be conducted by an ad hoc Office of Public Health Preparedness and Response (OPHPR) Board of Scientific Counselors workgroup during June 2011. To provide information for the review, the OSPHP conducted a web-based survey among the 30 CEFO field assignees. CEFOs were surveyed to obtain information about their type and distribution of work activities, the level of satisfaction about their interactions with CEFO Program Headquarters staff, and their level of satisfaction with the operational elements of the program.

A survey was developed using the IBM-SPSS® Data Collection web-based survey tool, and consisted of multiple-choice, Likert-scale rating, and open-ended response questions. No identifying information for respondents was collected. Data analyses were performed using Microsoft Excel® and the IBM-SPSS® survey tool. The response rate for the survey was 87% (26/30).

Results from the survey demonstrate that the CEFO assignees are involved in a broad distribution of activities that contributes to the Public Health Emergency Preparedness (PHEP) target capabilities of key partners. CEFOs serve as subject matter experts (SMEs) and facilitate partnerships between their health departments and public or private partners. In general, the CEFO assignees are involved in activities that enhance the epidemiologic capability in their health departments. Several CEFOs mentor student interns, epidemiologists, Epidemic Intelligence Service (EIS) Officers, or other staff. Additionally, all CEFOs contribute to the scientific knowledge base for epidemiology and preparedness. Although CEFOs were involved in the majority of activities that were included in the survey, few were involved in policy analysis and facilitating national trainings. CEFO involvement in these activities could be strengthened.

CEFO field assignees had a high level of satisfaction with the support they receive from CEFO Program Headquarters and noted few opportunities for improvement. Specifically, they indicated that they would like to receive additional support related to Commissioned Corps issues and to see more improvement with the Quarterly Report format.

The findings of this report indicate that the CEFOs are satisfied with the support that they receive from CEFO program headquarters.

BACKGROUND

The Career Epidemiology Field Officer (CEFO) Program was launched in 2002 to strengthen state, local, tribal, and territorial epidemiologic capability for public health preparedness and response. CEFO positions are filled by Centers for Disease Control and Prevention (CDC) epidemiologists who serve as field assignees. The CEFO field assignees have diverse professional backgrounds, skill sets, and experience levels, which enhance their ability to assist health departments in filling critical gaps in the public health infrastructure. The overarching aim of the CEFO field activities is to integrate the science of epidemiology and surveillance into preparedness planning efforts and emergency response activities. The CEFO Program is managed by the Office of Science and Public Health Practice (DSPHP) within the Office of Public Health Preparedness and Response (OPHPR) at CDC.

The funding mechanism used to support the CEFO positions is direct assistance via the CDC Public Health Emergency Preparedness (PHEP) cooperative agreement. State or local health departments requesting a CEFO agree to support the position for a minimum of two years with the option to renew the request annually. As of June 2011, there are 30 CEFOs assigned to 26 state or local health departments.

In their field assignments, CEFO contributions include:

- Strengthening state and local surveillance systems;
- Conducting outbreak investigations;
- Developing response plans for major public health emergencies;
- Building partnerships with government agencies and other organizations for emergency preparedness;
- Serving as liaisons to CDC and U.S. Department of Health and Human Services response teams and other resources;
- Leading portions of the state's planning and response activities for pandemic influenza;
- Leading or participating in federal, state, or local emergency response exercises.

- Providing expertise on the design of epidemiologic investigations, conducting epidemiologic studies, analyzing data, and publishing findings.

CEFOs are assigned a state or local supervisor in their field assignment, and are also assigned a supervisor housed at CEFO Program Headquarters at CDC in Atlanta. CEFO Headquarters also provides administrative and technical support to the CEFOs.

The role of CEFO Program Headquarters includes:

- Supporting Program operations;
- Providing administrative support;
- Financial management (budget activities);
- Implementing standard policies and procedures;
- Recruiting CEFOs;
- Providing workforce development;
- Providing technical support and leadership;
- Building partnerships;
- Evaluating CEFO and Program performance.

To evaluate the CEFO Program strengths, weaknesses, and opportunities for improvement, an external peer review will be conducted by an ad hoc OPHPR Board of Scientific Counselors workgroup during June 2011. To inform the review, the OSPHP conducted a web-based survey to obtain information from CEFO field assignees about the type and distribution of their work activities, their level of satisfaction with the support provided by CDC, and their perceptions of the operational elements of the CEFO program. The purpose of this report is to document the results of the survey and to summarize the findings.

OBJECTIVE

The findings in this report are intended to inform two scope objectives of the CEFO Program external peer review: (1) Delineating the strengths, weaknesses, and opportunities for improvement and growth regarding: a) the ability of the CEFO Program field assignees to

support, enhance, and augment PHEP epidemiologic capabilities of key partners, specifically the emergency preparedness directors and epidemiologists in state and local health departments; and, b) the CEFO Program Headquarters' role in sustaining a strong field assignment program; and (2) Evaluating the significance of the contributions made by CEFOs at their respective health departments.

METHODS

Data for this assessment were derived from a web-based survey that was developed using the IBM-SPSS® Data Collection survey tool. The survey was composed of four modules using a combination of multiple choice, Likert-scale rating, and open-ended response questions. The modules were designed to collect information on CEFO demographics, type and distribution of work activities, satisfaction with support provided by CDC, and satisfaction with the operational elements of the CEFO program.

The demographic module assessed the length of time employed at CDC and tenure as a CEFO field assignee. The type and distribution of CEFO assignee work activities focused on the following six categories:

- Improve epidemiologic capacity
- Improve public health preparedness and response
- Provide education, training, and workforce development
- Improve communications
- Increase health department's access to professional networks and resources
- Contribute to scientific knowledge base

The responses to the categories were defined by the level of involvement (minimally, moderately, or greatly involved) in specific activities that are critical to building epidemiologic capacity and meeting the goals of the health department. An option to select "not applicable" was included as a response category because not all CEFOs are expected to perform work in all of the activities listed in the survey. The assignment work plans among the CEFOs vary according to the needs and expectations of their respective health department. Respondents

were required to answer every close-ended survey question, so the denominator for each row of responses is $n = 26$.

Perceptions about level of satisfaction with support from CDC focused on the following categories:

- Supporting program operations
- Providing/facilitating workforce development
- Providing technical support and leadership
- Building partnerships
- Providing Program leadership, vision, and evaluation

Perceptions were rated using a 5-item Likert-scale (Very satisfied, satisfied, neither satisfied or dissatisfied, dissatisfied, and very dissatisfied). An option to select "not applicable" was included as a response category because not all CEFOs sought every type of support listed in the survey.

The survey was launched on April 28, 2011. The link was provided to 30 CEFO field assignees with a closing date of May 11, 2011, which gave the participants nine business days to respond. Data analyses were performed using Microsoft Excel® and the IBM-SPSS® survey tool. The response rate for the survey was 87% (26/30). All responses received were included in the analyses.

RESULTS

Demographics

Among the CEFOs who responded (n=26), the majority have been a CEFO for fewer than four years (62%, n=16). Most of the respondents have been CDC employees for more than five years (77%, n=20), and over half (54%, n=14) reported that this was not their first field placement in a state or local health department.

The U.S. Public Health Service (USPHS) Commissioned Corps is one of America's seven uniformed services and fills essential public health leadership and service roles within the nation's federal agencies and programs. Over two-thirds of the CEFO respondents (69%, n=18) were members of the Commissioned Corps.

Table 1. Demographic characteristics of survey respondents (N =26).

	n	%
Years at CDC		
1-5	6	23
6-10	11	42
>10	9	35
Years as CEFO		
1-4	16	61
5-7	8	31
>7	2	8
First Field Placement		
Yes	12	46
No	14	54
Commissioned Corps	18	69
Civil Service	8	31

CEFO Contributions to State and Local Health Departments

Table 2 presents the CEFO respondents' level of involvement in specific activities related to improving epidemiologic capacity; improving public health preparedness and response; providing education, training, and workforce development; improving communications; increasing health department's access to professional networks and resources; and contributing to the scientific knowledge base.

Most of the respondents reported that they were moderately to greatly involved in several activities related to improving epidemiologic capacity. The majority of respondents were moderately or greatly involved in consulting on surveillance activities (92%, n =24)) and supervising outbreak investigations (77%, n=20). Approximately half reported that they were greatly involved in conducting outbreak investigations (e.g. measles, cholera, hepatitis A). The majority of the respondents (about 70%, n=18) were moderately or greatly involved in linking epidemiology and laboratory capacities.

Not all CEFOs are expected to serve in the state or local emergency response centers; however, the CEFOs who are members of the USPHS Commissioned Corps are required to be available for deployment to any public health emergency. Nineteen percent (n=5) of CEFO respondents were greatly involved in conducting response trainings and 15% (n=4) were greatly involved in conducting response exercises and evaluating state and local health department preparedness plans.

Developing the epidemiological workforce in the area of public health preparedness is critical for mitigating the consequences of any public health emergency. All of the respondents reported moderate to great involvement in mentorship to interns, fellows, and state and local staff. Eighty-one percent (n=21) reported that they were moderately or greatly involved in providing workshops and other training to local staff and 42% percent (n=11) of respondents spent some portion of time as adjunct faculty in epidemiology in local academic institutions.

The success of a public health emergency response is partially dependent on the availability and accessibility of emergency public information and warning. It is important to develop relevant communication materials prior to an emergency event to support the rapid dissemination of information, alerts, warnings, and notifications to the public and incident management responders during a public health emergency. It is also important to know current jurisdictional and federal regulatory, statutory, privacy-related and other provisions, laws, and policies that authorize and limit sharing of information relevant to emergency situational awareness. Such laws and policies may include Health Insurance Portability and Accountability Act (HIPAA), Office of the National Coordinator Health IT Information Technology Policy, HHS Information Management Policy, and specific requirements of current memoranda of understanding and memoranda of agreements; these laws may address privacy, civil liberties, intellectual property, and other substantive issues¹.

Most of the respondents were moderately or greatly engaged in activities related to improving communications or policy recommendations. Over 50% of the CEFOs were moderately or greatly involved in contributing to briefing statements (73%, n=19), consulting in

¹Centers for Disease Control and Prevention. (2011) Public Health Preparedness Capabilities: National Standards for State and Local Planning. Retrieved from <http://www.cdc.gov/phpr/capabilities/#capabilitiesdoc>.

state or local public health recommendations for communication messages related to emergencies (69%, n=18), contributing to public outreach (77%, n=20), consulting in state or local public health department policy development (65%, n=17), and consulting in revisions of public health policies (69%, n=18).

All CEFOs are expected to work on facilitating partnerships between their respective health department and public and private partners. Respondents primarily established these partnerships by being greatly involved with federal partners (62%, n=16), local health departments (58%, n=15), and state partners (54%, n=14). Other partnerships that the respondents were greatly involved with were participating in workgroups or other councils (38%, n=10), collaborating with academic institutions and/or consulting with subject matter experts (23%, each, n=6) and collaborating with other CEFOs (15%, n=4).

Finally, another important CEFO activity is contributing to the scientific knowledge base. This was primarily achieved by consultations as subject matter experts (58% greatly, n=15, 31% moderately, n=8), facilitating special projects (42% greatly, n=11, 50% moderately, n=13), providing conference presentations (35% greatly, n=9, 46% moderately, n=12), and consulting on grants as a subject matter expert (35% greatly, n=9, 38% moderately, n=10).

Table 2. The level of CEFO involvement in specific work activities.

SPECIFIC ACTIVITIES	LEVEL OF INVOLVEMENT (% OF RESPONDENTS)			
	Minimally	Moderately	Greatly	Not Applicable
Improve epidemiologic capacity				
Conduct surveillance activities	27%	27%	46%	0%
Conduct outbreak investigations	19%	27%	50%	4%
Consult on surveillance activities	8%	35%	58%	0%
Supervise outbreak investigations	23%	19%	58%	0%
Build linkages between epidemiologic and laboratory capacity	19%	58%	12%	12%
Assist with surveys related to public health investigations	23%	46%	31%	0%
Improve public health preparedness and response				
Serve a role in the state emergency response center	46%	15%	19%	19%
Draft state or local health department preparedness plans	19%	38%	35%	8%
Conduct response exercises	38%	38%	15%	8%
Conduct response trainings	35%	38%	19%	8%
Evaluate state or local health department preparedness plans	31%	38%	15%	15%
Evaluate state or local health department emergency response	31%	42%	8%	19%
Provide education, training, and workforce development				
Provide workshops and other trainings to local staff	15%	54%	27%	4%
Provide national training	46%	19%	4%	31%
Mentor student intern(s), epidemiologist(s), EIS Officer(s), or other staff	0%	38%	62%	0%
Serve as adjunct faculty to higher institutes of learning	15%	12%	15%	58%
Improve communications				
Consultative role in state or local public health recommendations for communication messages related to emergencies	31%	46%	23%	0%
Contribute to briefing statements	19%	46%	27%	8%
Contribute to public outreach	19%	54%	23%	4%
Contribute to health education campaigns as subject matter expert	23%	62%	8%	8%
Contribute to health department newsletters	35%	31%	15%	19%

Table 2 (cont'd). The level of CEFO involvement in specific work activities.

