The Council on Linkages Between Academia and Public Health Practice

Council on Linkages Between Academia and Public Health Practice

Conference Call Meeting

~

Tuesday, April 11, 2017
1:00-3:00 pm EDT

~

Call Number: 1.888.619.1583
Passcode: 479585

Funding provided by the Centers for Disease Control and Prevention

~

Staffed by the Public Health Foundation

Table of Contents

Activities of the Council on Linkages Between Academia and Public Health Practice (Council on Linkages) are made possible through funding from the Centers for Disease Control and Prevention under Cooperative Agreement Number U38OT000211. The content of Council on Linkages activities are solely the responsibility of the Council on Linkages and do not necessarily represent the official views of the sponsor.

1. Meeting Agenda

The Council on Linkages Between Academia and Public Health Practice

Council on Linkages Between Academia and Public Health Practice
Conference Call Meeting
Date: Tuesday, April 11, 2017
Time: 1:00-3:00pm EDT
Call Number: 1.888.619.1583
Access Code: 479585#

AGENDA

1:00-1:05	Welcome, Overview of Agenda, and Introduction of New Representatives ➢ Penrose Jackson (ACHI) ➢ Wendy Braund (ASTHO) ➢ Michael Fagen (SOPHE)	*Bill Keck*
1:05-1:10	Approval of Minutes from August 15, 2016 Meeting ➢ **Action Item**: Vote on Approval of Minutes	*Bill Keck*
1:10-1:15	Council Membership Vote – CEPH (Council Administrative Priorities – Membership) ➢ **Action Item**: Vote on Membership Status	*Bill Keck*
1:15-1:25	Operationalizing Council Strategic Directions, 2016-2020	*Bill Keck*
1:25-1:45	Core Competencies for Public Health Professionals (Council Strategic Directions – A.2.a., B.1.a.) ➢ Update on Usage of the Core Competencies ➢ Core Competencies Review Cycle ➢ Competencies for Population Health and Performance Improvement Professionals	*Bill Keck, Janet Place*
1:45-1:55	Update on Academic Health Department Learning Community (Council Strategic Directions – A.1.a)	*Bill Keck*
1:55-2:10	ASTHO: Public Health Workforce Interests and Needs Survey (Council Strategic Directions – A.1.d., C.1.b., C.1.e., C.2.)	*Wendy Braund, Elizabeth Harper*
2:10-2:25	ACPM: State Licensure for Preventive Medicine Physicians (Council Strategic Directions – C.4.a., C.4.c.)	*Mike Barry*
2:25-2:50	NBPHE: Certified in Public Health Exam (Council Strategic Directions – B.1.d.)	*Rick Kurz*
2:50-3:00	Other Business and Next Steps	*Bill Keck*
3:00	Adjourn	

2. Council Member List

The Council on Linkages Between Academia and Public Health Practice

Council on Linkages Members

Council Chair:

C. William Keck, MD, MPH
American Public Health Association

Council Members:

Susan Swider, PhD, APHN-BC
American Association of Colleges of Nursing

Beverly Taylor, MD
American College of Preventive Medicine

Penrose Jackson
Association for Community Health Improvement

Amy Lee, MD, MPH, MBA
Association for Prevention Teaching and Research

Gary Gilmore, MPH, PhD, MCHES
Association of Accredited Public Health Programs

Philip Amuso, PhD
Association of Public Health Laboratories

Lynn Goldman, MD, MS, MPH
Association of Schools and Programs of Public Health

Wendy Braund, MD, MPH, MSEd, FACPM
Association of State and Territorial Health Officials

Christopher Atchison, MPA
Association of University Programs in Health Administration

Rebecca Gold, JD
Centers for Disease Control and Prevention

Barbara Gottlieb, MD
Community-Campus Partnerships for Health

Laura Rasar King, MPH, MCHES
Council on Education for Public Health

Sarah Linde, MD
Health Resources and Services Administration

Beth Ransopher, RS, MEP
National Association of County and City Health Officials

Christina Dokter, MA, PhD
National Association of Local Boards of Health

Carolyn Harvey, PhD
National Environmental Health Association

Lisa Lang, MPP
National Library of Medicine

Patrick Lenihan, PhD
National Network of Public Health Institutes

Louis Rowitz, PhD
National Public Health Leadership Development Network

Susan Little, MSN, RN, APHN-BC, CPHQ
Quad Council Coalition of Public Health Nursing Organizations

Michael Fagen, PhD, MPH
Society for Public Health Education

3. Draft Meeting Minutes – August 15, 2016

The Council on Linkages Between Academia and Public Health Practice

Council on Linkages Between Academia and Public Health Practice Conference Call Meeting

Date: August 15, 2016

Meeting Minutes – Draft

Members Present: C. William Keck (Chair), Philip Amuso, Christopher Atchison, Christina Dokter, Pat Drehobl, Terry Dwelle, Vince Francisco, Gary Gilmore, Barbara Gottlieb, Lisa Lang, Amy Lee, Patrick Lenihan, Susan Little, Beth Ransopher, Louis Rowitz, Susan Swider, Beverly Taylor

Other Participants Present: Susan Amador, Alana Barrett, Betty Bekemeier, Mary Beth Bigley, Claudia Blackburn, Antonia Blinn, Barb Bradley, Liza Corso, Teresa Daub, Paul Dennis, Ashley Edmiston, Olubemiga Ekundayo, Miryam Gerdine, Steve Godin, Rebecca Gold, Nadim Haddad, Rachel Hauber, Allison Hausmann, Barbara Ann Hughes, Gina Johnson, Bryant Thomas Karras, Kirk Koyama, Allison Lewis, Karina Lifschitz, Yen Lin, Bryn Manzella, Candace Nelson, Eva Perlman, Janet Place, Julia Resnick, Elizabeth Rumbel, Connie Russell, RoseAnn Scheck, Lisa Sedlar, Kathi Traugh, Kristen Varol, Sirin Yaemsiri

Staff Present: Ron Bialek, Kathleen Amos, Janelle Nichols, Evgeniia Belobrovkina

Agenda Item	Discussion	Action
Welcome, Overview of Agenda, and Introduction of New Representatives ➢ **Susan Swider (AACN)** ➢ **Christina Dokter (NALBOH)**	The meeting began with a welcome by Council Chair C. William Keck, MD, MPH. Roll call was conducted. Dr. Keck acknowledged the passing of Harrison Spencer, MD, MPH, DTM&H, CPH, President and CEO of the Association of Schools and Programs of Public Health (ASPPH), and offered condolences and support of behalf of the Council to ASPPH. Dr. Keck reviewed the agenda for the meeting. Dr. Keck welcomed and introduced two new Council representatives: Susan Swider, PhD, APHN-BC, FAAN, for the American Association of Colleges of Nursing (AACN), and Christina Dokter, MA, PhD, for the National Association of Local Boards of Health (NALBOH).	
Approval of Minutes from January 11, 2016 Meeting ➢ **Action Item: Vote on approval of minutes**	Dr. Keck asked for any changes to the minutes of the January 11, 2016 Council meeting. Gary Gilmore, MPH, PhD, MCHES, moved to approve the minutes as written. Christopher Atchison, MPA, seconded the motion. No additions or corrections.	Minutes of the January 11, 2016 Council meeting were approved as written.
Request for Council Membership – Association for Community Health Improvement ➢ **Action Item: Vote on membership request**	Dr. Keck informed the Council that the Association for Community Health Improvement (ACHI) has requested to join the Council. Dr. Keck welcomed Julia Resnick, MPH, Senior Program Manager, ACHI, to speak on behalf of ACHI. Dr. Keck asked for discussion on granting preliminary membership to ACHI. Dr. Gilmore	ACHI was granted preliminary Council membership.

	moved to grant preliminary membership. Mr. Atchison seconded the motion.	
CDC Update	Guest speakers Teresa Daub, MPH, CPH, Office for State, Tribal, Local and Territorial Support (OSTLTS) and Pat Drehobl, RN, MPH, Center for Surveillance, Epidemiology, and Laboratory Services (CSELS), Centers for Disease Control and Prevention (CDC), provided an update on CDC's public health workforce development and public health system priorities and the status of funding for the Council. The Council is currently supported by funding from OSTLTS and CSELS.	
Council Strategic Directions, 2016-2020 ➢ **Council Future Directions and Impact** ➢ **Action Item: Vote on Adoption of Strategic Directions**	Dr. Keck provided an overview of the process for refreshing the Council's Strategic Directions for 2016-2020. Activities of the Council are guided by its Strategic Directions. Over the past five years, the Council made progress related to activities within each of the objective areas and administrative priorities outlined in its *Strategic Directions, 2011-2015*. In the fall of 2015, efforts were begun to update these Strategic Directions for 2016-2020 to ensure that the Council's work continues to meet ongoing and emerging needs within the public health community. During the Council's January 2016 meeting, an initial set of suggested revisions to the Strategic Directions for 2016-2020 was shared. Following that meeting, Council staff met by conference call with the 21 Council member organizations individually to hear and discuss suggestions for the Council's Strategic Directions. Dr. Keck thanked Council member organizations for the thoughtful and constructive comments and suggestions provided during and following these conversations. Input from Council member organizations included specific suggestions about individual objectives, strategies, and tactics within the Strategic Directions, in addition to touching on overarching themes about the Council's goals, activities, and the way it presents itself and its collective work and accomplishments. An overarching theme that came out of these discussions is that the Council is focused on helping to improve the performance of individuals and organizations in public health, with a specific focus on the workforce, and serves a valuable role as a convener and facilitator to generate consensus around important public health workforce development needs and ways to address these needs. Council members suggested changes to the	The Council's *Strategic Directions, 2016-2020* were adopted. Council staff will follow-up with additional information about how the Strategic Directions are operationalized at the next Council meeting.

	way the Council presents its goals and its work to reflect this important overarching theme. Based on this input, a draft of the *Strategic Directions, 2016-2020* was developed and circulated to Council member organizations for review and comment. Comments received were incorporated into a second draft for further discussion and a vote on adoption. Dr. Keck invited discussion on the draft *Strategic Directions, 2016-2020*. Dr. Gilmore moved to adopt the *Strategic Directions, 2016-2020*. Mr. Atchison seconded the motion.	
Healthy People	Liza Corso, MPA, OSTLTS, and Sirin Yaemsiri, PhD, National Center for Health Statistics, CDC, engaged the Council in discussion about Healthy People 2020, specifically workforce objectives 4 and 6 within the Public Health Infrastructure (PHI) topic area, which relate to the availability of public health education, and requested feedback on proposed revisions to these objectives.	
Academic Health Department Research Agenda	Academic Health Department (AHD) Learning Community Chair Dr. Keck provided an update on the AHD Research Agenda. Following a suggestion by Council member Vince Francisco, PhD, and discussion during the August 2015 Council meeting, the AHD Learning Community launched an initiative, led by Learning Community member Paul Campbell Erwin, University of Tennessee Department of Public Health, to develop a research agenda focused on the AHD model. This research agenda explores questions related to measuring the value of AHD partnerships in enhancing public health and determining best practices critical to partnership success, and suggests opportunities for collaborative research on the structure, functions, and impacts of AHDs. An initial draft of the research agenda was developed in January 2016, made available on the Public Health Foundation's website for public comment, and shared with the Learning Community and other groups with related interests for feedback. Feedback received was used to revise the research agenda to produce a final draft for review and approval by the Council. The research agenda is built around a logic model framework and includes more than 50 research questions related to inputs, activities, outputs, outcomes, and impact associated with AHDs.	Comments or questions related to the AHD Research Agenda may be sent to Kathleen Amos at kamos@phf.org. Council staff will share the final draft of the AHD Research Agenda with the Council for a vote on approval this fall.