SPECIFIC ACTIVITIES	LEVEL OF INVOLVEMENT (% OF RESPONDENTS)			
	Minimally	Moderately	Greatly	Not Applicable
Improve policy recommendations				
Consultative role in state or local public health department policy development	35%	42%	23%	0%
Consultative role in revisions of public health policies	31%	46%	23%	0%
Conduct policy analysis	42%	15%	8%	35%
Assist with implementing policies or policy changes	54%	35%	8%	4%
Increase health department's access to professional networks and resources				
Collaborate with federal partners	0%	38%	62%	0%
Collaborate with state partners	4%	42%	54%	0%
Collaborate with local health departments	15%	23%	58%	4%
Collaborate with academic institutions	50%	23%	23%	4%
Collaborate with other CEFOs	42%	42%	15%	0%
Participate in workgroups or other councils	23%	35%	38%	4%
Consult with subject matter experts (SMEs)	8%	69%	23%	0%
Contribute to scientific knowledge base				
Facilitate special projects	4%	50%	42%	4%
Develop scientific protocols	35%	42%	15%	8%
Contribute to peer-reviewed journals	42%	42%	12%	4%
Provide conference presentations	19%	46%	35%	0%
Consult on grants as subject matter expert (SME)	19%	38%	35%	8%
Other consultations as subject matter expert (SME)	8%	31%	58%	4%

***Note: Not all rows add to 100% due to rounding.**

The survey respondents were asked to rate their level of satisfaction with their interactions with CDC headquarters. Four statements were listed:

- My expectations for CEFO Headquarters interactions are met.
- I receive the amount of support that I would like to receive from the CEFO Program Headquarters staff.
- The CEFO Program Headquarters staff are accessible when I try to contact them.
- The CEFO Program Headquarters are responsive when I make requests.

Ninety-six percent (n=25) of the respondents agreed or strongly agreed with each statement. In follow-up to the rating question, many responded positively about their interactions with headquarters staff (Figures 1 and 2). Several described the CDC Headquarters staff as “very responsive, respectful, professional, team-oriented, and resourceful”. Most of the criticisms focused on staff turnover and limited support for Commissioned Corps officers.

Figure 1. Qualitative responses from CEFOs about interactions with CDC headquarters staff.

Strengths	Weaknesses
<ul style="list-style-type: none"> • CEFO headquarters (HQ) staffs are very responsive, respectful, professional, team-oriented, and resourceful. • Supervisors are very supportive and understand the competing demands CEFOs face as field assignees. • CDC CEFO administrative staff provides excellent service. • CEFO HQ and OPHPR staff support is critical to the success of field staff in their various roles. • CEFO HQ staff is responsive, especially in an emergency scenario. Also HQ staff is responsive when CEFOs need consultation on technical assistance and training. • CEFO HQ staff is doing a good job with providing support to a diverse set of epidemiologists who are working in diverse health departments. 	<ul style="list-style-type: none"> • Staff changes have inhibited support for long-term planning and objectives. • High turnover of CEFO HQ staff. • Possible concern (not yet realized) is the support for Commissioned Corps personnel now that there are no Commissioned Corps personnel among HQ program staff.

Opportunities for improvement

- Would like more interaction with supervisor even if just to touch base.
- Would like to have funding available for a reverse site visit to CDC.
- Need to develop CEFO program benchmarks from strategic planning to accomplish program goals.
- The CEFO HQ needs additional supervisors.
- The CEFO HQ staff needs to move beyond just providing contact information for CDC subject matter experts (SMEs) to facilitate the introductions to CDC SMEs.

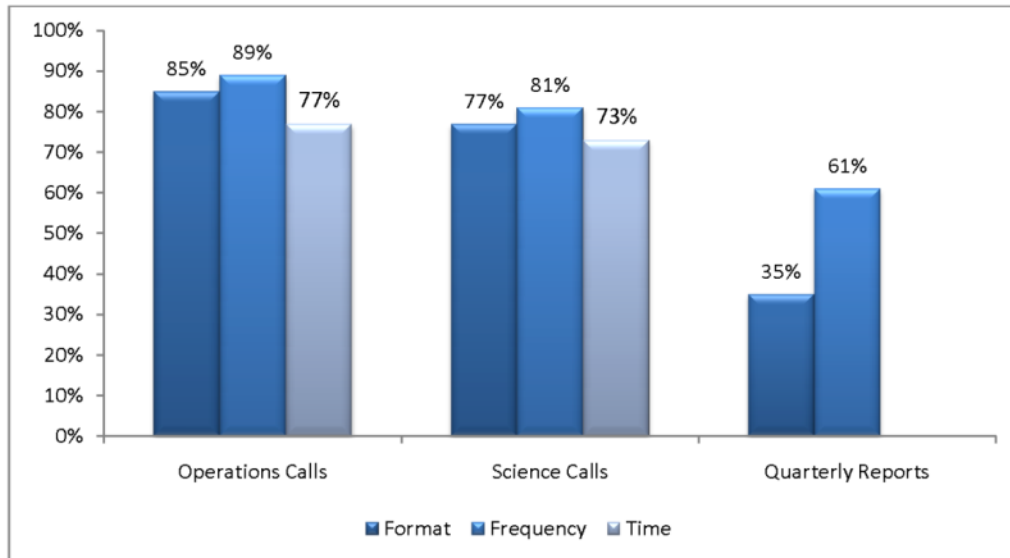
Figure 2. Qualitative responses from CEFOs about *additional* support needed from CDC headquarters staff.

Strengths	Weaknesses
<ul style="list-style-type: none"> • CEFO HQ staff provides appropriate support. • CEFO HQ staff is there for the field assignees and does their best to accommodate the needs and concerns of the assignees. 	<ul style="list-style-type: none"> • Need more career advancement support and guidance. • Should provide clear directives to local supervisors about CDC and Commissioned Corps personnel policies. • Would like more feedback on Quarterly Reports. • Would like more feedback on work plans. • Need advice on future publication opportunities related to activities in the field.
Opportunities for improvement	
<ul style="list-style-type: none"> • Alternative funding sources for CEFOs needs to be pushed, especially with diminishing state and federal budgets. • Need to bring on a statistician to provide assistance with statistical analysis and GIS. • Develop a better employee orientation for new CEFOs. 	

Operational Issues

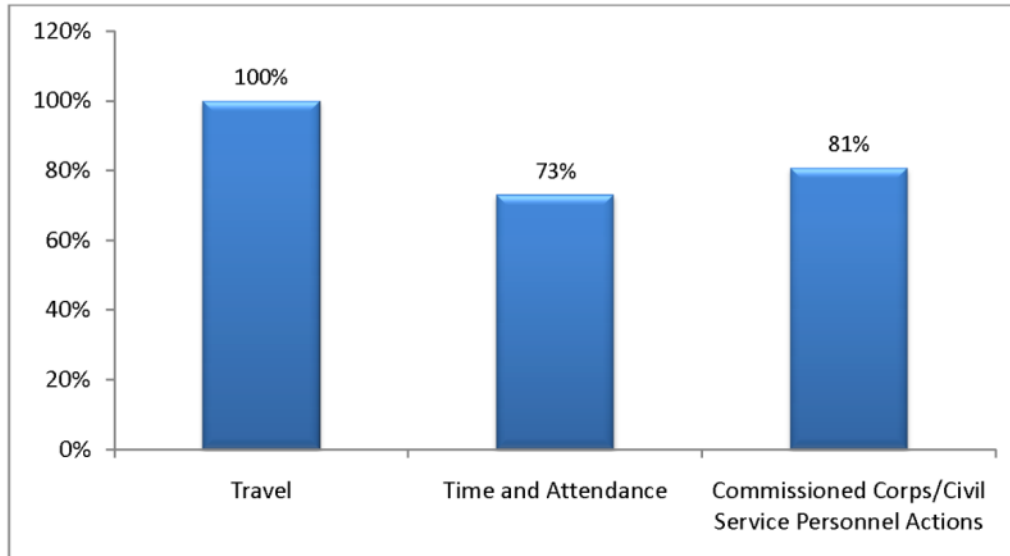
Two monthly conference calls are held by CEFO Program Headquarters: the CEFO operations call and the science call. The operations call is a forum to discuss administrative and programmatic issues. The science call is a forum for CEFOs to present the work that they have performed at the state or local health department or other topics of interest. The majority of respondents were satisfied or very satisfied with the format (85%), frequency (89%), and time (77%) of the operations call. They were also satisfied or very satisfied with the format (77%), frequency (81%), and time (73%) of the science call (Figure 3).

Figure 3. Percent CEFOs satisfied or very satisfied with operational issues (n=26)



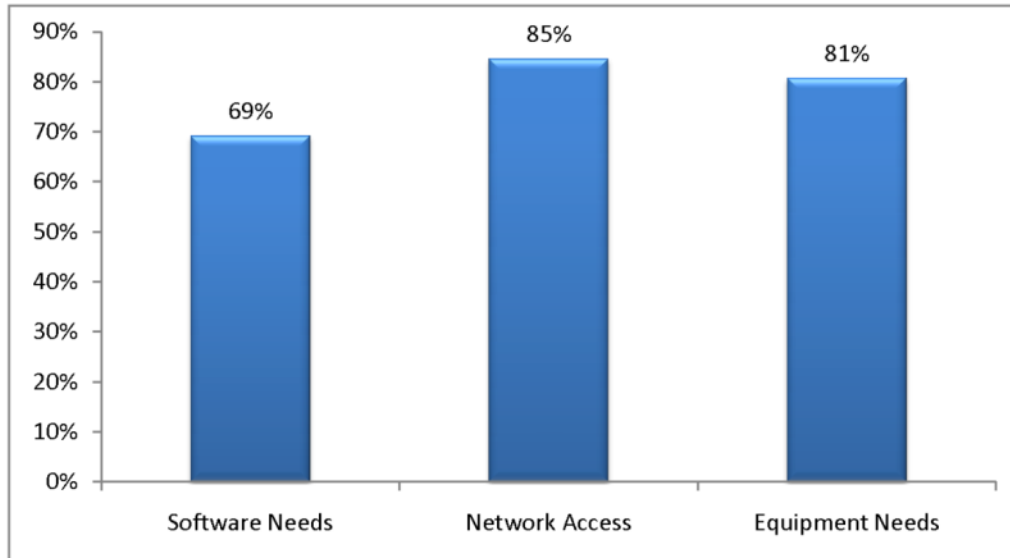
In addition, all CEFO assignees are expected to submit a report on a quarterly basis that describes the work they have performed, including subsequent impact on epidemiologic capacity and public health preparedness. A standard template is used by the CEFOs to capture work performed in five elements: 1) Building Epidemiologic, Surveillance, and Emergency Response Capacity; 2) Partnership and Collaboration Activities that Support Public Health Infrastructure; 3) Education, Training, and Workforce Development; 4) Communications and Information Technology Capacities and Risk Communications and Health Information Dissemination; and 5) Federal Obligations (e.g., Emergency Deployment). Although the majority of respondents are generally satisfied with the frequency of the Quarterly Reports (61%), only slightly more than a third of them are satisfied with the format (35%) (Figure 3).