	Dr. Keck invited discussion on the draft AHD Research Agenda and the sharing of additional comments by email. Comments provided will be used to develop an updated draft if necessary, and a vote on approval of the final draft is expected by email in the fall.	
Update on Other Council Initiatives ➢ **Academic Health Department Learning Community** ➢ **Core Competencies for Public Health Professionals** ➢ **Recruitment and Retention**	Dr. Keck provided updates on the AHD Learning Community, Core Competencies for Public Health Professionals (Core Competencies), and Council activities related to recruitment and retention. The AHD Learning Community supports development of AHD partnerships between public health practice organizations and academic institutions. As a national community of practitioners, educators, and researchers, the Learning Community stimulates discussion and sharing of knowledge; the development of resources; and collaborative learning around establishing, sustaining, and expanding AHDs. The Learning Community continues to grow and currently has approximately 600 members. The AHD Learning Community held three webinar meetings in 2016 focusing on sharing examples of AHD partnerships in Kansas, Kentucky, and Alabama, as well as on developing the AHD Research Agenda. Additional Learning Community meetings are being planned for later this year. The list of AHD partnerships compiled by the Learning Community continues to grow, as does the collection of partnership agreements used to formalize AHD relationships. Both of these resources are available on the Council website. The AHD Mentorship Program, launched in June 2015, also continues to develop. Led by Bryn Manzella, Jefferson County Department of Health (AL), this program helps to foster AHDs by building relationships between individuals involved in AHD efforts, connecting those seeking guidance in an area of AHD development or operation with those having experience in that area. Participation in the program is growing, with eight mentor/mentee matches to date, and additional matches continuing to be created. The Core Competencies reflect foundational skills desirable for professionals engaged in the practice, education, and research of public health and are used by health departments, academic institutions, and other public health organizations in education, training, and other workforce development activities. The Core Competencies and related resources and tools	Examples of AHD partnerships and partnership agreements can be sent to Kathleen Amos at kamos@phf.org. Anyone interested in participating in the AHD Mentorship Program as a mentor or mentee can email Janelle Nichols at jnichols@phf.org.

	are widely used, and this usage is highlighted by the frequency with which these resources are accessed through the Council website. Since the current version of the Core Competencies was released in June 2014, the Core Competencies have been accessed nearly 96,000 times, and tools and resources have been accessed more than 178,000 times. The most popular tools and resources include competency assessments, sample job descriptions that incorporate the Core Competencies, and examples illustrating how the Core Competencies are being used.	
	Work continues to develop resources and tools to support use of the Core Competencies. Most recently, descriptions of the eight Core Competencies domains and a summary showing how the Core Competencies are used to support health department accreditation and performance improvement were created. Efforts have also focused on expanding collections of workforce development plans and job descriptions that incorporate the Core Competencies. Each collection now includes more than 20 examples that others can use as they work to develop their own job descriptions and workforce development plans.	Examples of job descriptions and workforce development plans that incorporate the Core Competencies, other examples of Core Competencies use, and expressions of interest in the Core Competencies Workgroup can be sent to Janelle Nichols at jnichols@phf.org.
	Within Healthy People 2020, the Core Competencies are incorporated into three objectives in the PHI topic area. The Council serves as the data source for Objective PHI-3, which is to: *Increase the proportion of Council on Education for Public Health (CEPH) accredited schools of public health, CEPH accredited academic programs, and schools of nursing (with a public health or community health component) that integrate Core Competencies for Public Health Professionals into curricula*, and worked with three Council member organizations – ASPPH, the Association for Prevention Teaching and Research, and AACN – to collect data related to this objective in 2016. Dr. Keck thanked each of these organizations for their assistance with this effort, and especially for collecting these data. Of the academic institutions that provided information, 92% indicated that they have used the Core Competencies. A summary of these results with more detailed information is included in the meeting materials.	
	In 2010, the Council on Linkages conducted a survey to explore recruitment and retention within the US public health workforce. This survey considered factors that influenced individuals' decisions to take and remain in	More information about accessing the recruitment and retention survey data can be obtained online or

	jobs in the public health field, as well as their satisfaction with elements of the environments in which they worked, including organizational leadership, management, and professional development. Nearly 12,000 individuals shared their experiences through this survey, and the results of this exploration are summarized in the Council report, *Recruitment and Retention: What's Influencing the Decisions of Public Health Workers?* This report highlights information about demographics, recruitment and retention factors, and organizational environment. Two articles have also been published as a result of this work, in the *American Journal of Public Health* (Dec 2015 issue) and *Journal of Public Health Management and Practice* (currently published online ahead-of-print), and the dataset containing responses from the individuals on which these results are based is available for further research.	by contacting Kathleen Amos at kamos@phf.org.
Other Business and Next Steps	Dr. Keck asked if there was any other business to address. The next meeting of the Council has not been scheduled, but will likely be held by webinar or conference call. Council staff will be in contact to schedule that meeting.	Council staff will schedule the next Council meeting.

4. Council Membership Vote – CEPH

The Council on Linkages Between Academia and Public Health Practice

Council Membership Vote – CEPH

April 11, 2017

Overview

Organizations that join the Council on Linkages Between Academia and Public Health Practice (Council) are required to serve a period of preliminary membership. The Council on Education for Public Health (CEPH) has been participating as a preliminary member and is eligible for formal membership status.

Council on Education for Public Health

CEPH is an independent agency recognized by the U.S. Department of Education to accredit schools of public health and public health programs offered in settings other than schools of public health. These schools and programs prepare students for entry into careers in public health. The primary professional degree is the Master of Public Health (MPH), but other master's and doctoral degrees are offered as well. CEPH assures quality in public health education and training to achieve excellence in practice, research, and service, through collaboration with organizational and community partners.

Action Item: Vote on Membership Status

During this meeting, a vote will be held to determine whether to grant CEPH formal membership on the Council.

5. Operationalizing Council Strategic Directions, 2016-2020

The Council on Linkages Between Academia and Public Health Practice

Operationalizing Council Strategic Directions, 2016-2020

April 11, 2017

Overview

In August 2016, the Council on Linkages Between Academia and Public Health Practice (Council) adopted Strategic Directions for 2016-2020. Adoption of the *Strategic Directions, 2016-2020* followed a nearly yearlong development process designed to ensure that the Council's work continues to meet ongoing and emerging needs within the public health community. Building on the *Strategic Directions, 2011-2015*, Council member organizations discussed and provided input on areas in which the Council and its focus on developing consensus can make a valuable contribution, the vital role the Council plays in convening organizations and facilitating discussion, and priorities for strengthening the public health workforce. The *Strategic Directions, 2016-2020* will guide activities of the Council through 2020.

Operationalizing the Strategic Directions

The Council's Strategic Directions provide the structure within which Council activities are pursued. Although the Council does not currently have active work in all areas of the Strategic Directions, the Strategic Directions set the scope of the Council's work based on areas that the Council has collectively determined are important to pursue and is key as activities are prioritized and funding opportunities are sought.

The Strategic Directions serve several important roles for both Council staff and Council member organizations. Council staff use the Strategic Directions to prioritize where their support for Council activities is focused, to organize Council meetings, and to seek funding to advance the work of the Council. The Strategic Directions are ever-present as a high-level guide of what the Council aims to accomplish as Council staff create more detailed work plans and targets for activities that will contribute to achieving these aims.

For Council member organizations, the Strategic Directions articulate areas that the Council as a whole is interested in and provide a framework for the types of topics individual member organizations may wish to raise with the Council. Council member organizations are encouraged to use the Strategic Directions to suggest ideas for Council projects, request input from the Council for their own organizational activities, and support their organizations' proposals for funding. Council member organizations are welcome to explore the Strategic Directions for activities that align with their own organizational priorities, bring these topics to the Council for discussion and action, and use the Strategic Directions to help make the case to funders of the importance of investing in those activities.

Collective Impact

Every Council member organization has a role to play in achieving the goals of the Strategic Directions, and collective effort is essential for progress to be made toward the objectives the Council has set out. The impact of the Council is defined not only by the impact of initiatives of the Council as a whole, but also by the impact Council member organizations contribute individually through activities aligned with the Strategic Directions. Council member organizations are encouraged to adopt key concepts within the Strategic Directions, taking ownership of strategies and tactics and continuing to strengthen the overall impact of the Council. Throughout this year, the 25th anniversary of the Council, Council leadership and staff will be looking for opportunities to highlight individual member organizations' contributions toward the Strategic Directions and share Council successes and achievements.

6. **Core Competencies for Public Health Professionals:**
    - **Core Competencies for Public Health Professionals Report**
    - **Core Competencies for Public Health Professionals (2014)**
    - **Priority Competencies for Population Health Professionals (Draft)**
    - **Competencies for Performance Improvement Professionals in Public Health (Draft)**

The Council on Linkages Between Academia and Public Health Practice

Core Competencies for Public Health Professionals Report

April 11, 2017

Overview

The Core Competencies for Public Health Professionals (Core Competencies) reflect foundational skills desirable for professionals engaged in the practice, education, and research of public health and are used in education, training, and other workforce development activities across the country. The current version of the Core Competencies was released on the Council on Linkages Between Academia and Public Health Practice (Council) website in June 2014.

Update on Usage of the Core Competencies

The Core Competencies and related resources and tools continue to be used within health departments, academic institutions, and other public health organizations. The 2016 National Profile of Local Health Departments study conducted by the National Association of County and City Health Departments (NACCHO) reports a 73% increase in use of the Core Competencies among local health departments since the study was last completed in 2013 – with usage growing from 26% to 45%. In addition to an overall increase in usage, the NACCHO study highlights increases in use of the Core Competencies for assessing training needs, developing training plans, writing position descriptions, and conducting performance evaluations, with use for training plans and position descriptions doubling between 2013 and 2016. Data from the Association of State and Territorial Health Officials' Profile of State Public Health conducted in 2012 shows that more than 50% of state health departments use the Core Competencies, and information collected by three Council member organizations in 2016 show that approximately 92% of academic public health and public health nursing programs use the Core Competencies.

The Core Competencies are also used by national organizations such as the Centers for Disease Control and Prevention, the Health Resources and Services Administration, Public Health Training Centers, and the Public Health Accreditation Board, and are built into the TRAIN Learning Network, which currently reaches more than 1.3 million learners, to facilitate access to competency-based training.

Usage of the Core Competencies is highlighted by the frequency with which these resources are accessed through the Council website. Since the June 2014 release of the current version, the Core Competencies have been accessed more than 121,000 times, and resources and tools have been accessed more than 232,000 times. The Core Competencies Workgroup continues to focus on resources and tools to support this use, including developing a new tool for helping to determine essential Core Competencies for job descriptions and enhancing collections of job descriptions and workforce development plans that incorporate the Core Competencies. Examples of such job descriptions and workforce development plans, as well as other examples of how public health professionals and organizations are using the Core Competencies, are always welcome by email to Janelle Nichols at jnichols@phf.org. Ongoing development and promotion of the Core Competencies and related resources and tools is planned to ensure that these resources continue to reach the widest audience possible.

Core Competencies Review Cycle

The Council has a long-standing commitment to the public health community to ensure that the Core Competencies remain current and continue to reflect the reality of working in public health. One way that this is accomplished is by considering whether there is a need to revise the Core Competencies every three years. As noted above, the current version of the Core

Competencies was released in 2014, and usage of the Core Competencies is widespread and continuing to grow. In addition to use within health departments and academic institutions, the Core Competencies are playing a role in broader workforce development efforts including the Public Health Workforce Interests and Needs Survey (PH WINS); the recent revision of the Council on Education for Public Health's accreditation criteria and the National Board of Public Health Examiner's Certified in Public Health (CPH) exam; and the development of discipline-specific competencies, such as those of the Quad Council Coalition of Public Health Nursing Organizations.

As discussed at previous Council meetings, the Council has received requests to consider lengthening the review and revision cycle for the Core Competencies to minimize disruption and allow time for organizations and individuals to integrate the latest Core Competencies into their work before revisions are made. The Council must balance the needs of those relying on the Core Competencies with responsiveness to changes in the field in order to ensure continued use. With the three year anniversary of the current version of the Core Competencies in June, the Council is asked to consider whether significant enough changes have occurred in the public health field to necessitate potential revision of the Core Competencies or whether the current version of the Core Competencies is likely to meet the anticipated needs of the near future. It should be noted in this discussion that a decision not to begin the review and revision process at the present time does not mean that the Council must wait another three years before revisiting this question again, as this can be done at any time.

Competencies for Population Health and Performance Improvement Professionals
Additional examples of the use of the Core Competencies in developing specialized competency sets are the Priority Competencies for Population Health Professionals being developed by the Public Health Foundation (PHF) and Association for Community Health Improvement and the Competencies for Performance Improvement Professionals in Public Health being developed by PHF. The Priority Competencies for Population Health Professionals describe desired skills for population health professionals and are primarily designed for non-clinical hospital, health system, public health, and healthcare professionals engaged in assessment of population health needs and development, delivery, and improvement of population health programs, services, and practices. The development of these competencies began in early 2015 and is relying on the Core Competencies as key for helping hospitals and health systems in identifying and building knowledge and skills that support improved population health. These competencies are currently open for public comment in draft form; feedback will be used to refine this competency set and can be sent to Kathleen Amos at kamos@phf.org.

The Core Competencies Workgroup has recently formed a subgroup to support the refinement of the Competencies for Performance Improvement Professionals in Public Health. Based on the Core Competencies and the Core Competencies for Performance Improvement Managers, these competencies aim to offer additional guidance in performance improvement for individuals with responsibilities for accreditation, quality improvement, performance management, or community improvement in public health. Anyone interested in joining the Subgroup on Performance Improvement Competencies can contact Julie Sharp at jsharp@phf.org.

With the Core Competencies serving as a backbone for competency development efforts such as these, a question has been raised of whether the Council should become involved in recognizing competency sets that are based on the Core Competencies and, if so, whether there are particular guidelines or criteria a set of competencies must meet before receiving Council recognition. If the Council is interested in considering this, the Core Competencies Workgroup could be charged with exploring these questions and report back to the Council at a future Council meeting.

Core Competencies Workgroup Members

Co-Chairs:

- Amy Lee, Northeast Ohio Medical University
- Janet Place, Arnold School of Public Health, University of South Carolina

Members:

- Nor Hashidah Abd Hamid
- Liz Amos, National Library of Medicine
- Sandra Anyanwu-nzeribe
- Sophia Anyatonwu, Texas Department of State Health Services, Region 7
- Sonja Armbruster, College of Health Professions, Wichita State University (KS)
- Bobbie Bagley, Nashua Division of Public Health & Community Services (NH)
- Cynthia Baker, Prince George's County Health Department (MD)
- Noel Bazini-Barakat, Los Angeles County Department of Public Health (CA)
- Dawn Beck, Olmsted County Public Health Services (MN)
- Roxanne Beharie, Ashford University
- Alan Bergen, Pima County Health Department (AZ)
- Linda Beuter, Livingston County Department of Health (NY)
- Michael S. Bisesi, College of Public Health, The Ohio State University
- Jeanne Bowman, Champaign Health District (OH)
- Bill Brooks, East Tennessee State University
- Tom Burke, Bloomberg School of Public Health, Johns Hopkins University
- Belinda Caballero, David Jurkovich MD PLLC; BC Billing LLC (FL)
- Candy Cates, Oregon Health Authority
- Marita Chilton, Public Health Accreditation Board
- Michelle Chino, School of Community Health Sciences, University of Nevada, Las Vegas
- Judith Compton, University of Michigan
- Michelle Cravetz, School of Public Health, University at Albany
- Oriyomi Dawodu, School of Medicine, University of Maryland
- Marilyn Deling, Olmsted County Public Health Services (MN)
- Anjali Deshpande, College of Public Health, University of Iowa
- Diane Downing
- Mark Edgar, School of Medicine and Public Health, University of Wisconsin
- Dena Fife
- Colleen Fitzgibbons, Ohio State University
- Rachel Flores, University of California - Los Angeles
- Linda Rose Frank, Graduate School of Public Health, University of Pittsburgh
- Kristine Gebbie
- Brandon Grimm, College of Public Health, University of Nebraska Medical Center
- Kari Guida, Minnesota Department of Health
- John Gwinn, University of Akron
- Viviana Horigian, University of Miami
- Emmanuel Jadhav, Ferris State University
- Larry Jones
- Vinitsa Karatsu, County of Los Angeles Department of Public Health (CA)
- Bryant T. Karras, Washington State Department of Health
- Louise Kent, Northern Kentucky Health Department
- David Knapp, Kentucky Department for Public Health
- Kathy Koblick, Marin County Department of Health and Human Services (CA)
- Kirk Koyama, Health Resources and Services Administration

- Rajesh Krishnan, The Preventiv
- Cynthia Lamberth, College of Public Health, University of Kentucky
- Lisa Lang, National Library of Medicine
- Caitlin Langhorne, Association of State and Territorial Health Officials
- Jessie Legros, Centers for Disease Control and Prevention
- Jami Lewis, Clay County Public Health Center (MO)
- Jen Lewis, Sonoma County Department of Health Services (CA)
- Karina Lifschitz, Centers for Disease Control and Prevention
- John Lisco, Council of State and Territorial Epidemiologists
- Ruth Little, Brody School of Medicine, East Carolina University
- Susan Little, North Carolina Division of Public Health
- Erin Louis, College of Public Health, University of Kentucky
- Kathleen MacVarish, School of Public Health, Boston University, New England Public Health Training Center
- Lynn Maitlen, Dubois County Health Department (IN)
- Bryn Manzella, Jefferson County Department of Health (AL)
- Jeanne Matthews, Malek School of Health Professions, Marymount University
- Eyob Mazengia, Public Health – Seattle & King County (WA)
- Tracy Swift Merrick, Agora Cyber Charter School
- Nadine Mescia, University of Tampa
- Kathy Miner, Rollins School of Public Health, Emory University
- Casey Monroe, Allegheny County Health Department (PA)
- Sophie Naji, University of Illinois at Chicago, Great Lakes Public Health Training Collaborative
- Scott Pegues, Denver Public Health; Denver Prevention Training Center
- Christina Ramsey, Health Resources and Services Administration
- Penney Reese, Centers for Disease Control and Prevention
- Beth Resnick, Bloomberg School of Public Health, Johns Hopkins University
- Victoria Rivkina, DePaul University
- Mitchel Rosen, Rutgers School of Public Health
- Elizabeth Rumbel, Denver Public Health (CO)
- Y. Silvia Shin, County of Los Angeles Department of Health (CA)
- Mark Siemon, Idaho Public Health
- Lillian Upton Smith, School of Public Health, West Virginia University
- Rochelle Spielman, Minnesota Department of Health
- Chris Stan, Connecticut Department of Public Health
- Ran Tao, Jefferson County Public Health (CO)
- Douglas Taren, The University of Arizona
- Shari Tedford, Johnson County Department of Health and Environment (KS)
- Graciela Tena de Lara, Wyoming Department of Health
- Valencia Terrell, Centers for Disease Control and Prevention
- Allison Thrash
- Karen A. Tombs, The Dartmouth Institute for Health Policy and Clinical Practice
- Griselle Torres, University of Illinois at Chicago
- Kathi Traugh, Yale School of Public Health, Yale University
- Andrew Wapner, College of Public Health, Ohio State University
- Sharonda Willis, California Department of Health

The Council on Linkages Between Academia and Public Health Practice

June 2014

Core Competencies for Public Health Professionals

Revised and Adopted by the Council on Linkages Between Academia and Public Health Practice:
June 26, 2014

Available from: phf.org/corecompetencies

Council on Linkages Between Academia and Public Health Practice

The Council on Linkages Between Academia and Public Health Practice (Council on Linkages) is a collaborative of 20 national organizations that aims to improve public health education and training, practice, and research. Established in 1992 to implement the recommendations of the Public Health Faculty/Agency Forum regarding increasing the relevance of public health education to the practice of public health, the Council on Linkages works to further academic/practice collaboration to ensure a well-trained, competent workforce and the development and use of a strong evidence base for public health practice.

Mission

The Council on Linkages strives to improve public health practice, education, and research by fostering, coordinating, and monitoring links among academia and the public health practice and healthcare communities; developing and advancing innovative strategies to build and strengthen public health infrastructure; and creating a process for continuing public health education throughout one's career.

Membership

Twenty national organizations are members of the Council on Linkages:

- American Association of Colleges of Nursing
- American College of Preventive Medicine
- American Public Health Association
- Association for Prevention Teaching and Research
- Association of Accredited Public Health Programs
- Association of Public Health Laboratories
- Association of Schools and Programs of Public Health
- Association of State and Territorial Health Officials
- Association of University Programs in Health Administration
- Centers for Disease Control and Prevention
- Community-Campus Partnerships for Health
- Health Resources and Services Administration
- National Association of County and City Health Officials
- National Association of Local Boards of Health
- National Environmental Health Association
- National Library of Medicine
- National Network of Public Health Institutes
- National Public Health Leadership Development Network
- Quad Council of Public Health Nursing Organizations
- Society for Public Health Education

The Council on Linkages is funded by the Centers for Disease Control and Prevention. Staff support is provided by the Public Health Foundation.

For More Information

Additional information about the Council on Linkages can be found at phf.org/councilonlinkages. Questions or requests for information may be sent to councilonlinkages@phf.org.

Core Competencies for Public Health Professionals

The Core Competencies for Public Health Professionals (Core Competencies) are a consensus set of skills for the broad practice of public health, as defined by the 10 Essential Public Health Services. Developed by the Council on Linkages Between Academia and Public Health Practice (Council on Linkages), the Core Competencies reflect foundational skills desirable for professionals engaging in the practice, education, and research of public health.

The Core Competencies support workforce development within public health and can serve as a starting point for public health professionals and organizations as they work to better understand and meet workforce development needs, improve performance, prepare for accreditation, and enhance the health of the communities they serve. More specifically, the Core Competencies can be used in assessing workforce knowledge and skills, identifying training needs, developing workforce development and training plans, crafting job descriptions, and conducting performance evaluations. The Core Competencies have been integrated into curricula for education and training, provide a reference for developing public health courses, and serve as a base for sets of discipline-specific competencies.

The Core Competencies provide a framework for workforce development planning and action. Public health organizations are encouraged to interpret and adapt the Core Competencies in ways that meet their specific organizational needs.

Development of the Core Competencies

The Core Competencies grew from a desire to help strengthen the public health workforce by identifying basic skills for the effective delivery of public health services. Building on the Universal Competencies developed by the Public Health Faculty/Agency Forum in 1991, the current Core Competencies are the result of more than two decades of work by the Council on Linkages and other academic and practice organizations dedicated to public health.

Transitioning from a general set of Universal Competencies to a more specific set of Core Competencies began in 1998 and involved public health professionals from across the country through Council on Linkages member organizations, the Council on Linkages' Core Competencies Workgroup, and a public comment period that resulted in over 1,000 comments. This extensive development process was designed to produce a set of foundational competencies that truly reflected the practice of public health. These competencies were organized into eight skill areas or "domains" that cut across public health disciplines. The first version of the Core Competencies was adopted by the Council on Linkages in April 2001, and the Council on Linkages committed to revisiting the Core Competencies every three years to determine if revisions were needed to ensure the continued relevance of the competency set.

The Core Competencies were reviewed in 2004, with the Council on Linkages concluding that there was inadequate evidence about use of the Core Competencies to support a significant revision. At the second review in 2007, the Council on Linkages decided that revision was warranted based on usage data, changes in the practice of public health, and requests to make the Core Competencies more measurable.

Similar to the development process, the revision process begun in 2007 was led by the Core Competencies Workgroup and involved the consideration of more than 800 comments from public health professionals. A major focus of the revision process was on improving measurability of the competencies, and the revisions both updated the content of the competencies within the eight domains and added three "tiers" representing stages of career development for public health professionals. The Council on Linkages adopted a revised version of the Core Competencies in May 2010.

Review of the May 2010 Core Competencies began in early 2013, and the Council on Linkages again decided to undertake revisions. In addition to updating the content of the competencies, this revision process was aimed at simplifying and clarifying the wording of competencies and improving the order and grouping of competencies to make the competency set easier to use. This revision process was guided by the Core Competencies Workgroup and over 1,000 comments from the public health community, and culminated in the adoption by the Council on Linkages of the current set of Core Competencies in June 2014.

Key Dates

Since development began in 1998, the Core Competencies have gone through three versions:

- 2001 version – Adopted April 11, 2001 *(original version)*
- 2010 version – Adopted May 3, 2010
- 2014 version – Adopted June 26, 2014 *(current version)*

Currently, the Core Competencies are on a three year review cycle and will next be considered for revision in 2017. This timing may change as a result of feedback that this can be too frequent for disciplines that base competency sets on the Core Competencies.

Organization of the Core Competencies

The Core Competencies are organized into eight domains, reflecting skill areas within public health, and three tiers, representing career stages for public health professionals.

Domains

- Analytical/Assessment Skills
- Policy Development/Program Planning Skills
- Communication Skills
- Cultural Competency Skills
- Community Dimensions of Practice Skills
- Public Health Sciences Skills
- Financial Planning and Management Skills
- Leadership and Systems Thinking Skills

These eight domains have remained consistent in all versions of the Core Competencies.

Tiers

- *Tier 1 – Front Line Staff/Entry Level.* Tier 1 competencies apply to public health professionals who carry out the day-to-day tasks of public health organizations and are not in management positions. Responsibilities of these professionals may include data collection and analysis, fieldwork, program planning, outreach, communications, customer service, and program support.
- *Tier 2 – Program Management/Supervisory Level.* Tier 2 competencies apply to public health professionals in program management or supervisory roles. Responsibilities of these professionals may include developing, implementing, and evaluating programs; supervising staff; establishing and maintaining community partnerships; managing timelines and work plans; making policy recommendations; and providing technical expertise.
- *Tier 3 – Senior Management/Executive Level.* Tier 3 competencies apply to public health professionals at a senior management level and to leaders of public health organizations. These professionals typically have staff who report to them and may be responsible for overseeing major programs or operations of the organization, setting a strategy and vision for the organization, creating a culture of quality within the organization, and working with the community to improve health.