Figure 4. Percent of CEFOs Satisfied or Very Satisfied with Administrative Support Functions (n=26)



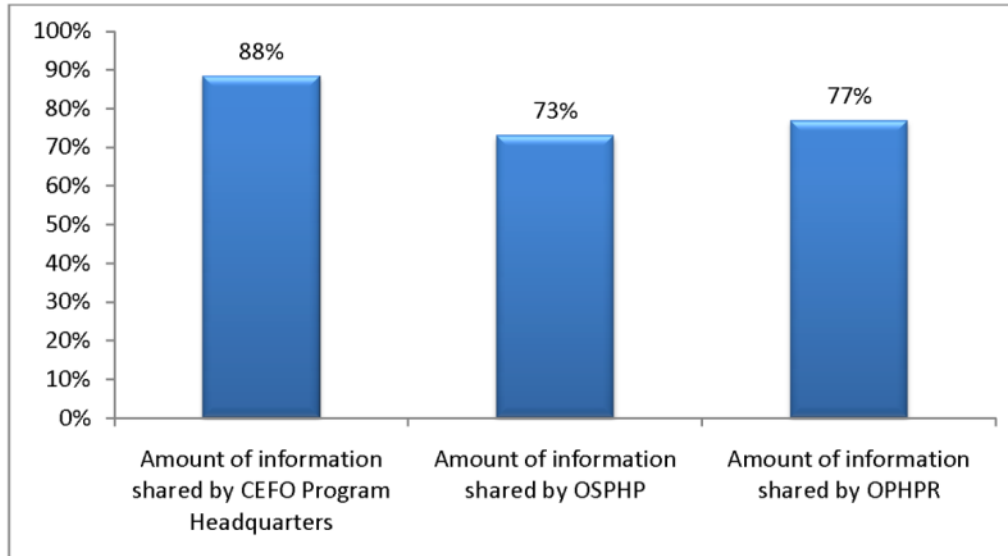
CEFO Program Headquarters is responsible for providing administrative support to the CEFOs, including arranging travel, reviewing time and attendance, and coordinating Commissioned Corps or Civil Service personnel actions. All of the respondents were satisfied or very satisfied with the travel support that they received from Headquarters. Fewer were satisfied with time and attendance (73%) and Commissioned Corps or Civil Service personnel actions (81%) (Figure 4).

Figure 5. Percent of CEFOs Satisfied or Very Satisfied with Technical Support Received (n=26)



Headquarters staff is responsible for addressing CEFO technical support needs, including software needs, network access needs, and equipment needs. Sixty-nine percent of respondents were satisfied or very satisfied with the support that they received in response to software needs; 85 percent were satisfied or very satisfied with the support that they received related to network access issues; and 81 percent were satisfied or very satisfied with the support that they received for equipment needs (Figure 5).

Figure 6. Percent of CEFOs Satisfied or Very Satisfied with Information Sharing (n=26)



The CEFOs receive information about CDC activities from three primary sources: Headquarters, OSPHP, and OPHPR. The majority of respondents were satisfied or very satisfied with the amount of information that they received from CEFO Program Headquarters however they were less satisfied with the amount that they receive from OSPHP and OPHPR (Figure 6). One CEFO commented that “CEFO Headquarters communication is very good. Both OSPHP and PHPR send out too much minutia that we don't need and sometimes don't send what we do need.” (Figure 7)

Figure 7. Qualitative responses from CEFOs about *operational issues* needed from CDC headquarters staff.

Strengths	Weaknesses
<ul style="list-style-type: none"> • CEFO HQ communication is very good. • The CEFO operations and science calls are useful and informative. The frequency of these calls is good (ie. monthly). 	<ul style="list-style-type: none"> • Format of the Quarterly Report template may not capture all the work that CEFOs do. • The OSPHP and PPHR send out too much minutia that we don't need and sometimes don't send what we do need. • Remote access to CDC intranet is sometimes a challenge. • Need more support with Commissioned Corps issues.
Opportunities for improvement	
<ul style="list-style-type: none"> • Need to automate the Quarterly Report and improve the template. • Recommend combining CEFO operations and science calls. 	

CONCLUSIONS

By and large, the work activities performed by the CEFOs are determined by the needs of the state and local health departments. This accounts for a broad array of activities performed by the CEFO assignees. The variety of activities performed by the CEFOs contributes to the Public Health Emergency Preparedness (PHEP) target capabilities of key partners. CEFOs serve as SMEs and facilitate partnerships between their health department and public or private partners. Specifically, the majority of CEFOs are moderately or greatly involved in conducting or supervising outbreak investigations and conducting or consulting on surveillance activities. Examples of investigations led by CEFOs include, but are not limited to, a measles outbreak, a cholera outbreak, and a hepatitis A outbreak. Several CEFOs also mentor student interns, epidemiologists, EIS Officers, or other staff. In addition, all CEFOs contribute to the scientific knowledge base. While CEFOs are moderately or greatly involved in several of the activities included in the survey, over a third indicated that conducting policy analysis was not

applicable to their role. In addition, 31 percent indicated that providing national training was not part of their role. CEFO involvement in these activities could be strengthened.

Although the CEFOs are generally satisfied with the support that they receive from CEFO Program Headquarters, they noted that they would like to receive additional support related to Commissioned Corps issues, such as career advancement. It is notable that few CEFO respondents were satisfied with the Quarterly Report format.

In general, the CEFO assignees are involved in activities that enhance the epidemiologic capability in their health departments. While the survey respondents indicated that they are receiving strong support for their activities from the CEFO Program Headquarters staff, they did identify opportunities for improvement. OSPHP and CEFO headquarters staffs have begun to address some of the issues that were identified, such as automating the Quarterly Report template and developing a tool for electronic submission. A workgroup has been formed that is composed of a CDC CEFO supervisor and two commissioned corps CEFO assignees to monitor issues that pertain to commissioned corps personnel policies and procedures. This should help to address concerns regarding the lack of a commissioned corps supervisor in the CEFO headquarters office. OSPHP is in the process of hiring a statistician that will provide support to the CEFO assignees. Other recommendations, such as developing a better employee orientation and organizing a national meeting for CEFO assignees are underway.

It is important to note that to maintain the survey respondents' anonymity, several identifying questions could not be asked. This limited the ability to conduct more complex analyses of the data (Table 2). Additionally, the questions regarding the activities that the CEFOs were involved in were self-reported, so there may be some bias in the results. The categorical rating levels for involvement in specific activities were not well defined, which may have led to multiple interpretations that impact the validity of the results.

Overall, CEFOs were satisfied with the support that they received from headquarters and were satisfied with the operational elements of the program.

Appendix 1. Satisfaction with Headquarters and OPHPR Support

Support Program Operations	Very Satisfied	Satisfied	Neither Satisfied nor Dissatisfied	Dissatisfied	Very Dissatisfied	Not Applicable
Provide new CEFO orientation	23%	31%	12%	4%	0%	31%
*Address IT issues	31%	35%	12%	0%	0%	23%
*Address software issues	23%	38%	8%	0%	0%	31%
*Address network access issues	35%	23%	19%	0%	0%	23%
Provide equipment and hardware (e.g., blackberry, laptop, keyfob, etc.)	50%	35%	4%	0%	0%	12%
Provide software (e.g., SAS, SPSS, etc.)	46%	38%	0%	4%	0%	12%
Advocate for CEFOs	69%	23%	4%	0%	0%	4%
Conduct site visits	23%	42%	23%	4%	0%	8%
Arrange travel	85%	12%	0%	0%	0%	4%
Approve time and attendance	58%	12%	4%	0%	0%	27%
Schedule respirator fit testing appointments	42%	15%	19%	0%	0%	23%
Facilitate process to obtain CDC badge	50%	19%	12%	0%	0%	19%
Facilitate Commissioned Corps personnel actions	23%	23%	23%	4%	0%	27%
Facilitate Civil Service personnel actions	15%	8%	12%	0%	0%	65%
Provide/Facilitate Workforce Development	Very Satisfied	Satisfied	Neither Satisfied nor Dissatisfied	Dissatisfied	Very Dissatisfied	Not Applicable
Provide courses, seminars, lectures	27%	42%	27%	0%	0%	4%
Organize annual CEFO Program meeting	42%	38%	15%	4%	0%	0%
Provide input on work plans	15%	19%	50%	4%	0%	12%
Mentor and provide other scientific support	27%	31%	27%	0%	0%	15%
Provide Technical Support and Leadership	Very Satisfied	Satisfied	Neither Satisfied nor Dissatisfied	Dissatisfied	Very Dissatisfied	Not Applicable
Provide technical advice or scientific consult to inform work with health departments	15%	31%	23%	0%	0%	31%
Establish connections with SMEs	23%	23%	35%	4%	0%	15%
Provide preclearance consultation	27%	38%	12%	0%	0%	23%

Provide clearance consultation	27%	42%	12%	0%	0%	19%
Provide professional development opportunities	31%	42%	15%	0%	0%	12%
Provide leadership development opportunities	31%	27%	23%	8%	0%	12%
Facilitate participation on CDC committees (e.g., Shepard Award, Surveillance and Biosurveillance Forum, SurSAG, etc.)	42%	42%	12%	4%	0%	0%
*Technical assistance from PHEP Project Officer(s) or other DSLR staff	19%	31%	27%	4%	0%	19%
Build Partnerships	Very Satisfied	Satisfied	Neither Satisfied nor Dissatisfied	Dissatisfied	Very Dissatisfied	Not Applicable
Build partnerships with CDC	27%	38%	23%	4%	0%	8%
Build partnerships with external partners and organizations	12%	31%	46%	0%	0%	12%
Build partnerships among CEFOs	19%	62%	15%	4%	0%	0%
Represent program at conferences and other meetings	35%	50%	8%	0%	0%	8%
Enhance visibility of the CEFO Program	42%	46%	8%	0%	0%	4%
Program Leadership, Vision, and Evaluation	Very Satisfied	Satisfied	Neither Satisfied nor Dissatisfied	Dissatisfied	Very Dissatisfied	Not Applicable
Conducts CEFO Program strategic planning and articulates unified CEFO Program vision	19%	58%	19%	0%	0%	4%
Provides overall leadership to CEFO Program direction	58%	27%	15%	0%	0%	0%
Conducts overall CEFO Program evaluation and incorporates results	31%	38%	23%	0%	0%	8%
Evaluates annual CEFO Program meeting	38%	38%	12%	0%	0%	12%
Reviews CEFO quarterly reports	15%	46%	23%	8%	0%	8%

*Note: Not all rows add to 100% due to rounding.

Appendix F. Review of Career Epidemiology Field Officers Quarterly Reports, October 2008 – September 2010

**Review of Career Epidemiology Field Officers (CEFO) Quarterly Reports
October 2008 – September 2010**

SUMMARY
June 22, 2011

Prepared for:
An ad hoc Board of Scientific Counselors (BSC) Workgroup

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EXECUTIVE SUMMARY

An internal review of CEFO field assignee activity reports was conducted to identify and summarize the scientific and technical expertise provided to the state and local public health jurisdictions during fiscal years 2009-2010 (October 1, 2008-September 30, 2010). The objective of the review was to examine the activities recorded by the CEFOs to determine key contributions to building epidemiologic capacity and to identify linkages with the relevant public health preparedness capabilities.

The activities conducted by CEFOs in their respective jurisdictions demonstrated breadth, depth, and diversity, yet collectively supported the mission to strengthen state, local, tribal, and territorial epidemiologic capability for public health preparedness and response. CEFO activities mapped to all but two of the Public Health Emergency cooperative agreement capabilities (Medical Materiel Management/Distribution and Volunteer Management). In addition, the activities identified in this review support the current CDC Director's Agency Priorities.

The greatest proportion of CEFO activities was linked to public health surveillance and epidemiological investigation. The CEFO assignees fulfilled critical roles and responsibilities in state and local planning efforts to prepare for pandemic influenza and in the actual response to the 2009 H1N1 influenza pandemic, as well as other outbreak investigations. These findings substantiate the conclusion that the CEFO program is successful in the integration of the science of epidemiology and surveillance into the preparedness planning efforts and emergency response activities.

This qualitative review revealed that the CEFO assignees have conducted work that is critical to closing the gaps in the preparedness capabilities among state and local jurisdictions.

BACKGROUND

The Career Epidemiology Field Officer (CEFO) Program was launched in 2002 to strengthen state, local, tribal, and territorial epidemiologic capacity for public health preparedness and emergency response (1). CEFO positions are filled by Centers for Disease Control and Prevention (CDC) epidemiologists who are assigned to state and local health departments. The CEFO field assignees have diverse professional backgrounds, skill sets, and experience levels, which enhance their ability to assist health departments in filling critical gaps in the public health infrastructure. The overarching aim of the CEFO field activities is to integrate the science of epidemiology and surveillance into preparedness planning efforts and emergency response activities.

As a preparedness resource, the CEFO assignees are on the ground, familiar with the local landscape, and ready to be called into action when an emergency occurs. The important planning and response efforts conducted by CEFOs for public health emergencies also have contributed to public health practice, such as enhancing routine surveillance for communicable diseases. CEFOs field assignees perform an important role in building bridges between federal, state, and local public health jurisdictions and partners in the private sector to leverage all available resources for strengthening epidemiologic capacity.

The funding mechanism that is used to support the CEFO positions is the Public Health Emergency Preparedness (PHEP) cooperative agreement. A state that is interested in establishing a position for a CEFO epidemiologist agrees to reserve a portion of the PHEP funding allocated to the state to provide salary, benefits and limited travel support to the field assignee. State or local health departments requesting a CEFO agree to support the position for a minimum of two years with the option to renew the request annually. There are currently 30 CEFO assignees located in 23 state or local public health departments.

Homeland Security Presidential Directive- 8, "National Preparedness" (HSPD-8) was released in 2003 to establish policies and actions that would strengthen the preparedness of the United States to prevent and respond to major disasters and other emergencies (1). In response to this directive, the federal government developed the National Preparedness Guidelines that set a standard for preparedness based on establishing national priorities through a capabilities-based planning process. A Target Capabilities List (TCL) was developed as a companion tool for guiding all-hazard preparedness planning and emergency response (2). Since 2007, many state and local public health jurisdictions have used the TCL as a tool for guiding public health preparedness planning, priority-setting, and program implementation; however, until now, the CDC Public Health Emergency Preparedness Cooperative Agreement (PHEP) has not been framed by the national target capabilities guideline.

Using the national TCL as a framework, the CDC published a guidance document entitled "*Public Health Preparedness Capabilities: National Standards for State and Local Planning*" that defines 15 public health preparedness capabilities (PC) that have been incorporated into the 2011-2016 Public Health Emergency Preparedness (PHEP) Cooperative Agreement Funding Announcement to serve as standards for public health preparedness across the nation (3; see briefing book Tab 15 (c) or <http://www.cdc.gov/phpr/capabilities/index.htm>). Of the 15 preparedness capabilities, CDC designated nine as "*Tier 1 Capabilities*", which are critical for success in maintaining core public health preparedness in a jurisdiction. The state and local public health jurisdictions that are

recipients of the PHEP Cooperative Agreement funding have been directed to prioritize and implement preparedness activities based on local needs and results of all-hazard risk assessments that demonstrate gaps among the 15 preparedness capabilities. While the CDC public health preparedness capabilities have just been released, the national TCL has been established for the past four years and is a relevant framework for describing the work performed by the CEFO assignees in the context of public health preparedness.

The CEFO Program is managed by the Office of Science and Public Health Practice (OSPHP) within the Office of Public Health Preparedness and Response (OPHPR), Centers for Disease Control and Prevention (CDC). OSPHP has requested an external review of the CEFO program to evaluate the strengths, weaknesses, and opportunities for improvement related to the development and sustainability of the program. An internal review of the CEFO's activity reports was conducted to identify and summarize the scientific and technical expertise provided to the state and local public health jurisdictions during fiscal years 2009 and 2010. The objective of the review was to examine the activities recorded by the CEFOs to determine key contributions to building epidemiologic capacity and to identify linkages with the relevant public health preparedness capabilities. The following report provides a synthesis of the most common contributions made by the CEFO assignees to integrate state and local epidemiologic capacity with state preparedness and emergency response.

METHODS

All CEFO assignees are expected to submit a report on a quarterly basis that describes the work they have performed, including subsequent impact on epidemiologic capacity and public health preparedness. A standard template is used by the CEFOs to capture work performed in five elements: 1) Building Epidemiologic, Surveillance, and Emergency Response Capacity; 2) Partnership and Collaboration Activities that Support Public Health Infrastructure; 3) Education, Training, and Workforce Development; 4) Communications and Information Technology Capacities and Risk Communications and Health Information Dissemination; and 5) Federal Obligations (e.g., Emergency Deployment).

A team was formed to conduct a review of 143 reports that were submitted by 23 CEFOs during the period from October 1, 2008 - September 30, 2010. The three members of the review team were assigned a subset of quarterly reports for review and to code the activities reported by the CEFOs. A framework was developed to facilitate standardization of the coding and to map activities to the preparedness capabilities (Figure 1). The framework was structured by the

elements in the quarterly report template used by the CEFO assignee to report work performed and the preparedness capabilities defined in *Public Health Preparedness Capabilities: National Standards for State and Local Planning*. The functions that support preparedness capability #13 (Public Health Surveillance and Epidemiological Investigations) are in alignment with the epidemiology core competencies and the most relevant to the work performed by the CEFOs in their respective assignments; therefore, activity codes were derived from the functions that support capability #13 and were used as a bridge to cross-walk the reported CEFO activities to the specific preparedness capabilities.

Some of the responsibilities assigned to the CEFOs are ongoing activities, such as serving in an on-call position on an emergency response roster. Other activities are specific and time-limited. For the purpose of this review, each reported activity was eligible to be coded once, regardless of the frequency and duration that the activity was performed. The coded activities were entered into an Excel spreadsheet and mapped to the specific preparedness capability that was determined to be addressed by the activity (Table 1). The team reviewed the coded activities to identify converging themes and to group the activities according to the preparedness capabilities. In addition, if the work performed was specific to the 2009-2010 H1N1 outbreak of pandemic influenza, the reviewers coded the activity as H1N1.

Table 1. Mapping of CEFO activities by activity type ("Code") within each preparedness capability.

No	Preparedness Capabilities (PC)	Activity Codes															
		Surveil. System Development	Surveillance	Outbreak Investigation	Outbreak Reports	Environ. Investigations	Environ. Reports	Epi Studies	Data Analysis	Mitigation/Control	Partnerships	Plans Development	Guidance/Policy Develop.	Training	Qual Improve/Evaluation	Info Sharing	Tech Assistance
1.	Community Preparedness																
2.	Community Recovery																
3.	Emergency Operations Coordination																
4.	Emergency Public Info. & Warning																
5.	Fatality Management																
6.	Information Sharing																
7.	Mass Care																
8.	Med. Countermeasure Dispensing																
9.	Medical Materiel Management/Distribution*																
10.	Medical Surge																
11.	Non-Pharm. Interventions																
12.	Public Health Laboratory Testing																
13.	Public Health Surveillance and Epidemiological Investigation																
14.	Responder Safety and Health																
15.	Volunteer Management*																

Shaded boxes represent CEFO activities by "code" within each PC

* No CEFO activities mapped to PC9 or PC15.

Ten randomly-selected CEFO activities were reviewed and coded by all three reviewers to assess inter-rater reliability. For this exercise, the reviewers mapped the ten activities to a preparedness capability and to the H1N1 code. A measure of agreement that controls for chance, the Fleiss kappa statistic, was computed (4). Results showed that there was acceptable agreement among the reviewers for the preparedness capability codes and for the H1N1 activity codes.

RESULTS

Overall, there were 400 activities recorded in 143 reports during the period from October 1, 2008 to September 30, 2010 (Table 2). Of the 400 activities, 75% (n=299) were linked to only two of the 15 preparedness capabilities: Community Preparedness (PC1) and Public Health Surveillance and Epidemiological Investigations (PC13). There were 101 activities linked to eleven other capabilities and no activities linked to the remaining two capabilities (PC9, PC15). About 24% (n=97) of all CEFO work during this period was related to pandemic influenza preparedness or the 2009 H1N1 pandemic response.

Table 2. CEFO activities mapped to public health preparedness capabilities. (October 2008-September 2010)		
Public Health Preparedness Capability (PC)	No. Recorded Activities (all)	No. Recorded Activities (H1N1 only)
PC 1. Community Preparedness	105	7
PC 2. Community Recovery	2	0
PC 3. Emergency Operations Coordination	22	6
PC 4. Emergency Public Information and Warning	7	4
PC 5. Fatality Management	3	1
PC 6. Information Sharing	30	15
PC 7. Mass Care	2	0
PC 8. Medical Countermeasure Dispensing	17	10
PC 9. Medical Material Management and Distribution	0	0
PC 10. Medical Surge	3	2
PC 11. Non-pharmaceutical Interventions	4	3
PC 12. Public Health Laboratory Testing	9	3
PC 13. Public Health Surveillance and Epidemiological Investigation	194	45
PC 14. Responder Safety and Health	2	1
PC 15. Volunteer Management	0	0
TOTAL	400	97

Among the activities reported, the greatest proportion was linked to public health surveillance and epidemiological investigation (n=194). CEFO assignees fulfilled critical roles and responsibilities in state and local planning efforts to prepare for pandemic influenza and in the actual response to the 2009 H1N1 influenza pandemic that began in April 2009. Of the 194 surveillance and epidemiologic activities, 23% (n=45) involved planning for pandemic influenza preparedness or the response to H1N1. Overall, there were 97 activities related to pandemic influenza preparedness and the 2009 H1N1 response that span eleven preparedness capabilities (all 15 capabilities except PC2, PC7, PC9, and PC15). Every CEFO assignee served as an expert consultant, a response leader, or a planning lead for the response to the H1N1 influenza pandemic during 2009 and 2010.

Specific activities that mapped to each of the preparedness capabilities are described below. A separate description for activities related to pandemic influenza area also provided.

Capability #1: Community Preparedness

“Community preparedness is the ability of communities to prepare for, withstand, and recover — in both the short and long terms — from public health incidents.”

CEFO Activities

- Conducted Incident Command System (ICS), disease-specific, and epidemiology trainings for public health practitioners, healthcare professionals, and relevant governmental and community partners.
- Developed plans to address community needs during disasters (including those of vulnerable populations):
 - Assessed hospital bed and ventilator availability and diversion status to prepare for resource allocation in an emergency
 - Led shelter surveillance during a hurricane
 - Collaborated with state university to develop preparedness toolkit for vulnerable and at-risk populations
- Developed outbreak investigation manuals and quick reference guides to be used in local health departments.
- Developed systems for disease surveillance during natural disasters.
- Served on advisory committees and workgroups to provide epidemiologic expertise, including:
 - Preparedness and Emergency Response Research Center (PERRC) Advisory Committee
 - State Agroterrorism working groups
 - Hospital Bioterrorism Preparedness Planning Group
 - Epidemiology expert for state’s BioWatch planning group
 - Emergency Management Agency Disaster Shelter Planning Work Group
 - Health Department representative to Statewide Family Reunification Task Force Steering Committee member for Isolation and Quarantine planning
- Established and fostered partnerships with community organizations, including the American Red Cross, to enhance preparedness.
Assessed statewide epidemiology capacity and developed trainings and university collaborations based on needs.
- Served as on-call epidemiologist for health department.
- Led Maricopa County, Arizona’s “Project Public Health Ready” certification efforts, including development and/or revision of the County’s following disaster plans: vulnerable populations, mental/behavioral health, isolation/quarantine, and continuity of

operations.

Coordinated disaster preparedness planning with partners (e.g. collaboration with multiple agencies and jurisdictions to prepare for seasonal flooding, anthrax attack, etc.).

- Facilitated Community Assessment for Public Health Emergency Response (CASPER) trainings for local and regional health departments and conducted CASPER as a planning exercise.

Activities Related to Pandemic Influenza: Prior to 2009 H1N1, CEFOs worked with state and local public health departments and local organizations to determine priorities and draft guidelines for at-risk populations in preparation for pandemic influenza. Activities included coordinating a multi-disciplinary effort to evaluate the economic and public health value of influenza vaccination in schools and formal roles in community preparedness through positions such as the "Pandemic Influenza Planning Coordinator" within the Epidemiology Unit of their respective health departments. New guidelines, provided by CDC in 2008, prompted several CEFOs to begin work on revising and updating their state's pandemic preparedness plan, often as the primary author or in another leadership role. CEFOs were instrumental in coordinating with various federal, state, and local agencies as well as the business community. One CEFO co-lead pandemic influenza planning with the state Department of Education and developed a pandemic influenza planning template along with guidance documents for local schools.

Capability #2: Community Recovery

"Community recovery is the ability to collaborate with community partners, (e.g., healthcare organizations, business, education, and emergency management) to plan and advocate for the rebuilding of public health, medical, and mental/ behavioral health systems to at least a level of functioning comparable to pre-incident levels, and improved levels where possible."