During the 2014 revision of the Core Competencies, minor changes were made to clarify these tier definitions. In general, competencies progress from lower to higher levels of skill complexity both within each domain in a given tier and across the tiers. Similar competencies within Tiers 1, 2, and 3 are presented next to each other to show connections between tiers. In some cases, a single competency appears in multiple tiers; however, the way competence in that area is demonstrated may vary from one tier to another.

Core Competencies Resources and Tools

A variety of resources and tools to assist public health professionals and organizations with using the Core Competencies exist or are under development. These include crosswalks of different versions of the Core Competencies, competency assessments, examples demonstrating attainment of competence, competency-based job descriptions, quality improvement tools, and workforce development plans. Core Competencies resources and tools can be found online at phf.org/corecompetenciestools. Examples of how organizations have used the Core Competencies are available at phf.org/corecompetenciesexamples.

Feedback on the Core Competencies

The Council on Linkages thanks the public health community for its tremendous contributions to the Core Competencies and welcomes feedback about the Core Competencies. Examples illustrating how public health professionals and organizations are using the Core Competencies and tools that facilitate Core Competencies use are also appreciated. Feedback, suggestions, and resources can be shared by emailing competencies@phf.org.

For More Information

Additional information about the Core Competencies, including background on development and revisions, resources and tools to facilitate use, and current activities and events, can be found at phf.org/aboutcorecompetencies. Questions or requests for information may be sent to competencies@phf.org.

Analytical/Assessment Skills		
Tier 1	**Tier 2**	**Tier 3**
1A1. Describes factors affecting the health of a community (e.g., equity, income, education, environment)	1B1. Describes factors affecting the health of a community (e.g., equity, income, education, environment)	1C1. Describes factors affecting the health of a community (e.g., equity, income, education, environment)
1A2. Identifies quantitative and qualitative data and information (e.g., vital statistics, electronic health records, transportation patterns, unemployment rates, community input, health equity impact assessments) that can be used for assessing the health of a community	1B2. Determines quantitative and qualitative data and information (e.g., vital statistics, electronic health records, transportation patterns, unemployment rates, community input, health equity impact assessments) needed for assessing the health of a community	1C2. Determines quantitative and qualitative data and information (e.g., vital statistics, electronic health records, transportation patterns, unemployment rates, community input, health equity impact assessments) needed for assessing the health of a community
1A3. Applies ethical principles in accessing, collecting, analyzing, using, maintaining, and disseminating data and information	1B3. Applies ethical principles in accessing, collecting, analyzing, using, maintaining, and disseminating data and information	1C3. Ensures ethical principles are applied in accessing, collecting, analyzing, using, maintaining, and disseminating data and information
1A4. Uses information technology in accessing, collecting, analyzing, using, maintaining, and disseminating data and information	1B4. Uses information technology in accessing, collecting, analyzing, using, maintaining, and disseminating data and information	1C4. Uses information technology in accessing, collecting, analyzing, using, maintaining, and disseminating data and information
1A5. Selects valid and reliable data	1B5. Analyzes the validity and reliability of data	1C5. Evaluates the validity and reliability of data
1A6. Selects comparable data (e.g., data being age-adjusted to the same year, data variables across datasets having similar definitions)	1B6. Analyzes the comparability of data (e.g., data being age-adjusted to the same year, data variables across datasets having similar definitions)	1C6. Evaluates the comparability of data (e.g., data being age-adjusted to the same year, data variables across datasets having similar definitions)
1A7. Identifies gaps in data	1B7. Resolves gaps in data	1C7. Resolves gaps in data

Analytical/Assessment Skills		
Tier 1	**Tier 2**	**Tier 3**
1A8. Collects valid and reliable quantitative and qualitative data	1B8. Collects valid and reliable quantitative and qualitative data	1C8. Ensures collection of valid and reliable quantitative and qualitative data
1A9. Describes public health applications of quantitative and qualitative data	1B9. Analyzes quantitative and qualitative data	1C9. Determines trends from quantitative and qualitative data
1A10. Uses quantitative and qualitative data	1B10. Interprets quantitative and qualitative data	1C10. Integrates findings from quantitative and qualitative data into organizational plans and operations (e.g., strategic plan, quality improvement plan, professional development)
1A11. Describes assets and resources that can be used for improving the health of a community (e.g., Boys & Girls Clubs, public libraries, hospitals, faith-based organizations, academic institutions, federal grants, fellowship programs)	1B11. Identifies assets and resources that can be used for improving the health of a community (e.g., Boys & Girls Clubs, public libraries, hospitals, faith-based organizations, academic institutions, federal grants, fellowship programs)	1C11. Assesses assets and resources that can be used for improving the health of a community (e.g., Boys & Girls Clubs, public libraries, hospitals, faith-based organizations, academic institutions, federal grants, fellowship programs)
1A12. Contributes to assessments of community health status and factors influencing health in a community (e.g., quality, availability, accessibility, and use of health services; access to affordable housing)	1B12. Assesses community health status and factors influencing health in a community (e.g., quality, availability, accessibility, and use of health services; access to affordable housing)	1C12. Determines community health status and factors influencing health in a community (e.g., quality, availability, accessibility, and use of health services; access to affordable housing)
1A13. Explains how community health assessments use information about health status, factors influencing health, and assets and resources	1B13. Develops community health assessments using information about health status, factors influencing health, and assets and resources	1C13. Ensures development of community health assessments using information about health status, factors influencing health, and assets and resources

Analytical/Assessment Skills		
Tier 1	**Tier 2**	**Tier 3**
1A14. Describes how evidence (e.g., data, findings reported in peer-reviewed literature) is used in decision making	1B14. Makes evidence-based decisions (e.g., determining research agendas, using recommendations from *The Guide to Community Preventive Services* in planning population health services)	1C14. Makes evidence-based decisions (e.g., determining research agendas, using recommendations from *The Guide to Community Preventive Services* in planning population health services)
	1B15. Advocates for the use of evidence in decision making that affects the health of a community (e.g., helping policy makers understand community health needs, demonstrating the impact of programs)	1C15. Advocates for the use of evidence in decision making that affects the health of a community (e.g., helping elected officials understand community health needs, demonstrating the impact of programs)

Policy Development/Program Planning Skills		
Tier 1	**Tier 2**	**Tier 3**
2A1. Contributes to state/Tribal/community health improvement planning (e.g., providing data to supplement community health assessments, communicating observations from work in the field)	2B1. Ensures state/Tribal/community health improvement planning uses community health assessments and other information related to the health of a community (e.g., current data and trends; proposed federal, state, and local legislation; commitments from organizations to take action)	2C1. Ensures development of a state/Tribal/community health improvement plan (e.g., describing measurable outcomes, determining needed policy changes, identifying parties responsible for implementation)
2A2. Contributes to development of program goals and objectives	2B2. Develops program goals and objectives	2C2. Develops organizational goals and objectives
2A3. Describes organizational strategic plan (e.g., includes measurable objectives and targets; relationship to community health improvement plan, workforce development plan, quality improvement plan, and other plans)	2B3. Contributes to development of organizational strategic plan (e.g., includes measurable objectives and targets; incorporates community health improvement plan, workforce development plan, quality improvement plan, and other plans)	2C3. Develops organizational strategic plan (e.g., includes measurable objectives and targets; incorporates community health improvement plan, workforce development plan, quality improvement plan, and other plans) with input from the governing body or administrative unit that oversees the organization
2A4. Contributes to implementation of organizational strategic plan	2B4. Implements organizational strategic plan	2C4. Monitors implementation of organizational strategic plan
2A5. Identifies current trends (e.g., health, fiscal, social, political, environmental) affecting the health of a community	2B5. Monitors current and projected trends (e.g., health, fiscal, social, political, environmental) representing the health of a community	2C5. Integrates current and projected trends (e.g., health, fiscal, social, political, environmental) into organizational strategic planning

Policy Development/Program Planning Skills		
Tier 1	**Tier 2**	**Tier 3**
2A6. Gathers information that can inform options for policies, programs, and services (e.g., secondhand smoking policies, data use policies, HR policies, immunization programs, food safety programs)	2B6. Develops options for policies, programs, and services (e.g., secondhand smoking policies, data use policies, HR policies, immunization programs, food safety programs)	2C6. Selects options for policies, programs, and services for further exploration (e.g., secondhand smoking policies, data use policies, HR policies, immunization programs, food safety programs)
2A7. Describes implications of policies, programs, and services	2B7. Examines the feasibility (e.g., fiscal, social, political, legal, geographic) and implications of policies, programs, and services	2C7. Determines the feasibility (e.g., fiscal, social, political, legal, geographic) and implications of policies, programs, and services
	2B8. Recommends policies, programs, and services for implementation	2C8. Selects policies, programs, and services for implementation
2A8. Implements policies, programs, and services	2B9. Implements policies, programs, and services	2C9. Ensures implementation of policies, programs, and services is consistent with laws and regulations
		2C10. Influences policies, programs, and services external to the organization that affect the health of the community (e.g., zoning, transportation routes)
2A9. Explains the importance of evaluations for improving policies, programs, and services	2B10. Explains the importance of evaluations for improving policies, programs, and services	2C11. Explains the importance of evaluations for improving policies, programs, and services
2A10. Gathers information for evaluating policies, programs, and services (e.g., outputs, outcomes, processes, procedures, return on investment)	2B11. Evaluates policies, programs, and services (e.g., outputs, outcomes, processes, procedures, return on investment)	2C12. Ensures the evaluation of policies, programs, and services (e.g., outputs, outcomes, processes, procedures, return on investment)

Policy Development/Program Planning Skills		
Tier 1	**Tier 2**	**Tier 3**
2A11. Applies strategies for continuous quality improvement	2B12. Implements strategies for continuous quality improvement	2C13. Develops strategies for continuous quality improvement
2A12. Describes how public health informatics is used in developing, implementing, evaluating, and improving policies, programs, and services (e.g., integrated data systems, electronic reporting, knowledge management systems, geographic information systems)	2B13. Uses public health informatics in developing, implementing, evaluating, and improving policies, programs, and services (e.g., integrated data systems, electronic reporting, knowledge management systems, geographic information systems)	2C14. Assesses the use of public health informatics in developing, implementing, evaluating, and improving policies, programs, and services (e.g., integrated data systems, electronic reporting, knowledge management systems, geographic information systems)

Communication Skills		
Tier 1	**Tier 2**	**Tier 3**
3A1. Identifies the literacy of populations served (e.g., ability to obtain, interpret, and use health and other information; social media literacy)	3B1. Assesses the literacy of populations served (e.g., ability to obtain, interpret, and use health and other information; social media literacy)	3C1. Ensures that the literacy of populations served (e.g., ability to obtain, interpret, and use health and other information; social media literacy) is reflected in the organization's policies, programs, and services
3A2. Communicates in writing and orally with linguistic and cultural proficiency (e.g., using age-appropriate materials, incorporating images)	3B2. Communicates in writing and orally with linguistic and cultural proficiency (e.g., using age-appropriate materials, incorporating images)	3C2. Communicates in writing and orally with linguistic and cultural proficiency (e.g., using age-appropriate materials, incorporating images)
3A3. Solicits input from individuals and organizations (e.g., chambers of commerce, religious organizations, schools, social service organizations, hospitals, government, community-based organizations, various populations served) for improving the health of a community	3B3. Solicits input from individuals and organizations (e.g., chambers of commerce, religious organizations, schools, social service organizations, hospitals, government, community-based organizations, various populations served) for improving the health of a community	3C3. Ensures that the organization seeks input from other organizations and individuals (e.g., chambers of commerce, religious organizations, schools, social service organizations, hospitals, government, community-based organizations, various populations served) for improving the health of a community
3A4. Suggests approaches for disseminating public health data and information (e.g., social media, newspapers, newsletters, journals, town hall meetings, libraries, neighborhood gatherings)	3B4. Selects approaches for disseminating public health data and information (e.g., social media, newspapers, newsletters, journals, town hall meetings, libraries, neighborhood gatherings)	3C4. Evaluates approaches for disseminating public health data and information (e.g., social media, newspapers, newsletters, journals, town hall meetings, libraries, neighborhood gatherings)

Communication Skills		
Tier 1	**Tier 2**	**Tier 3**
3A5. Conveys data and information to professionals and the public using a variety of approaches (e.g., reports, presentations, email, letters)	3B5. Conveys data and information to professionals and the public using a variety of approaches (e.g., reports, presentations, email, letters, press releases)	3C5. Conveys data and information to professionals and the public using a variety of approaches (e.g., reports, presentations, email, letters, testimony, press interviews)
3A6. Communicates information to influence behavior and improve health (e.g., uses social marketing methods, considers behavioral theories such as the Health Belief Model or Stages of Change Model)	3B6. Communicates information to influence behavior and improve health (e.g., uses social marketing methods, considers behavioral theories such as the Health Belief Model or Stages of Change Model)	3C6. Evaluates strategies for communicating information to influence behavior and improve health (e.g., uses social marketing methods, considers behavioral theories such as the Health Belief Model or Stages of Change Model)
3A7. Facilitates communication among individuals, groups, and organizations	3B7. Facilitates communication among individuals, groups, and organizations	3C7. Facilitates communication among individuals, groups, and organizations
3A8. Describes the roles of governmental public health, health care, and other partners in improving the health of a community	3B8. Communicates the roles of governmental public health, health care, and other partners in improving the health of a community	3C8. Communicates the roles of governmental public health, health care, and other partners in improving the health of a community

Cultural Competency Skills		
Tier 1	**Tier 2**	**Tier 3**
4A1. Describes the concept of diversity as it applies to individuals and populations (e.g., language, culture, values, socioeconomic status, geography, education, race, gender, age, ethnicity, sexual orientation, profession, religious affiliation, mental and physical abilities, historical experiences)	4B1. Describes the concept of diversity as it applies to individuals and populations (e.g., language, culture, values, socioeconomic status, geography, education, race, gender, age, ethnicity, sexual orientation, profession, religious affiliation, mental and physical abilities, historical experiences)	4C1. Describes the concept of diversity as it applies to individuals and populations (e.g., language, culture, values, socioeconomic status, geography, education, race, gender, age, ethnicity, sexual orientation, profession, religious affiliation, mental and physical abilities, historical experiences)
4A2. Describes the diversity of individuals and populations in a community	4B2. Describes the diversity of individuals and populations in a community	4C2. Describes the diversity of individuals and populations in a community
4A3. Describes the ways diversity may influence policies, programs, services, and the health of a community	4B3. Recognizes the ways diversity influences policies, programs, services, and the health of a community	4C3. Recognizes the ways diversity influences policies, programs, services, and the health of a community
4A4. Recognizes the contribution of diverse perspectives in developing, implementing, and evaluating policies, programs, and services that affect the health of a community	4B4. Supports diverse perspectives in developing, implementing, and evaluating policies, programs, and services that affect the health of a community	4C4. Incorporates diverse perspectives in developing, implementing, and evaluating policies, programs, and services that affect the health of a community
4A5. Addresses the diversity of individuals and populations when implementing policies, programs, and services that affect the health of a community	4B5. Ensures the diversity of individuals and populations is addressed in policies, programs, and services that affect the health of a community	4C5. Advocates for the diversity of individuals and populations being addressed in policies, programs, and services that affect the health of a community

Cultural Competency Skills		
Tier 1	**Tier 2**	**Tier 3**
4A6. Describes the effects of policies, programs, and services on different populations in a community	4B6. Assesses the effects of policies, programs, and services on different populations in a community (e.g., customer satisfaction surveys, use of services by the target population)	4C6. Evaluates the effects of policies, programs, and services on different populations in a community
4A7. Describes the value of a diverse public health workforce	4B7. Describes the value of a diverse public health workforce	4C7. Demonstrates the value of a diverse public health workforce
	4B8. Advocates for a diverse public health workforce	4C8. Takes measures to support a diverse public health workforce

Community Dimensions of Practice Skills		
Tier 1	**Tier 2**	**Tier 3**
5A1. Describes the programs and services provided by governmental and non-governmental organizations to improve the health of a community	5B1. Distinguishes the roles and responsibilities of governmental and non-governmental organizations in providing programs and services to improve the health of a community	5C1. Assesses the roles and responsibilities of governmental and non-governmental organizations in providing programs and services to improve the health of a community
5A2. Recognizes relationships that are affecting health in a community (e.g., relationships among health departments, hospitals, community health centers, primary care providers, schools, community-based organizations, and other types of organizations)	5B2. Identifies relationships that are affecting health in a community (e.g., relationships among health departments, hospitals, community health centers, primary care providers, schools, community-based organizations, and other types of organizations)	5C2. Explains the ways relationships are affecting health in a community (e.g., relationships among health departments, hospitals, community health centers, primary care providers, schools, community-based organizations, and other types of organizations)
5A3. Suggests relationships that may be needed to improve health in a community	5B3. Suggests relationships that may be needed to improve health in a community	5C3. Suggests relationships that may be needed to improve health in a community
	5B4. Establishes relationships to improve health in a community (e.g., partnerships with organizations serving the same population, academic institutions, policy makers, customers/clients, and others)	5C4. Establishes relationships to improve health in a community (e.g., partnerships with organizations serving the same population, academic institutions, policy makers, customers/clients, and others)
5A4. Supports relationships that improve health in a community	5B5. Maintains relationships that improve health in a community	5C5. Maintains relationships that improve health in a community
5A5. Collaborates with community partners to improve health in a community (e.g., participates in committees, shares data and information, connects people to resources)	5B6. Facilitates collaborations among partners to improve health in a community (e.g., coalition building)	5C6. Establishes written agreements (e.g., memoranda-of-understanding [MOUs], contracts, letters of endorsement) that describe the purpose and scope of partnerships

Community Dimensions of Practice Skills		
Tier 1	**Tier 2**	**Tier 3**
5A6. Engages community members (e.g., focus groups, talking circles, formal meetings, key informant interviews) to improve health in a community	5B7. Engages community members to improve health in a community (e.g., input in developing and implementing community health assessments and improvement plans, feedback about programs and services)	5C7. Ensures that community members are engaged to improve health in a community (e.g., input in developing and implementing community health assessments and improvement plans, feedback about programs and services)
5A7. Provides input for developing, implementing, evaluating, and improving policies, programs, and services	5B8. Uses community input for developing, implementing, evaluating, and improving policies, programs, and services	5C8. Ensures that community input is used for developing, implementing, evaluating, and improving policies, programs, and services
5A8. Uses assets and resources (e.g., Boys & Girls Clubs, public libraries, hospitals, faith-based organizations, academic institutions, federal grants, fellowship programs) to improve health in a community	5B9. Explains the ways assets and resources (e.g., Boys & Girls Clubs, public libraries, hospitals, faith-based organizations, academic institutions, federal grants, fellowship programs) can be used to improve health in a community	5C9. Negotiates for use of assets and resources (e.g., Boys & Girls Clubs, public libraries, hospitals, faith-based organizations, academic institutions, federal grants, fellowship programs) to improve health in a community
5A9. Informs the public about policies, programs, and resources that improve health in a community	5B10. Advocates for policies, programs, and resources that improve health in a community (e.g., using evidence to demonstrate the need for a program, communicating the impact of a program)	5C10. Defends policies, programs, and resources that improve health in a community (e.g., using evidence to demonstrate the need for a program, communicating the impact of a program)
5A10. Describes the importance of community-based participatory research	5B11. Collaborates in community-based participatory research	5C11. Engages the organization in community-based participatory research

Public Health Sciences Skills		
Tier 1	**Tier 2**	**Tier 3**
6A1. Describes the scientific foundation of the field of public health	6B1. Discusses the scientific foundation of the field of public health	6C1. Critiques the scientific foundation of the field of public health
6A2. Identifies prominent events in the history of public health (e.g., smallpox eradication, development of vaccinations, infectious disease control, safe drinking water, emphasis on hygiene and hand washing, access to health care for people with disabilities)	6B2. Describes prominent events in the history of public health (e.g., smallpox eradication, development of vaccinations, infectious disease control, safe drinking water, emphasis on hygiene and hand washing, access to health care for people with disabilities)	6C2. Explains lessons to be learned from prominent events in the history of public health (e.g., smallpox eradication, development of vaccinations, infectious disease control, safe drinking water, emphasis on hygiene and hand washing, access to health care for people with disabilities)
6A3. Describes how public health sciences (e.g., biostatistics, epidemiology, environmental health sciences, health services administration, social and behavioral sciences, and public health informatics) are used in the delivery of the 10 Essential Public Health Services	6B3. Applies public health sciences (e.g., biostatistics, epidemiology, environmental health sciences, health services administration, social and behavioral sciences, and public health informatics) in the delivery of the 10 Essential Public Health Services	6C3. Ensures public health sciences (e.g., biostatistics, epidemiology, environmental health sciences, health services administration, social and behavioral sciences, and public health informatics) are applied in the delivery of the 10 Essential Public Health Services
	6B4. Applies public health sciences in the administration and management of programs	6C4. Applies public health sciences in the administration and management of the organization
6A4. Retrieves evidence (e.g., research findings, case reports, community surveys) from print and electronic sources (e.g., PubMed, *Journal of Public Health Management and Practice*, *Morbidity and Mortality Weekly Report*, *The World Health Report*) to support decision making	6B5. Retrieves evidence (e.g., research findings, case reports, community surveys) from print and electronic sources (e.g., PubMed, *Journal of Public Health Management and Practice*, *Morbidity and Mortality Weekly Report*, *The World Health Report*) to support decision making	6C5. Synthesizes evidence (e.g., research findings, case reports, community surveys) from print and electronic sources (e.g., PubMed, *Journal of Public Health Management and Practice*, *Morbidity and Mortality Weekly Report*, *The World Health Report*) to support decision making

Public Health Sciences Skills		
Tier 1	**Tier 2**	**Tier 3**
6A5. Recognizes limitations of evidence (e.g., validity, reliability, sample size, bias, generalizability)	6B6. Determines limitations of evidence (e.g., validity, reliability, sample size, bias, generalizability)	6C6. Explains limitations of evidence (e.g., validity, reliability, sample size, bias, generalizability)
6A6. Describes evidence used in developing, implementing, evaluating, and improving policies, programs, and services	6B7. Uses evidence in developing, implementing, evaluating, and improving policies, programs, and services	6C7. Ensures the use of evidence in developing, implementing, evaluating, and improving policies, programs, and services
6A7. Describes the laws, regulations, policies, and procedures for the ethical conduct of research (e.g., patient confidentiality, protection of human subjects, Americans with Disabilities Act)	6B8. Identifies the laws, regulations, policies, and procedures for the ethical conduct of research (e.g., patient confidentiality, protection of human subjects, Americans with Disabilities Act)	6C8. Ensures the ethical conduct of research (e.g., patient confidentiality, protection of human subjects, Americans with Disabilities Act)
6A8. Contributes to the public health evidence base (e.g., participating in Public Health Practice-Based Research Networks, community-based participatory research, and academic health departments; authoring articles; making data available to researchers)	6B9. Contributes to the public health evidence base (e.g., participating in Public Health Practice-Based Research Networks, community-based participatory research, and academic health departments; authoring articles; making data available to researchers)	6C9. Contributes to the public health evidence base (e.g., participating in Public Health Practice-Based Research Networks, community-based participatory research, and academic health departments; authoring articles; reviewing manuscripts; making data available to researchers)
6A9. Suggests partnerships that may increase use of evidence in public health practice (e.g., between practice and academic organizations, with health sciences libraries)	6B10. Develops partnerships that will increase use of evidence in public health practice (e.g., between practice and academic organizations, with health sciences libraries)	6C10. Maintains partnerships that increase use of evidence in public health practice (e.g., between practice and academic organizations, with health sciences libraries)

Financial Planning and Management Skills		
Tier 1	**Tier 2**	**Tier 3**
7A1. Describes the structures, functions, and authorizations of governmental public health programs and organizations	7B1. Explains the structures, functions, and authorizations of governmental public health programs and organizations	7C1. Assesses the structures, functions, and authorizations of governmental public health programs and organizations
7A2. Describes government agencies with authority to impact the health of a community	7B2. Identifies government agencies with authority to address specific community health needs (e.g., lead in housing, water fluoridation, bike lanes, emergency preparedness)	7C2. Engages governmental agencies with authority to address specific community health needs (e.g., lead in housing, water fluoridation, bike lanes, emergency preparedness)
7A3. Adheres to organizational policies and procedures	7B3. Implements policies and procedures of the governing body or administrative unit that oversees the organization (e.g., board of health, chief executive's office, Tribal council)	7C3. Manages the implementation of policies and procedures of the governing body or administrative unit that oversees the organization (e.g., board of health, chief executive's office, Tribal council)
7A4. Describes public health funding mechanisms (e.g., categorical grants, fees, third-party reimbursement, tobacco taxes)	7B4. Explains public health and health care funding mechanisms and procedures (e.g., categorical grants, fees, third-party reimbursement, tobacco taxes, value-based purchasing, budget approval process)	7C4. Leverages public health and health care funding mechanisms and procedures (e.g., categorical grants, fees, third-party reimbursement, tobacco taxes, value-based purchasing, budget approval process) for supporting population health services
	7B5. Justifies programs for inclusion in organizational budgets	7C5. Determines priorities for organizational budgets
7A5. Contributes to development of program budgets	7B6. Develops program budgets	7C6. Develops organizational budgets
	7B7. Defends program budgets	7C7. Defends organizational budgets