CEFO Activities

- Participated in development of PHEP performance measures for community resilience. Led Community Assessment for Public Health Emergency Response (CASPER) efforts in response to the Deepwater Horizon oil spill on the Mississippi Gulf Coast. Evaluated, analyzed, and presented information reported through the Incident Management System to expand and maintain awareness of the healthcare delivery system status across the state. Expanded healthcare delivery system situational awareness capacity to include shelters and the community during a public health emergency.

Activities Related to Pandemic Influenza: CEFO assignees provided technical and scientific expertise to the H1N1 response by writing or reviewing After Action Reports (AAR) and by consulting, presenting or training at statewide conferences that reflected on lessons learned in the response effort. The assignees also participated in developing new guidance documents for future pandemic influenza mitigation.

Capability #3: Emergency Operations Coordination

“Emergency operations coordination is the ability to direct and support an event or incident with public health or medical implications by establishing a standardized, scalable system of oversight, organization, and supervision consistent with jurisdictional standards and practices and with the National Incident Management System.”

CEFO Activities

- Participated in their jurisdictions' Emergency Operations Centers (EOC) under the Incident Command System (ICS) for several types of emergency responses, e.g. oil spill, ice storm, flooding, hurricanes, and pandemic influenza.
- Developed, participated in, and evaluated table-top and full-scale preparedness exercises, including:
 - : Led exercise for medical countermeasure dispensing in a community
 - : Led the first-ever public health emergency preparedness exercise in a particular tribal communityServed as Incident Commander to organize and plan a 3-day training and exercise for disaster surveillance following a tornado, including data analysis using GIS- and GPS-equipped handheld devices
- Developed protocols, staffing, typing, and training for Epidemiology Strike Teams.
- Led development of Epidemiology Modules in the state's electronic Incident Management tracking System.

Activities Related to Pandemic Influenza: Moderated and facilitated a table-top pandemic influenza exercise for leadership from multiple state agencies. Due to their subject matter expertise, some CEFOs supported partners outside the health department, such as emergency medical services and 911 administrators, in developing Pandemic Influenza operating plans. A majority of the CEFO assignees applied their prior expertise and familiarity with the National Incident Management System to providing guidance on the implementation of the Incident

Command System to health departments. In one state, the CEFO served as Incident Commander during assigned shifts with the State Health Operations Center, and in at least two states, CEFOs served as Operations Section Chief. CEFO assignees helped shape the strategic organization of operations during and after the 2009 H1N1 response. For instance, one CEFO developed a real-time electronic information exchange within the EOC's Community Preparedness Section called the "Situation Room" to foster coordination, rapid detection, and timely response as events unfolded. Following the response, another CEFO proposed restructuring the health department to include an Emergency Preparedness and Response Branch.

Capability #4: Emergency Public Information and Warning:

"Emergency public information and warning is the ability to develop, coordinate, and disseminate information, alerts, warnings, and notifications to the public and incident management responders."

CEFO Activities

- Assisted in preparing talking points and information for public distribution about health effects of Deepwater Horizon oil spill.
- Served as state's Health Alert Network (HAN) Coordinator.
- Briefed public on public health response to disasters.

Activities Related to Pandemic Influenza: CEFO assignees wrote or reviewed educational and public awareness materials on pandemic influenza for both current and future dissemination. During the 2009 H1N1 response, at least five CEFOs played a significant role in drafting and reviewing information disseminated to the public. CEFO assignees developed targeted health messages for specific age-groups, as well as guidelines for mass gatherings and vaccinations.

Capability #5: Fatality Management

"Fatality management is the ability to coordinate with other organizations (e.g., law enforcement, healthcare, emergency management, and medical examiner/coroner) to ensure the proper recovery, handling, identification, transportation, tracking, storage, and disposal of human remains and personal effects; certify cause of death; and facilitate access to mental/ behavioral health services to the family members, responders, and survivors of an incident."

CEFO Activities

- Collaborated with Office of Medical Examiners, Vital Records, Funeral Directors, and other stakeholders to develop the county Mass Fatality Plan.
Developed curriculum for mass fatality planning workshops attended by local, coroners, EMS staff, emergency management, and public health staff.

Capability #6: Information Sharing

"Information sharing is the ability to conduct multi-jurisdictional, multidisciplinary exchange of health-related information and situational awareness data among federal, state, local, territorial, and tribal levels of government, and the private sector."

CEFO Activities

- Collaborated with a PERRC on a Rapid Emergency Alert Communication in Health (REACH) study, a randomized controlled trial evaluating the effectiveness of various messaging routes for sending public health alerts to healthcare providers.
- Developed and evaluated emergency preparedness and continuity of operations activities across multiple programs and disciplines within their health departments.
- Communicated preparedness and epidemiologic response information to their jurisdiction's public health leadership, programmatic staff, policy makers, medical community, and the public policy makers.
- Served as state coordinator or subject matter expert for Early Warning Infectious Disease Surveillance (EWIDS).
Edited and contributed to state-specific surveillance publications and newsletters.
- Co-authored about a dozen MMWR articles, select examples include:
 - CDC. Impact of Seasonal Influenza-Related School Closures on Families --- Southeastern Kentucky, February 2008. *MMWR* 2009;58(50): 1405-1409.
 - CDC. Deaths Related to 2009 Pandemic Influenza A (H1N1) Among American Indian/ Alaska Natives--12 States, 2009. *MMWR* 2009; 58(48): 1341-1344.
 - CDC. Potential Transmission of Viral Hepatitis through Use of Stored Blood Vessels as Conduits in Organ Transplantation---Pennsylvania, 2009. *MMWR* 2011; 60(06): 172-174.
 - CDC. Community Health Impact of Extended Loss of Water Service --- Alabama, January 2010. *MMWR* 2011/ 60(06): 161-166.
 - CDC. Update on Cholera --- Haiti, Dominican Republic, and Florida, 2010. *MMWR* 2010 Dec 24; 59(50):1637-1641.
- Authored over thirty peer-reviewed journal articles, select examples include:

: **Pelletier, A. R.,** P. J. Mehta, et al. An outbreak of hepatitis A among primary and secondary contacts of an international adoptee. *Public Health Rep* 2010; 125(5): 642-646.

Buss, B. F., T. J. Safranek, et al. Statewide applied epidemiology workforce capacity and competency assessment--Nebraska, 2008. *J Public Health Manag Pract* 2011; 17(2): 110-121.

S.M. Holzbauer, M.M. Kemperman, and R. Lynfield. Death Due to Community-Associated *Clostridium difficile* in a Woman Receiving Prolonged Antibiotic Therapy for Suspected Lyme Disease. *Clinical Infectious Diseases* 2010; 51(3):369-370.

Doyle, T.J, A Mejia-Echeverry, et al. Cluster of serogroup W135 meningococci, southeastern Florida, 2008-2009. *Emerg Infect Dis* 2010; 16(1): 113-115.

- Reviewed or developed health department guidance documents:
 - : guidelines for the use of antiviral medications
 - : guidelines for mass gatherings
 - : guidelines for schools
 - : guidelines for prevention and control of influenza in daycare facilities

Activities Related to Pandemic Influenza: CEFOs participated in efforts to conduct multijurisdictional and multidisciplinary exchange of pandemic influenza-related information. In one instance, a CEFO collaborated with bordering states to coordinate planning efforts. Another CEFO helped develop a toolkit for influenza prevention and control materials specific to a particular city and various populations (long-term care, healthcare professionals, daycares, etc.). Health departments occasionally designated CEFOs as the lead staff for communicating H1N1-related information and situational awareness data with local health departments and health care providers. CEFOs also communicated and consulted with non-governmental stakeholders, like jails, sexual assault shelters, overnight camps, and religious retreat centers. CEFOs facilitated curriculum development and trainings for a range of local partners, including school nurses, local health department personnel, community health centers, hospitals, physicians, EMS, law enforcement. They also helped draft guidance documents that informed local health departments on working with community partners. In one state, the CEFO coordinated the publication of a newsletter on influenza surveillance that garnered national attention for its role in facilitating timely communication of the status of the pandemic, response

efforts, and associated health messages. In another state, the CEFO participated in drafting Health Alert Messages for the healthcare community.

Capability #7: Mass Care

"Mass care is the ability to coordinate with partner agencies to address the public health, medical, and mental/ behavioral health needs of those impacted by an incident at a congregate location."

Activities Related to Pandemic Influenza: Developed guidance for alternative care sites and altered standards of care related to pandemic influenza.

Capability #8: Medical Countermeasure Dispensing

"Medical countermeasure dispensing is the ability to provide medical countermeasures (including vaccines, antiviral drugs, antibiotics, antitoxin, etc.) in support of treatment or prophylaxis (oral or vaccination) to the identified population in accordance with public health guidelines and/or recommendations."

CEFO Activities

- Participated in plan development, exercises, vaccine campaigns, and development of guidance on medical countermeasure dispensing for public and clinicians.
- Developed standing orders for dispensing of prophylactic medications to large populations.

Activities Related to Pandemic Influenza: Prior to the H1N1 outbreak, CEFOs actively enhanced their health departments' ability to provide medical countermeasures. In one state, a CEFO secured a competitive funding award to develop an antiviral home delivery project. This same CEFO also developed and coordinated a full-scale mass prophylaxis exercise. CEFOs also worked with the Strategic National Stockpile to improve plans for managing antiviral and vaccine dispensing during a pandemic.

During the response, at least a quarter of CEFOs played some role in dissemination of vaccine or antivirals, with some assuming leadership positions such as Director of Pharmaceutical Branch Operations, Deputy Director of H1N1 vaccination, and lead planner for shipping vaccine to partners statewide. CEFOs also provided technical support to hospitals regarding the use of antivirals. CEFOs sometimes played a role in school-based vaccinations. CEFOs also help

evaluate efforts in the aftermath of the outbreak. For instance, one CEFO analyzed the state's immunization registry for influenza immunizations given during 2009–2010 influenza season, including both seasonal and H1N1, and determined vaccine coverage rates for all ages.

Capability #10: Medical Surge

"Medical surge is the ability to provide adequate medical evaluation and care during events that exceed the limits of the normal medical infrastructure of an affected community."

CEFO Activities

- Served as part of the healthcare workforce aboard a US Naval Ship.
- Provided veterinary services during disasters in Haiti and the Dominican Republic.
- Served on committees to develop crisis standards of care.

Activities Related to Pandemic Influenza: As previously mentioned, CEFOs helped ensure adequate medical evaluation and care during the pandemic. Examples of their efforts include trainings that were developed to share information with health care providers and systems to evaluate hospital resources and response capacity.

Capability #11: Non-Pharmaceutical Interventions

"Non-pharmaceutical interventions are the ability to recommend to the applicable lead agency (if not public health) and implement, if applicable, strategies for disease, injury, and exposure control."

Activities Related to Pandemic Influenza: CEFOs developed guidance for isolation and social distancing as a control measure for 2009 H1N1 pandemic influenza. A CEFO led a training workshop for Regional Epidemiologists on the use of Non-Pharmaceutical Interventions for H1N1 at the state's pandemic influenza conference.

Capability #12: Public Health Laboratory Testing

"Public health laboratory testing is the ability to conduct rapid and conventional detection, characterization, confirmatory testing, data reporting, investigative support, and laboratory networking to address actual or potential exposure to all-hazards. Hazards include chemical, radiological, and biological agents in multiple matrices that may include clinical samples, food, and environmental samples (e.g., water, air, and soil)."

CEFO Activities

- Developed seminar to discuss the role of epidemiology and laboratory in public health practice and the opportunity for collaboration on analyses and studies.
- Developed guidance on laboratory testing for H1N1 influenza for coroners.
- Workgroup member to coordinate efforts to track lab confirmed cases of illness and environmental samples with matching PFGE patterns.
- Advisor for Master's of Public Health (MPH) student project on a comparison of polymerase chain reaction (PCR) versus peripheral blood smear (PBS) diagnostics for anaplasmosis.
- Developed CME training for healthcare providers about coccidioidomycosis and its laboratory diagnosis following an outbreak investigation of this disease.

Activities Related to Pandemic Influenza: Prior to the H1N1 response, routine CEFO activities supported the strengthening laboratory testing capacity. For example, one CEFO led an effort to develop an influenza testing algorithm to improve the ability to rapidly triage, ship, and test clinical specimens and influenza viral isolates. During the H1N1 response, CEFOs often reviewed surveillance data generated by laboratories and provided technical assistance and recommendations on how services could be improved regarding laboratory testing. One CEFO disseminated improved laboratory guidelines to coroners advising them to use nasopharyngeal swabs for post-mortem tests and provided the necessary tools.

Capability #13: Public Health Surveillance and Epidemiological Investigation

"Public health surveillance and epidemiological investigation is the ability to create, maintain, support, and strengthen routine surveillance and detection systems and epidemiological investigation processes, as well as to expand these systems and processes in response to incidents of public health significance."

CEFO Activities

- Coordinator or project lead for development, implementation, and evaluation of surveillance projects, select examples include:
 - Lead for surveillance of mental health issues and adverse physical health effects related to a natural disaster
 - Organ donor surveillance for transplant-related infections
 - Development of Web-CMR, a statewide system for electronic infectious disease reporting and case management

- Regularly reviewed and revised articles submitted to a statewide publication for clinicians and public health officials highlighting investigations, programs, and health statistics
- Conducted historical case reviews to ensure appropriate disease classification with updated case definitions
- Formally evaluated surveillance system for active surveillance of influenza-associated hospitalizations in Idaho
- Surveyed regional healthcare providers to assess their pertussis vaccination, diagnostic testing, and prophylaxis practices
- Served as primary and secondary supervisors for Epidemic Intelligence Service (EIS) Officers, epidemiology staff, CDC Public Health Prevention Service (PHPS) and Council of State and Territorial Epidemiologists (CSTE) Fellows, and student interns working on surveillance and epidemiologic investigations.
- Built local capacity to conduct surveillance and epidemiologic investigations; select examples include:
 - Assessed state epidemiology capacity through surveys
 - Conducted SAS Training for all acute and chronic epidemiologists in the state
 - Taught applied epidemiology classes at local universities
 - Collaborated with the neighboring state to secure funding for a regional model for obtaining extensive food exposure histories in a timely manner
 - Facilitated CASPER trainings for multiple audiences, including local and regional health department staff and epidemiologists
 - Facilitated EpiInfo™ training for state and local epidemiologists,
 - Provided guidance and training on outbreaks to local health departments
 - Trained epidemiology staff on how to use data captured in the ESSENCE syndromic surveillance system
 - Facilitated trainings on applied epidemiology, addressing data use issues, data linkage, presentation of data, analysis of trends, and the translation of data to policy
- Conducted many outbreak investigations and several complex epidemiology field investigations:
 - Multiple food-borne outbreaks (*Salmonella*, norovirus, *Escherichia coli* O157:H7, etc.)
 - Respiratory virus outbreaks in institutional settings

- Large multi-state outbreak of campylobacteriosis
- Outbreak of pesticide toxicity
- Multiple healthcare-associated infections (e.g., nosocomial *Burkholderia cepacia*)
- Rabies
- Possible adverse reaction to yellow fever vaccine
- Suspect bioterrorism agent
- Dengue fever
- Provided epidemiologic expertise and control/mitigation recommendations to local health officials about cholera and mumps
- Reviewed and revised state health department disease investigation and outbreak management guidelines for local health departments and various facilities
- Served as lead epidemiologist for suspicious substance response, including protocol development, training, exercises, and on-site response
- Developed, evaluated, and promoted the use of electronic Outbreak Management Systems (OMS)
- Planning for and implementation of disease surveillance systems during disasters and large-scale events:
 - Planned for surveillance and response at World Equestrian Games
 - Assisted in surveillance preparations for Super Bowl
 - Developed plan for department-wide disease disaster surveillance using all-hazards approach
- Assessed or implemented the use of new surveillance systems, including syndromic, sentinel, or electronic laboratory reporting:
 - Real-time Outbreak and Disease Surveillance (RODS) system
Initiated automated reporting of Influenza-Like Illness (ILI) through electronic health records from emergency departments, physician offices, and local health jurisdictions
 - Assessed the timeliness and effectiveness of electronic laboratory reporting versus traditional passive notifiable disease surveillance
 - Collaborated with Vital Statistics personnel and IT staff to institute automated, real-time transfer of electronic death certificate data to existing Epidemiology surveillance systems
- Conducted CASPER assessments and shared results with communities:

- 368 residents affected by coal ash spill in Tennessee
- Conducted a CASPER planning exercise in a rural county in central Texas
- Mississippi Gulf Coast in response to the Deepwater Horizon oil spill
- Expanded and improved syndromic surveillance:
 - Utilized inpatient hospitalization data and Electronic Health Records
 - Member of Hospital Association's Cluster Analysis Working Group for syndromic surveillance
 - Built electronic platform for integrative syndromic surveillance
- Led and participated in workgroups to improve surveillance:
 - Represented state on a collaborative work group, comprised of epidemiologists and Public Health laboratory staff from 6 bordering states, to improve regional foodborne disease surveillance
 - Workgroup to utilize GIS software and GPS technology for disease surveillance
- Primary coordinator for PHEP Biosurveillance Performance Measures Study
- Conducted epidemiologic studies:
 - Conducted epidemiologic study to assess risk factors for *Clostridium difficile* infections
 - Analyzed immunization registry for influenza immunizations given during 2009–2010 influenza season (both seasonal and H1N1) and determined vaccine coverage rates for all ages
 - Evaluated statewide hospital discharge data from 2000-2010 to determine trends and areas of need for targeted interventions

Activities Related to Pandemic Influenza: CEFOs contributed to improved capability to conduct surveillance and epidemiologic investigations. One CEFO developed a mechanism for automated reporting of influenza-like illness from physicians' offices, as well as a system for collecting and sharing data with key hospital staff and determining the need for critical infrastructure for hospitals, particularly for pandemic influenza scenarios. Many CEFOs fulfilled a critical role in surveillance of influenza-like illnesses (ILI) and H1N1. The roles performed by CEFOs varied by location, and included such responsibilities as lead epidemiologist for H1N1, "Surveillance Manager", and Epidemiology Branch Chief during Emergency Operations Center (EOC) activation for H1N1. They often managed, evaluated, and improved the collection of data from health care facilities, including emergency rooms, and laboratories. One CEFO coordinated with vital statistics and information technology staff to institute automated, real-time

transfer of electronic death certificate data to existing surveillance systems. Another CEFO led the coordination of statewide school absentee reporting, as well as development of a protocol to compare surveillance systems, including the ILI Surveillance Network, a hospital resource tracking system, Poison Control Center calls, health department hotline calls, laboratory tests, and school absenteeism. CEFOs contributed to their agency's response by instituting new surveillance systems, analyzing data, and developing methods for and conducting ongoing and formal evaluations of mortality, syndromic, and sentinel surveillance systems. CEFOs were also leaders and participants in the investigation of suspected H1N1 cases. Within the EOC, for instance, one CEFO formed part of a "Clinical Investigation Team." In the aftermath of H1N1, CEFOs contributed to the scientific knowledge base and to future pandemic flu preparedness by conducting or supervising epidemiologic studies. Examples of topics include determination of risk factors for H1N1 hospitalization and death among American Indian/Alaska Natives and analysis of school absenteeism during the pandemic.

Capability #14: Responder Safety and Health

"The responder safety and health capability describes the ability to protect public health agency staff responding to an incident and the ability to support the health and safety needs of hospital and medical facility personnel, if requested."

CEFO Activities

- Served as Medical Unit Lead for Incident Command Post for Deepwater Horizon Response in Houma, Louisiana.
- Conducted enhanced surveillance for heat-related illness among the 26,000 oil-spill responders to facilitate appropriate medical care for responders.
- Conducted surveillance for acute diseases among Deep Water oil spill responders and volunteer workers in collaboration with the National Institute of Occupational Safety and Health (NIOSH).
- Helped NIOSH roster oil spill response workers and volunteers for surveillance.

CONCLUSIONS

In summary, the activities conducted by CEFOs in their respective jurisdictions during the period from October 1, 2008 - September 30, 2010 demonstrate breadth, depth, and diversity, yet collectively support the mission to strengthen state, local, tribal, and territorial epidemiologic capability for public health preparedness and response. The activities identified in this review are aligned with the majority of the PHEP public health preparedness capabilities and also support the current CDC Director's Agency Priorities of: 1) strengthening surveillance, epidemiology, and laboratory services; and, 2) improving ability to support state and local public health (3). The work performed by the CEFO assignees demonstrates a commitment to developing and maintaining a comprehensive all-hazards preparedness and response infrastructure within state and local public health jurisdictions.

The findings of this analysis support the conclusion that the CEFO program is successful in the integration of the science of epidemiology and surveillance into the preparedness planning efforts and emergency response activities. As noted, the greatest proportion of CEFO activities was linked to public health surveillance and epidemiological investigation, and the CEFO assignees fulfilled critical roles and responsibilities in state and local planning efforts to prepare for pandemic influenza and in the actual response to the 2009 H1N1 influenza pandemic, as well as other outbreak investigations.

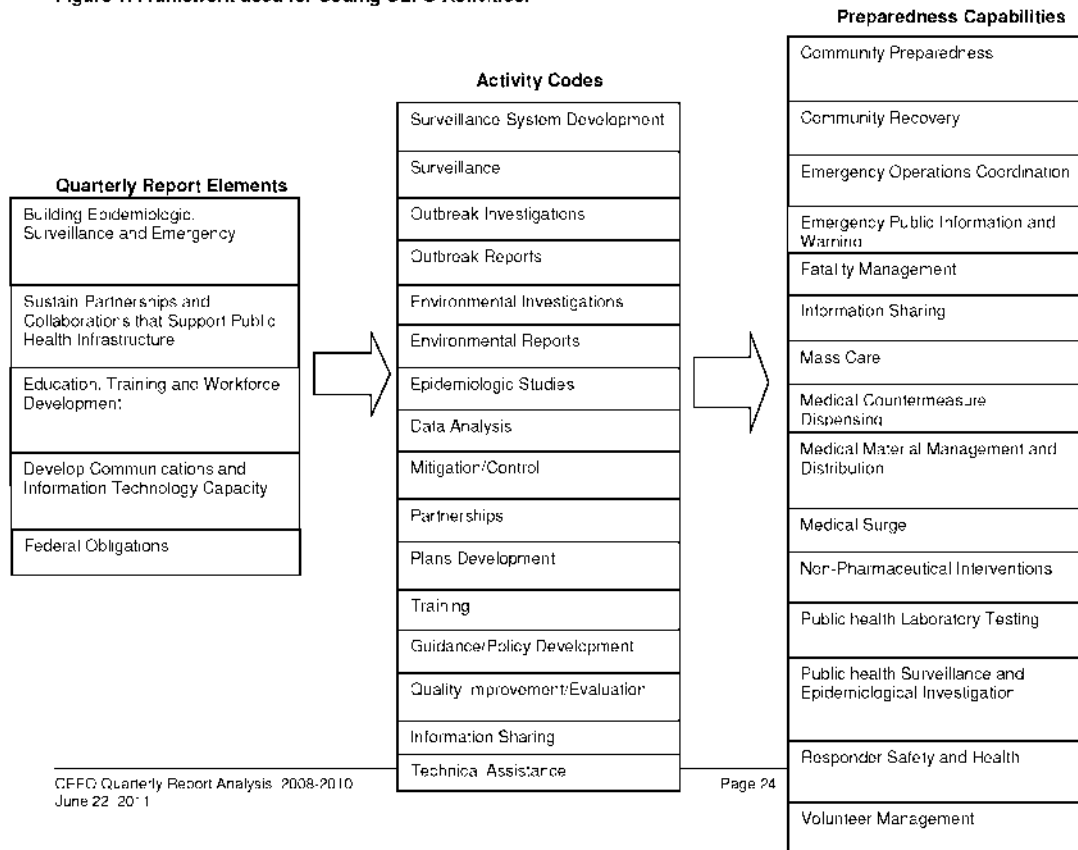
Several limitations are inherent in the material and methodology used for this review of work conducted by CEFO assignees. The content of this review is limited to the selected activities that the CEFO assignees elected to include in the quarterly reports. There is not a standardization of terms used by the CEFO assignees to report the work performed within the five elements on the quarterly report template. The variance in language presented some challenges in translating the work performed to a specific preparedness capability. The methodology of this review did not account for differences among the very diverse cohort of CEFOs and CEFO assignments in terms of background, training, experience, organizational placement, size and existing epidemiologic capacity in their health departments. The reported activities are subject to the priorities that are set by the state sponsor of the CEFO assignee. Some factors that influence work assignments are knowledge, skills and abilities of the assignee, the specific program priorities that are set within the state and local jurisdictions, and the funding available within the individual states to support initiatives. A more comprehensive review is needed to address the differences among state and local jurisdictions and the impact on the ability of the CEFO assignee to engage in various initiatives that would lead to enhanced epidemiologic capacity.