Financial Planning and Management Skills		
Tier 1	**Tier 2**	**Tier 3**
7A6. Provides information for proposals for funding (e.g., foundations, government agencies, corporations)	7B8. Prepares proposals for funding (e.g., foundations, government agencies, corporations)	7C8. Approves proposals for funding (e.g., foundations, government agencies, corporations)
7A7. Provides information for development of contracts and other agreements for programs and services	7B9. Negotiates contracts and other agreements for programs and services	7C9. Approves contracts and other agreements for programs and services
7A8. Describes financial analysis methods used in making decisions about policies, programs, and services (e.g., cost-effectiveness, cost-benefit, cost-utility analysis, return on investment)	7B10. Uses financial analysis methods in making decisions about policies, programs, and services (e.g., cost-effectiveness, cost-benefit, cost-utility analysis, return on investment)	7C10. Ensures the use of financial analysis methods in making decisions about policies, programs, and services (e.g., cost-effectiveness, cost-benefit, cost-utility analysis, return on investment)
7A9. Operates programs within budget	7B11. Manages programs within current and projected budgets and staffing levels (e.g., sustaining a program when funding and staff are cut, recruiting and retaining staff)	7C11. Ensures that programs are managed within current and projected budgets and staffing levels (e.g., sustaining a program when funding and staff are cut, recruiting and retaining staff)
7A10. Describes how teams help achieve program and organizational goals (e.g., the value of different disciplines, sectors, skills, experiences, and perspectives; scope of work and timeline)	7B12. Establishes teams for the purpose of achieving program and organizational goals (e.g., considering the value of different disciplines, sectors, skills, experiences, and perspectives; determining scope of work and timeline)	7C12. Establishes teams for the purpose of achieving program and organizational goals (e.g., considering the value of different disciplines, sectors, skills, experiences, and perspectives; determining scope of work and timeline)
7A11. Motivates colleagues for the purpose of achieving program and organizational goals (e.g., participating in teams, encouraging sharing of ideas, respecting different points of view)	7B13. Motivates personnel for the purpose of achieving program and organizational goals (e.g., participating in teams, encouraging sharing of ideas, respecting different points of view)	7C13. Motivates personnel for the purpose of achieving program and organizational goals (e.g., participating in teams, encouraging sharing of ideas, respecting different points of view)

Financial Planning and Management Skills		
Tier 1	**Tier 2**	**Tier 3**
7A12. Uses evaluation results to improve program and organizational performance	7B14. Uses evaluation results to improve program and organizational performance	7C14. Oversees the use of evaluation results to improve program and organizational performance
7A13. Describes program performance standards and measures	7B15. Develops performance management systems (e.g., using informatics skills to determine minimum technology requirements and guide system design, identifying and incorporating performance standards and measures, training staff to use system)	7C15. Establishes performance management systems (e.g., visible leadership, performance standards, performance measurement, reporting progress, quality improvement)
7A14. Uses performance management systems for program and organizational improvement (e.g., achieving performance objectives and targets, increasing efficiency, refining processes, meeting *Healthy People* objectives, sustaining accreditation)	7B16. Uses performance management systems for program and organizational improvement (e.g., achieving performance objectives and targets, increasing efficiency, refining processes, meeting *Healthy People* objectives, sustaining accreditation)	7C16. Uses performance management systems for program and organizational improvement (e.g., achieving performance objectives and targets, increasing efficiency, refining processes, meeting *Healthy People* objectives, sustaining accreditation)

Leadership and Systems Thinking Skills		
Tier 1	**Tier 2**	**Tier 3**
8A1. Incorporates ethical standards of practice (e.g., Public Health Code of Ethics) into all interactions with individuals, organizations, and communities	8B1. Incorporates ethical standards of practice (e.g., Public Health Code of Ethics) into all interactions with individuals, organizations, and communities	8C1. Incorporates ethical standards of practice (e.g., Public Health Code of Ethics) into all interactions with individuals, organizations, and communities
8A2. Describes public health as part of a larger inter-related system of organizations that influence the health of populations at local, national, and global levels	8B2. Describes public health as part of a larger inter-related system of organizations that influence the health of populations at local, national, and global levels	8C2. Interacts with the larger inter-related system of organizations that influence the health of populations at local, national, and global levels
8A3. Describes the ways public health, health care, and other organizations can work together or individually to impact the health of a community	8B3. Explains the ways public health, health care, and other organizations can work together or individually to impact the health of a community	8C3. Creates opportunities for organizations to work together or individually to improve the health of a community
8A4. Contributes to development of a vision for a healthy community (e.g., emphasis on prevention, health equity for all, excellence and innovation)	8B4. Collaborates with individuals and organizations in developing a vision for a healthy community (e.g., emphasis on prevention, health equity for all, excellence and innovation)	8C4. Collaborates with individuals and organizations in developing a vision for a healthy community (e.g., emphasis on prevention, health equity for all, excellence and innovation)
8A5. Identifies internal and external facilitators and barriers that may affect the delivery of the 10 Essential Public Health Services (e.g., using root cause analysis and other quality improvement methods and tools, problem solving)	8B5. Analyzes internal and external facilitators and barriers that may affect the delivery of the 10 Essential Public Health Services (e.g., using root cause analysis and other quality improvement methods and tools, problem solving)	8C5. Takes measures to minimize internal and external barriers that may affect the delivery of the 10 Essential Public Health Services (e.g., using root cause analysis and other quality improvement methods and tools, problem solving)

Leadership and Systems Thinking Skills		
Tier 1	**Tier 2**	**Tier 3**
8A6. Describes needs for professional development (e.g., training, mentoring, peer advising, coaching)	8B6. Provides opportunities for professional development for individuals and teams (e.g., training, mentoring, peer advising, coaching)	8C6. Ensures availability (e.g., assessing competencies, workforce development planning, advocating) of professional development opportunities for the organization (e.g., training, mentoring, peer advising, coaching)
8A7. Participates in professional development opportunities	8B7. Ensures use of professional development opportunities by individuals and teams	8C7. Ensures use of professional development opportunities throughout the organization
8A8. Describes the impact of changes (e.g., social, political, economic, scientific) on organizational practices	8B8. Modifies organizational practices in consideration of changes (e.g., social, political, economic, scientific)	8C8. Ensures the management of organizational change (e.g., refocusing a program or an entire organization, minimizing disruption, maximizing effectiveness of change, engaging individuals affected by change)
8A9. Describes ways to improve individual and program performance	8B9. Contributes to continuous improvement of individual, program, and organizational performance (e.g., mentoring, monitoring progress, adjusting programs to achieve better results)	8C9. Ensures continuous improvement of individual, program, and organizational performance (e.g., mentoring, monitoring progress, adjusting programs to achieve better results)
	8B10. Advocates for the role of public health in providing population health services	8C10. Advocates for the role of public health in providing population health services

Tier Definitions

Tier 1 – Front Line Staff/Entry Level

Tier 1 competencies apply to public health professionals who carry out the day-to-day tasks of public health organizations and are not in management positions. Responsibilities of these professionals may include data collection and analysis, fieldwork, program planning, outreach, communications, customer service, and program support.

Tier 2 – Program Management/Supervisory Level

Tier 2 competencies apply to public health professionals in program management or supervisory roles. Responsibilities of these professionals may include developing, implementing, and evaluating programs; supervising staff; establishing and maintaining community partnerships; managing timelines and work plans; making policy recommendations; and providing technical expertise.

Tier 3 – Senior Management/Executive Level

Tier 3 competencies apply to public health professionals at a senior management level and to leaders of public health organizations. These professionals typically have staff who report to them and may be responsible for overseeing major programs or operations of the organization, setting a strategy and vision for the organization, creating a culture of quality within the organization, and working with the community to improve health.

For more information about the Core Competencies, please contact Kathleen Amos at kamos@phf.org or 202.218.4418.

Priority Competencies for Population Health Professionals

Draft 2.0 – May 2016

These competencies are primarily designed for non-clinical hospital, health system, public health, and healthcare professionals engaged in assessment of population health needs and development, delivery, and improvement of population health programs, services, and practices. This may include activities related to community health needs assessments, community health improvement plans, and implementation of community-based interventions. Draft competencies are organized into five general categories.

Community Health Assessment

- Assesses community health status and factors influencing health in a community (e.g., quality, availability, accessibility, and use of health services; access to affordable housing)
- Develops community health assessments using information about health status, factors influencing health, and assets and resources
- Facilitates collaborations among stakeholders to improve health in a community (e.g., coalition building)
- Engages community members to improve health in a community (e.g., input in developing and implementing community health assessments, feedback about programs and services)

Community Health Improvement Planning and Action

- Implements population health policies, programs, and services that align with identified community health needs
- Influences policies, programs, and services external to the organization that affect the health of the community (e.g., zoning, safe housing, food access, transportation routes)
- Makes evidence-based decisions for policies, programs, and services (e.g., using recommendations from The Guide to Community Preventive Services in planning population health services)
- Contributes to the population health evidence base (e.g., community-based participatory research; authoring articles; making data available to researchers)
- Develops partnerships that will increase use of evidence in developing, implementing, and improving population health programs and services (e.g., between healthcare and public health organizations)
- Advocates for the use of evidence in decision making that affects the health of a community (e.g., helping decision makers understand community health needs, demonstrating the impact of programs)

Community Engagement and Cultural Awareness

- Recognizes the ways diversity influences policies, programs, services, and the health of a community
- Supports diverse perspectives in developing, implementing, and evaluating policies, programs, and services that affect the health of a community
- Ensures the diversity of individuals and populations is addressed in policies, programs, and services that affect the health of a community
- Communicates in writing and orally with linguistic and cultural proficiency (e.g., using age-appropriate materials, incorporating images)

Systems Thinking

- Describes healthcare and public health as part of a larger inter-related system of organizations that influence the health of populations at local, national, and global levels
- Describes factors affecting the health of a community (e.g., equity, income, education, environment)
- Explains the ways public health, healthcare, and other organizations can work together or individually to impact the health of a community

Organizational Planning and Management

- Contributes to development of organizational strategic plan (e.g., incorporates community health improvement plan, contains measurable objectives and targets)
- Manages programs within current and projected budgets and staffing levels (e.g., sustaining a program when funding and staff are cut, recruiting and retaining staff)
- Justifies programs for inclusion in organizational budgets
- Develops program budgets
- Defends program budgets
- Uses financial analysis methods in making decisions about policies, programs, and services (e.g., cost-effectiveness, cost-benefit, cost-utility analysis, return on investment)

Feedback on these competencies that can be used in further refinement of this draft may be sent to Kathleen Amos at kamos@phf.org.

Competencies for Performance Improvement Professionals in Public Health

Draft 2.0 – May 19, 2015

1. Coordinates development, implementation, and evaluation of a continuous quality improvement plan.

2. Collaborates with colleagues for the development, implementation, and evaluation of a performance management system and quality improvement policies and programs.

3. Leads development, implementation, the reporting process, and evaluation of an organization-wide performance management system.

4. Implements strategies to evaluate the effectiveness and quality of policies, programs, and services.

5. Uses evidence (e.g., best practice, literature, model practice) in developing, implementing, evaluating, and improving a performance management system and quality improvement policies and programs.

6. Uses evaluation results and the performance management system to improve individual, program, and organizational performance.

7. Uses valid and reliable quantitative and qualitative data in the improvement of organizational processes and performance (e.g., data driven decision making).

8. Coordinates the use of teams for improvement of organizational processes and performance.

9. Uses financial analysis methods (e.g., cost-effectiveness, cost-benefit, cost-utility analysis, and return on investment) for decision making and programmatic prioritization related to performance management and quality improvement.

10. Uses information technology systems in accessing, collecting, analyzing, maintaining, and disseminating data and information.

11. Ensures continuous improvement of individual, program, and organizational performance through professional development opportunities in performance management and quality improvement.

12. Applies performance management and quality improvement practices across programs and the organization.

13. Coordinates performance management and quality improvement work to align with organization and community plans, such as the strategic plan, community health improvement plan, communication plan, and all hazards emergency operations plan.

14. Assures continuous improvement of the performance management system and quality improvement policies and programs.

7. Academic Health Department Learning Community Report

The Council on Linkages Between Academia and Public Health Practice

Academic Health Department Learning Community Report

April 11, 2017

Overview

The Academic Health Department (AHD) Learning Community supports development of AHD partnerships between public health practice organizations and academic institutions. As a national community of practitioners, educators, and researchers, the AHD Learning Community stimulates discussion and sharing of knowledge; the development of resources; and collaborative learning around establishing, sustaining, and expanding AHDs. The Learning Community currently has approximately 700 members.

Update on Academic Health Department Learning Community

AHD Learning Community meetings continue to be held on an ongoing basis. A meeting in December 2016 highlighted the unique Academic Health Collaborative of Worcester (MA), which fosters collaboration between the Worcester Division of Public Health, UMass Memorial Health Care, and academic partners. A March 2017 meeting focused on the New River AHD in VA. Upcoming meetings are planned for May and July 26, 2017 to share the AHD partnerships of the University of Illinois at Chicago School of Public Health/Chicago Department of Public Health and East Tennessee State University's College of Public Health. Additional meetings are also being planned for later this year, on an approximately bimonthly schedule.

The AHD Research Agenda, which aims to support and encourage collaborative research on the structure, functions, and impacts of AHD partnerships, was released in October 2016, and the AHD Learning Community has recently launched a new activity – an *Ask the Expert* column featuring questions from Learning Community members and providing guidance related to AHD partnerships. Published on the PHF Pulse blog, the first column in this quarterly series was released in late March 2017. In addition, the list of AHD partnerships compiled by the Learning Community continues to grow, and work continues to enhance resources that support partnership development, such as the collection of partnership agreements used to formalize AHD relationships. Planned future activities include drafting a staged model of AHD development and documenting stories of successful AHD partnerships. Contributions for any of these resources are always welcome by email to Kathleen Amos at kamos@phf.org.

The AHD Mentorship Program, which launched in June 2015, also continues to develop. Led by Bryn Manzella, MPH, of the Jefferson County Department of Health (AL), this program connects individuals seeking guidance in an area of AHD development or operation with those having experience in that area. Participation in the program is growing, with thirteen existing mentor/mentee matches, and additional matches continuing to be created. Expressions of interest in participating as either a mentor or mentee are welcome by email to Janelle Nichols at jnichols@phf.org.

The AHD Learning Community offers a unique source of support for those within the public health community developing academic/practice partnerships, and contributions of the Learning Community have been highlighted in various ways. Both mentors and mentees participating in the AHD Mentorship Program have shared positive feedback about their experience, and Learning Community resources have been featured in presentations about AHD partnerships, such as that on the New River Health District at the recent Learning Community meeting, which noted the role that informal mentoring and resources and tools provided by the Learning Community played in the development of the partnership.

8. **ASTHO: Public Health Workforce Interests and Needs Survey (PH WINS):**
    - **PH WINS Infographic**
    - **Information to Action: The Workforce Data of Public Health WINS – Summary Report**
    - **The Public Health Workforce Interests and Needs Survey: The First National Survey of State Health Agency Employees**
    - **The Methods Behind PH WINS**

PH|WINS

Public Health Workforce Interests and Needs Survey

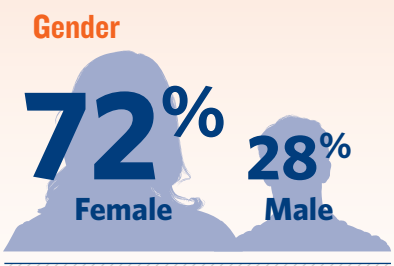
INTRODUCTION

The de Beaumont Foundation and the Association of State and Territorial Health Officials (ASTHO) convened an expert panel to develop and implement an innovative, national survey that measured the strengths, weaknesses, attitudes, skills, and beliefs of the public health workforce. The Public Health Workforce Interests and Needs Survey (PH WINS) was launched in 2014 and surveyed more than 23,000 state and local public health workers. As the first nationally representative sample of individual perspectives from public state health agency workers across all programs, levels, and geographic areas, the final product is an effective roadmap for the field's future development. The following infographics highlight major findings from the survey.

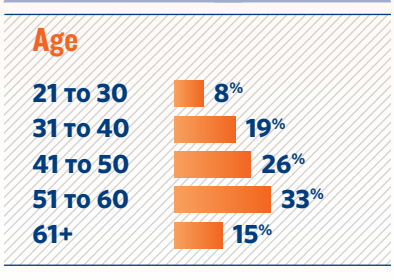
de Beaumont FOUNDATION | astho™

WHO IS PUBLIC HEALTH?

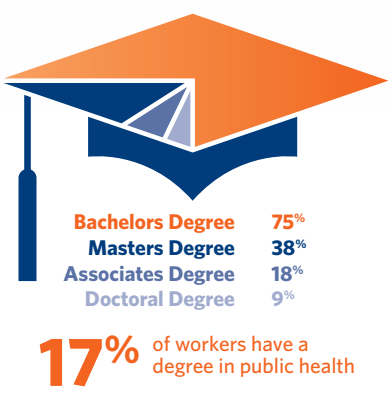
Gender



Age

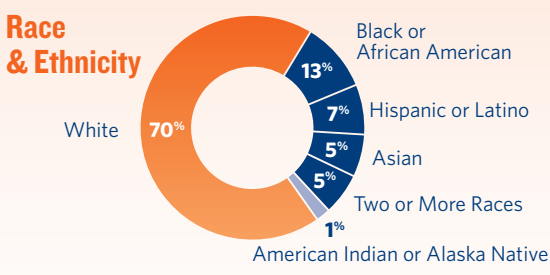


Educational Attainment



17% of workers have a degree in public health

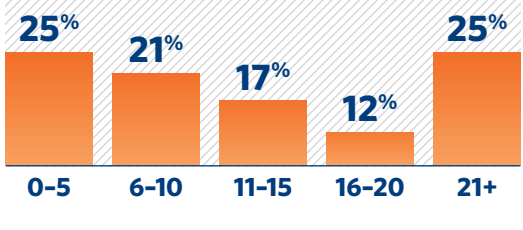
Race & Ethnicity



Position Type

PUBLIC HEALTH SCIENCE	41%
ADMINISTRATIVE	28%
CLINICAL & LAB	14%
SOCIAL SERVICES & OTHER	16%

Years In Public Health



PAY

Median Annual Earnings Fall Between

$55 THOUSAND & $65 THOUSAND

25% Earn Below $45,000

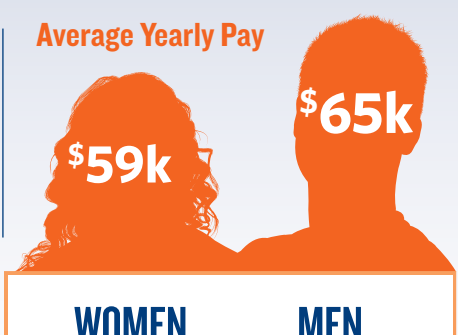
8% Earn $95,000+

Difference in Median Earnings by Degree

DOCTORAL	$90,000
MASTER'S	$66,000
BACHELOR'S	$59,000
NO DEGREE	$48,000

40% of the employees in state governmental public health agencies reported being somewhat or very dissatisfied with their pay.

Average Yearly Pay



WOMEN **MEN**

After matching on seniority, experience, educational attainment, and other demographic characteristics within a state, on average, women earned 90 to 95 cents on the dollar compared with men. This gap grows considerably among women who have higher levels of supervisory status.

Employees of color also earned 90 to 95 cents on the dollar compared with their non-Hispanic white colleagues.

WORKFORCE TURNOVER

48 AVERAGE AGE OF STATE PUBLIC HEALTH WORKER

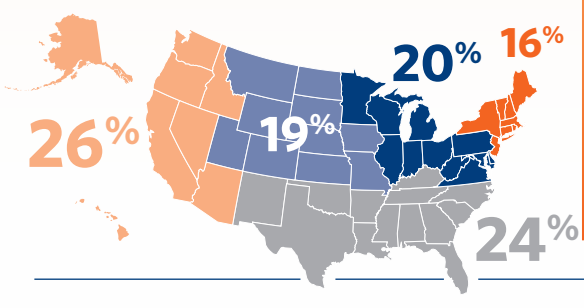
38% plan to leave governmental public health before 2020

18% of workers intend to leave their job within 1 year

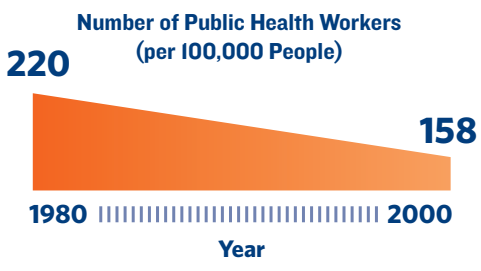
Who's Planning to Leave?

- Those aged 25 to 40 years
- Racial/ethnic minorities
- Those earning less than $35,000/yr
- Those with less than 10 years of experience in public health

Expected Turnover by Region



The ratio of public health workforce to US population has decreased drastically



12% of positions at state health agencies are vacant

Only 24% of those vacancies are being recruited for

WORKFORCE RETENTION

There's a lot that can be done beyond increasing pay to make people stay. **Job satisfaction and organizational satisfaction** also play a large role.

Intention to Leave Decreases

24% when satisfied with job in general

9% when satisfied with pay

5% when satisfied with job security

Actions That Can Influence Job Satisfaction

Job satisfaction dramatically increases when workers receive the following support (in priority order):

Supervisory Support

- Good working relationship
- Treated with respect
- Support employee development
- Opportunities to demonstrate leadership skills
- Work well with people of different backgrounds

Organizational Support

- Creativity and innovation are rewarded
- Training needs are assessed
- Training to fully utilize job-related technology
- Good communication between leadership and employees
- Reasonable workload

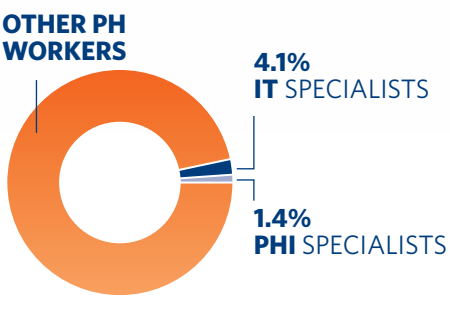
WORKFORCE TRAINING & SKILLS

Executives and Employees Agreed the Top 3 Training Needs Are:

1. Influencing policy development
2. Understanding the relationship between a new policy and many types of public health problems
3. Assessing the broad array of factors that influence specific public health problems

Roughly 1 in 2 respondents indicated that health departments provide sufficient technology training for the current workforce.

Although Public Health Informatics (PHI) is a very small segment of the public health workforce, workers across different disciplines indicated that more emphasis needs to be placed on the use of electronic health data.



Most Important Skills Identified by Workers

- Gather reliable information..... 96%
- Communicate effectively with different audiences..... 92%
- Persuade others to act..... 91%

Percent of Workers Aware of Emerging Trends

To read the full *Journal of Public Health Management and Practice PH WINS* supplement, visit: http://journals.lww.com/jphmp/toc/2015/11001

de Beaumont FOUNDATION

astho™

Understanding the Public Health Workforce

PH WINS
Public Health Workforce Interests and Needs Survey

SOURCES

WHO IS PUBLIC HEALTH?

Sellers K, Leider JP, Harper E, Castrucci BC, Bharthapudi K, Liss-Levinson R, Jarris PE, Hunter EL. The Public Health Workforce Interests and Needs Survey: The First National Survey of State Health Agency Employees. Journal of Public Health Management and Practice. 2015 November/December;21:S13-S27.

Leider JP, Harper E, Bharthapudi K, Castrucci BC. Educational Attainment of the Public Health Workforce and Its Implications for Workforce Development. Journal of Public Health Management and Practice. 2015 November/December;21:S56-S68.

PAY

Castrucci BC, Leider JP, Liss-Levinson R, Sellers K. Does Money Matter: Earnings Patterns Among a National Sample of the US State Governmental Public Health Agency Workforce. Journal of Public Health Management and Practice. 2015 November/December;21:S69-S79.