Nonetheless, while the reported activities in this review might not be reflective of all the work performed by the CEFO assignees, it does provide a general overview of the most common contributions that have been made by the CEFO assignees, particularly during a national crisis, such as the pandemic outbreak of H1N1 influenza. The results of this qualitative review reveal that the CEFO assignees have conducted work that has been critical to closing the gaps in the preparedness capabilities among state and local jurisdictions. Given that CEFO assignments are tailored to assist the state and local health departments to identify and address gaps in their preparedness and response capabilities, the findings from this review indicate that other state and local health departments may greatly benefit from assistance from a CEFO field assignee to their jurisdictions.

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Figure 1. Framework used for Coding CEFO Activities.



Appendix G. Career Epidemiology Field Officer Publications, January 2009 - May 2011

Career Epidemiology Field Officer Publications

January 2009 – May 2011

Purpose

Publications of scientific endeavors are critical to inform the basis for public health practice, policies, and programmatic activities. The purpose of this document is to summarize peer-reviewed publications by field assignees in the Career Epidemiology Field Officer (CEFO) Program at the Office of Public Health Preparedness and Response (OPHPR), Centers for Disease Control and Prevention (CDC) from January 2009- May 2011. A few examples of other nonpeer-reviewed documents authored by CEFOs are also provided.

The information provided in this document is intended to inform an external peer review of the CEFO Program that will be conducted by an ad hoc OPHPR Board of Scientific Counselors workgroup. Specifically these data will inform two objectives: (1) Delineating the strengths, weaknesses and opportunities for improvement and growth regarding: The ability of the CEFO program field assignees to support, enhance, and augment PHEP epidemiologic capabilities of key partners, and specifically the emergency preparedness directors and epidemiologists in state and local health departments, and (2) Evaluating the significance of the contributions made by CEFOs at their respective health departments.

Methods

A list of publications by CEFOs from January 2009-May 2011 was created using the following categories:

- Peer-reviewed publications
- *Morbidity and Mortality Weekly Report* articles
- Presentations at scientific conferences
- Newsletters
- Guidance and planning documents

The list was compiled by searching CDC's *Science Clips* for current and former CEFOs listed as authors. CDC's *Science Clips* is a weekly compilation of CDC-authored articles produced by queries in eight major databases, including PubMed, Web of Science, Embase, CINAHL, PsycINFO, Global Health (CAB International), NIOSHTIC-2, and Compendex. Keywords used in these queries are: CDC, NCHS, NIOSH and ATSDR. The list of CEFO publications was confirmed with each corresponding CEFO to affirm their authorship of the article, its relevance to their work as a CEFO (and not prior work as an EIS Officer, for instance), and to request references for additional CEFO publications from January 2009 to May 2011.

To assess the importance of the peer-reviewed publications, Journal Citation Reports (JCR) was used to calculate the annual impact factor, cited half-life and article influence score values for the journals in which CEFOs published.

Definitions and a description of how these measures are calculated is provided below verbatim from JCR:

- *Impact Factor*: “The annual JCR impact factor is a ratio between citations and recent citable items published. Thus, the impact factor of a journal is calculated by dividing the number of current year citations to the source items published in that journal during the previous two years. The impact factor is useful in clarifying the significance of absolute (or total) citation frequencies. It eliminates some of the bias of such counts which favor large journals over small ones, or frequently issued journals over less frequently issued ones, and of older journals over newer ones. Particularly in the latter case such journals have a larger citable body of literature than smaller or younger journals. All things being equal, the larger the number of previously published articles, the more often a journal will be cited.” See http://thomsonreuters.com/products_services/science/free/essays/impact_factor/
- *Article Influence*: “The Article Influence determines the average influence of a journal's articles over the first five years after publication. It is calculated by dividing a journal's Eigenfactor Score by the number of articles in the journal, normalized as a fraction of all articles in all publications. This measure is roughly analogous to the 5-Year Journal Impact Factor in that it is a ratio of a journal's citation influence to the size of the journal's article contribution over a period of five years. The mean Article Influence Score is 1.00. A score greater than 1.00 indicates that each article in the journal has above-average influence. A score less than 1.00 indicates that each article in the journal has below-average influence. “
- *Cited half-life*: “The cited half-life is the median age of the articles that were cited in the *Journal Citation Report* year. The aggregate cited half-life is an indication of the turnover rate of the body of work on a subject.”

Results

Peer reviewed Publications

In total, 22 of 29 CEFOs published an average of 1.9 (SE±0.41; range 0-8) peer-reviewed publications and 2.6 (SE±0.42; range 1-8) total publications (including MMWR). Publications related to field assignees' work as CEFOs are listed in Appendix 1 (journal articles) and Appendix 2 (MMWR articles). Articles that relate to prior or concurrent research outside of their capacity as a CEFO are not included. This list should be considered a “snapshot” of CEFO's recent contributions to scientific literature, and not an exhaustive list indicating CEFO's overall contributions.

Between January 2009 and May 2011, CEFOs published

- 37 peer-reviewed articles
- 16 articles in CDC's Morbidity and Mortality Weekly Report (MMWR)

CEFOs published in a wide range of peer-reviewed journals (n=21), with varying degrees of impact factor, cited half-life and article influence scores (Table 1; the Journal of Public Health

Management and Practice is not indexed by JCR, and therefore not included in the list. More than half of the journals that the CEFOs published in were rated of high influence, as indicated by an article influence score >1.

Table 1. Peer-reviewed journals that CEFOs published their work in from Jan 2009-May 2011, and the impact factor, cited half-life and article influence score values for the journals.

Abbreviated Journal Title	Impact Factor	Cited Half-Life	Article Influence Score
New Engl J Med	47.050	7.5	19.868
Jama-J Am Med Assoc	28.899	7.9	11.421
Clin Infect Dis	8.195	5.7	2.575
Emerg Infect Dis	6.794	4.6	2.175
Am J Transplant	6.433	3.8	1.848
J Infect Dis	5.865	7.6	2.117
Arch Pediat Adol Med	4.726	6.5	1.938
Pediatrics	4.687	6.7	1.909
Am J Public Health	4.371	8.8	2.045
Environ Res	3.237	6.7	0.955
Sex Transm Dis	2.579	5.9	0.935
Environ Health-Glob	2.481	3.3	
Epidemiol Infect	2.365	7.2	0.781
Med Mycol	2.133	4.9	0.606
J Food Protect	1.96	7.4	0.514
Zoonoses Public Hlth	1.912	2	0.529
Injury Prev	1.453	6	0.756
Public Health Rep	1.325	>10.0	0.637
Int J Occup Env Heal	1.12	5.6	0.434
J Environ Health	0.817	6.4	0.219

Presentations at scientific conferences

CEFOs provide many presentations at scientific meetings. As an example of the type of presentations by CEFOs, those presented by Thomas Chester between January 2009 and May 2011 are listed below:

- Ritchey MD, Richards S, Duszynski T, Gentry R, **Chester T**: Comparison of Two Influenza Syndromic Surveillance Systems – Indiana, 2006-2008. Presented at the 58th Annual EIS Conference, Atlanta, Georgia, April, 2009.
- Ritchey M, Sucusky MS, Jefferies T, McCormick D, Hesting A, Kariyanna S, Duwve J, **Chester T**, Daley WR: Lead Exposure Among Burmese Refugee Children — Fort Wayne, Indiana, 2009. Presented at 2009 Council of State and Territorial Epidemiologists Annual Conference, Buffalo, NY, June 2009.

- Meites E, Jarquin VG, Ritchey M, Sanchez C, Selke HM, Goldman M, Pardo I, Clare SE, Emerson RE, **Chester T**, Sinkowitz-Cochran RL, Shieh W-J, Zaki S, Howell JF, Srinivasan A, Jhung M, Investigation of a cluster of Idiopathic Granulomatous Mastitis in Hispanic women - Indiana, 2009. Poster presentation at 2010 Council of State and Territorial Epidemiologists Annual Conference. Portland, Oregon, June 2010.

Newsletters

The documents listed below provide some examples of surveillance newsletters in which CEFOs have authored or contributed to and reports to which CEFOs regularly contribute.

- Randall Nett contributes to Montana Public Health Prevention Opportunities Under the Big Sky, a monthly statewide publication targeting healthcare providers. It is available via the internet and approximately 2,275 copies are printed for distribution monthly.
 - Montana Department of Public Health and Human Services. Foodborne disease: reporting potential cases allows timely control. Montana Public Health Prevention Opportunities Under the Big Sky. 2010;5(11).
 - Montana Department of Public Health and Human Services. Improving disease reporting: essential for disease control. Montana Public Health Prevention Opportunities Under the Big Sky. 2011;6(2).
 - Montana Department of Public Health and Human Services. Hantavirus pulmonary syndrome in Montana: risk factors, recognition, and treatment. Montana Public Health Prevention Opportunities Under the Big Sky. 2011;6(6).
- From 2009 to the present, Katie Kurkjian has been the primary author or a regular contributor to the **Influenza Incidence Surveillance Project (IISP) Weekly Provider Report**. The purpose of this report is to summarize the surveillance highlights in the IISP, which monitors the age-specific incidence of medically-attended influenza-like illness (ILI) and influenza-associated ILI in real time throughout the influenza season. The weekly report is distributed to all participating providers and affiliated local health district and regional epidemiologists and laboratory colleagues. In addition, she has been the primary author or a regular contributor to the IISP provider-specific monthly reports.

Guidance and Planning Documents

The documents listed below provide some examples of guidance and planning documents which CEFOs have contributed to or authored.

Guidance Documents:

Katie Kurkjian periodically contributes to the **Virginia Disease Control Manual**. The purpose of this manual is to provide general guidance on the recommended public health response to reports of notifiable conditions. In addition, some other conditions that deserve attention, but may not generally be explicitly reportable (e.g., *Acinetobacter* infection, scabies) are addressed. This manual is disseminated to all local health district epidemiologists and communicable disease control nurses, regional epidemiologists, and central office staff.

Planning Documents:

CEFOs play an important role in preparedness and response planning, including drafting of planning documents. Below are examples of plans posted on North Dakota's secure intranet site. Stephen Pickard contributed to the development of these plans:

- **Incident Command and Emergency Operations Plan** - Describes the processes used by the North Dakota Department of Health for management of incident command of a disaster
- **Flood Response Plan** - Description of procedure for health and medical management of a flood event in North Dakota
- **Medical Response to Chemical Agents Plan** - Description of the health and medical response to the release of a chemical agent in North Dakota
- **Radiological Health Plan** - Description of the health and medical response to the release of a radiological agent in North Dakota
- **Pre-Hospital Stabilization Plan** - Description of the management of a field unit functioning as a ground based Advanced Life Support ambulance when transport times or offload times to emergency rooms is great
- **EMS and PSAP Stages for Standards of Care** - Describes two sets of alternative protocols of use during periods of surge for triage and management of emergency medical services calls and public safety answer points
- **Medical Sheltering of Displaced Populations Plan** - Conceptual plan describing the approach to sheltering of populations by the North Dakota Department of Health
- **Disaster Transportation Plan** - Describes the approach to medical transportation of patients during a disaster in North Dakota
- **Approach to Medication Provision in a Disaster** - Describes the process by which patients displaced by a disaster can obtain assistance refilling prescription medication
- **Mass Fatality Plan** (Draft pending publication to secure web) - Draft plan describing the management of mass fatality incident by the North Dakota Medical Examiner's Office

Conclusions

The CEFOs were remarkably productive in successfully publishing their work in scientific journals, including some very prestigious journals with high impact factors and article influence scores. In addition, they were successful in working with their state and local health department colleagues in the development of newsletters, guidance and planning documents for the public health practice community.

While this list provides an indication of the type of work conducted by CEFOs, it also has various limitations. This list captures only articles published as of 2009, whereas some CEFOs have been in their field placement for many years prior and contributed to the scientific knowledge base during that time also. Most CEFOs also presented at numerous scientific conferences and those abstracts are not included here. In addition, many CEFOs contribute regularly to state and local newsletters and reports, which arguably have an equal, if not greater, impact on local public health practice and preparedness. These publications clearly substantiate the success and impact of the CEFO program on state and local preparedness activities. If the CEFO's had not

been present, it is likely that many, if not most, of the activities resulting in the products would not have taken place.

Appendix 1. List of peer-reviewed publications from CEFOs, January 2009-May 2011.

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12. **Doyle TJ**, Hopkins RS. Low secondary transmission of 2009 pandemic influenza A (H1N1) in households following an outbreak at a summer camp: relationship to timing of exposure. *Epidemiol Infect* 2011;139(1):45-51.
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Appendix 2. List of *Morbidity and Mortality Weekly* report articles coauthored by CEFOs, January 2009-May 2011.

1. CDC. Knowledge and intent to receive pandemic and seasonal influenza vaccines – North Carolina, August, 2009. MMWR 2009;58(50):1401-5. [Co-author: **Fleischauer A**].
2. CDC. Oseltamivir-resistant 2009 pandemic influenza A (H1N1) virus infection in two summer campers receiving prophylaxis – North Carolina, 2009. MMWR 2009;58(35):969-72. [Co-author: **Fleischauer A**].
3. CDC. Swine-Origin Influenza A (H1N1) Virus Infections in a School --- New York City, April 2009. MMWR 2009;58(17):470-2 [Co-author: **Harper S**].
4. CDC. Outbreak of *Salmonella* serotype Saintpaul infections associated with eating alfalfa sprouts – United States, 2009. MMWR 2009;58(18):500-3 [Co-author: **Lando J**].
5. CDC. Deaths related to 2009 pandemic influenza A (H1N1) among American Indian/Alaska Natives - 12 states, 2009. MMWR 2009;58(48):1341-4 [Co-authors: **Morrison M, O'Leary D**].
6. CDC. Completeness and timeliness of reporting of meningococcal disease--Maine, 2001-2006. MMWR 2009;58(7):169-72 [Co-author: **Pelletier A**].
7. CDC. Impact of seasonal influenza-related school closures on families - Southeastern Kentucky, February 2008. MMWR 2009;58(50):1405-9 [Co-authors: **Riggs M, Thoroughman D**].
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9. CDC. Idiopathic Granulomatous Mastitis in Hispanic Women—Indiana, 2006-2008. JAMA 2010;303(5):415-417. [Co-author: **Chester TJ**].
10. CDC. Multistate outbreak of human *Salmonella* typhimurium infections associated with pet turtle exposure - United States, 2008. MMWR 2010;59(7):191-6 [Co-author: **Patel A**].
11. CDC. Update on cholera --- Haiti, Dominican Republic, and Florida, 2010. MMWR 2010;59(50):1637-41 [Contributions by: **Schmitz A, Torok T**].
12. CDC. *Balamuthia mandrillaris* transmitted through organ transplantation --- Mississippi, 2009. MMWR 2010;59(36):1165-70 [Co-author: **Thoroughman D**].
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14. CDC. Community health impact of extended loss of water service--Alabama, January 2010. MMWR 2011;60(6):161-6 [Co-author: **Morrison M**].
15. CDC. Respiratory Diphtheria-Like Illness Caused by Toxigenic *Corynebacterium ulcerans* - Idaho, 2010. MMWR 2011; 60(03);77 [Co-author: **Carter K**].
16. CDC. Dengue Virus Infections Among a Group of Missionaries Returning from Haiti — Nebraska and Georgia, October 2010. MMWR 2011; [Co-author: **Buss B**; Accepted for June 2011 publication date].

Office of Public Health Preparedness and Response

Career Epidemiology Field Officer Program

Vision: Sustained epidemiologic capability nationwide for public health preparedness and response.

Mission: To strengthen state, local, tribal, and territorial epidemiologic capability for public health preparedness and response.

The Career Epidemiology Field Officer (CEFO) Program is dedicated to strengthening epidemiologic and scientific support of preparedness activities and enhancing epidemiologic and scientific output from state and local programs. A CEFO is a CDC epidemiologist assigned to a state, local, or territorial public health department to facilitate and strengthen their epidemiologic capacity and public health preparedness. Prior to these assignments, CEFOs have completed CDC's Epidemic Intelligence Service training program¹ or comparable training. They also have public health work experience in epidemiology (disease surveillance, outbreak investigations, epidemiologic studies), preparedness (planning and response), and development of evidence-based policy and guidance. CEFOs have a broad spectrum of professional backgrounds (MD, DVM, PhD, MPH, RN), skill sets, and experience levels to serve in positions that meet the specific needs of the health department.

CEFO activities include:

- Strengthening state and local surveillance systems
- Conducting outbreak investigations and response
- Developing response plans for major public health emergencies
- Building partnerships with government agencies and other organizations for emergency preparedness
- Serving as liaisons to CDC and DHHS response teams and other resources
- Leading portions of the state's planning and response activities for pandemic influenza
- Leading or participating in federal, state or local emergency response exercises
- Providing expertise on the design of epidemiologic investigations, conducting studies as appropriate, analyzing data, and publishing findings

CEFOs are assigned to state, local, or territorial public health departments by request. Health departments may contact the CEFO Program to initiate a request for a CEFO. Once the request is approved, CEFO Program staff work closely with the requesting health department to identify priority areas of work and coordinate recruitment of CEFO candidates. Assignments take into account several factors, including:

- Potential risk for major public health emergencies
- Existing epidemiologic capacity
- Agency's commitment to support and utilize the skills and knowledge of a CEFO assignee

CEFO positions are funded through the Public Health Emergency Preparedness cooperative agreement. The requesting agency supports an initial CEFO assignment of two years with the option to renew the request annually. As of June 2011, there are 30 CEFO assignees located in 23 state or local public health departments.

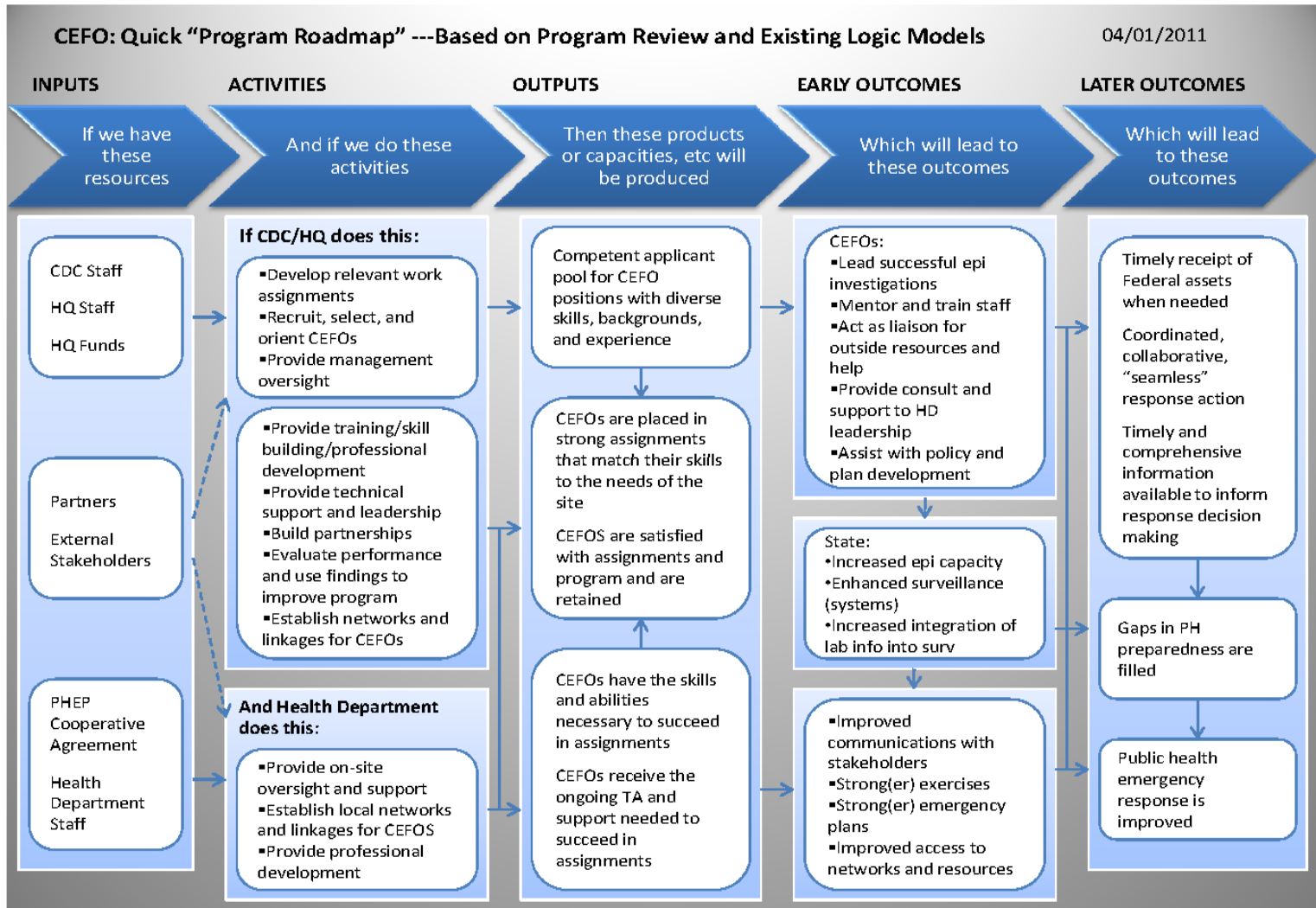
Visit <http://emergency.cdc.gov/cdcpreparedness/science/cefo.asp> for additional information or contact the CEFO Program directly at cefo@cdc.gov or (770) 488-2624.

¹Epidemic Intelligence Service (EIS) is a unique 2-year post-graduate training program of service and on-the-job learning in applied epidemiology. More info may be found at <http://www.cdc.gov/eis/index.html>.



June 2011

Appendix I. CEFO Program Logic Model



Appendix J. Acronyms

List of Acronyms

AAR	After Action Report
ACHD	Allegheny County Health Department
ASTHO	Association of State and Territorial Health Officials
ATSDR	Agency for Toxic Substances and Diseases Registry
BSC	Board of Scientific Counselors
CAN	Common Accounting Number
CASPER	Community Assessment for Public Health Emergency Response
CDC	Centers for Disease Control and Prevention
CEFO	Career Epidemiology Field Officer
COTPER	Coordinating Office for Terrorism Preparedness and Emergency Response
CSTE	Council of State and Territorial Epidemiologists
DA	Direct Assistance
DHHS	Department of Health and Human Services
DSLRL	Division of State and Local Readiness
EMS	Emergency Management System
EIS	Epidemic Intelligence Service
EOC	Emergency Operations Center
EWIDS	Early Warning Infectious Disease Surveillance
FA	Financial Assistance
FDA	Food and Drug Administration
FTE	Full Time Equivalent/Employee
GIS	Geographic Information System
GPS	Global Positioning System
HAN	Health Alert Network
HD	Health Department
HHS	Department of Health and Human Services
HIPAA	Health Insurance Portability and Accountability Act
HQ	Headquarters
IPA	Intergovernmental Personnel Act
IT	Information Technology
JCR	Journal Citation Report
MMWR	<i>Morbidity and Mortality Weekly Report</i>
NACCHO	National Association of County and City Health Officials
NCHS	National Center for Health Statistics
NIOSH	National Institute for Occupational Safety and Health
OMB	Office of Management and Budget
OMS	Outbreak Management System
OPHPR	Office of Public Health Preparedness and Response
OSPHP	Office of Science and Public Health Practice
PBS	Peripheral Blood Smear
PC	Preparedness Capabilities
PCR	Polymerase Chain Reaction
PERRC	Preparedness and Emergency Response Research Center
PHA	Public Health Advisor

PHE	Public Health Epidemiologist
PHEP	Public Health Emergency Preparedness
PHPS	Public Health Prevention Service
PHP&R	Public Health Preparedness and Response
PSB	Program Services Branch
SAS	Statistical Analysis System
SME	Subject Matter Expert
SOP	Standard Operating Procedure
TA	Technical Assistance
TCL	Target Capabilities List
TPER	Terrorism Preparedness and Emergency Response
USPHS	United States Public Health Service