WORKFORCE TURNOVER

Liss-Levinson R, Bharthapudi K, Leider JP, Sellers K. Loving and Leaving Public Health: Predictors of Intentions to Quit Among State Health Agency Workers. Journal of Public Health Management and Practice. 2015 November/December;21:S91-S101.

Pourshaban D, Basurto-Dávila R, Shih M. Building and Sustaining Strong Public Health Agencies: Determinants of Workforce Turnover. Journal of Public Health Management and Practice. 2015 November/December;21:S80-S90.

Sellers K, Leider JP, Harper E, Castrucci BC, Bharthapudi K, Liss-Levinson R, Jarris PE, Hunter EL. The Public Health Workforce Interests and Needs Survey: The First National Survey of State Health Agency Employees. Journal of Public Health Management and Practice. 2015 November/December;21:S13-S27.

WORKFORCE RETENTION

Harper E, Castrucci BC, Bharthapudi K, Sellers K. Job Satisfaction: A Critical, Understudied Facet of Workforce Development in Public Health. Journal of Public Health Management and Practice. 2015 November/December;21:S46-S55.

Pourshaban D, Basurto-Dávila R, Shih M. Building and Sustaining Strong Public Health Agencies: Determinants of Workforce Turnover. Journal of Public Health Management and Practice. 2015 November/December;21:S80-S90.

WORKFORCE TRAINING AND SKILLS

Sellers K, Leider JP, Harper E, Castrucci BC, Bharthapudi K, Liss-Levinson R, Jarris PE, Hunter EL. The Public Health Workforce Interests and Needs Survey: The First National Survey of State Health Agency Employees. Journal of Public Health Management and Practice. 2015 November/December;21:S13-S27.

Dixon BE, McFarlane TD, Dearth S, Grannis SJ, Gibson PJ. Characterizing Informatics Roles and Needs of Public Health Workers: Results From the Public Health Workforce Interests and Needs Survey. Journal of Public Health Management and Practice. 2015 November/December;21:S130-S140.

Commentary from the Journal of Public Health Management and Practice PH WINS Supplement:

"...CDC will use the PH WINS data to inform the creation, implementation, and evaluation of CDC's workforce development activities both within the agency and in the support CDC provides to the field."

–Judy Monroe, MD and Georgia Moore, MS
Centers for Disease Control and Prevention

"This first-ever nationwide survey and its unprecedented response provide invaluable insight into the interests and needs of the workforce so that limited resources can be most effectively directed to address issues of highest impact..."

–Sarah Linde, MD, Mary Beth Bigley, DrPH, MSN, APRN and Julia Sheen-Aaron, MPH
Health Resources and Services Administration

de Beaumont FOUNDATION

7501 Wisconsin Avenue | Suite 1310E | Bethesda, MD 20814
P: 301.961.5800 | **F:** 301.961.5802
deBeaumont.org @debeaumontfndtn
astho.org

Printed on recycled paper.

PH|WINS

Public Health Workforce Interests and Needs Survey

Information to Action: The Workforce Data of Public Health WINS

SUMMARY REPORT

de Beaumont FOUNDATION

astho™

CONTENTS

OVERVIEW

The Public Health Workforce Interests and Needs Survey (PH WINS) is a survey of state public health agency workers, as well as local health department workers in select states. ASTHO and the de Beaumont Foundation surveyed public health workers about workforce development priorities, the workplace environment, and key national initiatives.

THE THREE MAJOR AIMS OF THE SURVEY ARE:

1
To inform future investments in workforce development.

2
To establish a baseline of key workforce development metrics.

3
To explore workforce attitudes, morale, and climate.

KEY FINDINGS FOR THE STATE PUBLIC HEALTH WORKFORCE

Approximately 40,000 state health agency employees were selected for participation in PH WINS. Of those, 19,171 responded from 37 states, for a response rate of 48 percent (**Figure 1**). Among permanently-employed central office employees, the adjusted response rate was 46 percent (n=10,246), after accounting for incorrect contact information and staff who left the agency.

1. Seventy-nine percent of state health agency workers report being somewhat or very satisfied with their jobs.

2. If workers carry out their current plans, at least 38 percent of the current workforce will have left governmental public health by 2020.

3. Hispanics/Latinos, men, and younger employees are underrepresented in the state public health workforce.

4. Top competency gaps and training opportunities include: policy analysis and development, business and financial management, systems thinking and social determinants of health, evidence-based public health practice, and collaborating with and engaging diverse communities.

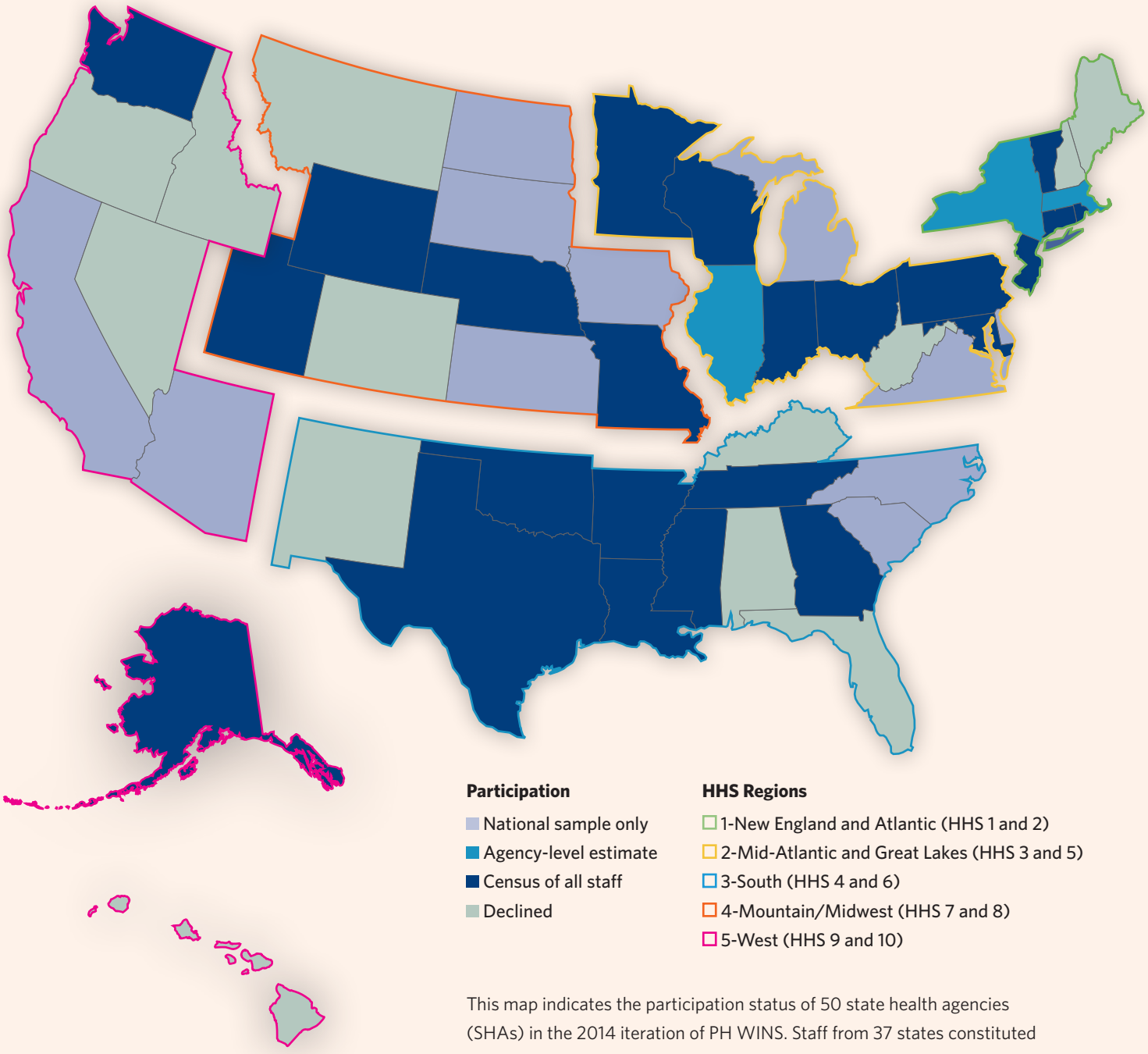
79%

of workers are satisfied with their job.

38%

plan to leave governmental public health before 2020.

FIGURE 1: STATE HEALTH AGENCY PARTICIPATION IN PH WINS



This map indicates the participation status of 50 state health agencies (SHAs) in the 2014 iteration of PH WINS. Staff from 37 states constituted the national sample. In addition, three SHAs increased their sample size to attain agency-level estimates, and 23 had all their employees surveyed. Thirteen states declined participation in PH WINS. *(Alaska and Hawaii are not pictured to scale.)*

OVERVIEW OF THE STATE PUBLIC HEALTH WORKFORCE

SUPERVISORY STATUS	
Non-Supervisor	52%
Team Leader	15%
Supervisor	16%
Manager	13%
Executive	4%

GENDER	
Female	72%
Male	28%
Employed full-time	95%

RACE/ETHNICITY	
American Indian or Alaska Native	1%
Asian	5%
Black or African American	13%
Hispanic or Latino	7%
Native Hawaiian or Pacific Islander	0%
White	70%
Two or More Races	5%

POSITION TYPE	
Administrative	28%
Clinical and Lab	14%
Public Health Science	41%
Social Services and All Other	16%

INTENT TO LEAVE	
Neither leaving nor retiring	57%
Leaving for another job in public health	5%
Leaving for a job outside of public health	13%
Retiring before 2020	25%

YEARS IN CURRENT HEALTH DEPARTMENT	
0–5 years	35%
6–10 years	22%
11–15 years	15%
16–20 years	10%
21 or more years	18%

YEARS IN PUBLIC HEALTH	
0–5 years	25%
6–10 years	21%
11–15 years	17%
16–20 years	12%
21 or more years	25%

AGE	
20 or below	0%
21–25	2%
26–30	6%
31–35	9%
36–40	10%
41–45	12%
46–50	14%
51–55	16%
56–60	17%
61–65	11%
66–70	3%
71–75	1%
76 or above	0%

SALARY/WAGE AMONG FULL-TIME EMPLOYEES (95% OF TOTAL)	
Less than $25,000	2%
$25,000–$35,000	9%
$35,000.01–$45,000	15%
$45,000.01–$55,000	19%
$55,000.01–$65,000	18%
$65,000.01–$75,000	14%
$75,000.01–$85,000	10%
$85,000.01–$95,000	6%
$95,000.01–$105,000	4%
$105,000.01–$115,000	2%
$115,000.01–$125,000	1%
$125,000.01–$135,000	0%
$135,000.01–$145,000	0%
More than $145,000	1%

EDUCATIONAL ATTAINMENT	
Associates	18%
Bachelors	75%
Masters	38%
Doctoral	9%
Any Public Health Degree	17%
Any Formal Professional Certification	33%

PROPORTION OF RESPONSES BY PAIRED HHS REGIONS	
New England and Atlantic (HHS 1 and 2)	17%
Mid-Atlantic and Great Lakes (HHS 3 and 5)	17%
South (HHS 4 and 6)	37%
Mountain/Midwest (HHS 7 and 8)	12%
West (HHS 9 and 10)	17%

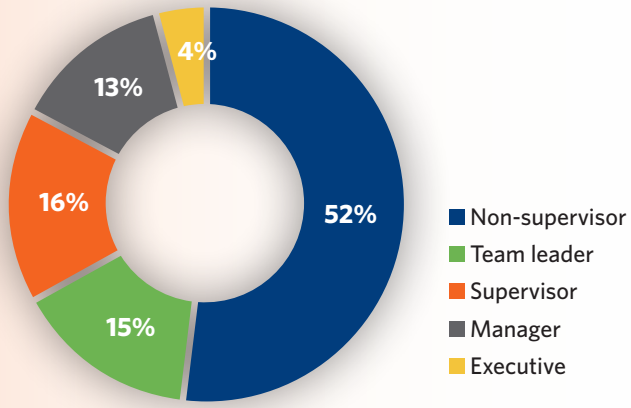
Note: All national estimates have a margin of error of ±1 percent.

DESCRIBING STATE HEALTH AGENCY WORKERS

According to U.S. Census data, the SHA workforce is relatively representative of the U.S. population. However, the workforce does not adequately represent men, Hispanic/Latinos, and younger employees.

As shown in **Table 1**, a large majority of the workforce is female (72%), most report being non-Hispanic White (70%), and most are over 40 years of age (73%). The mean employee age is 48.2.

FIGURE 2: SUPERVISORY STATUS



52%
do not have supervisory or management responsibilities.

EDUCATION AND EXPERIENCE

54%
have over 11 years of experience.

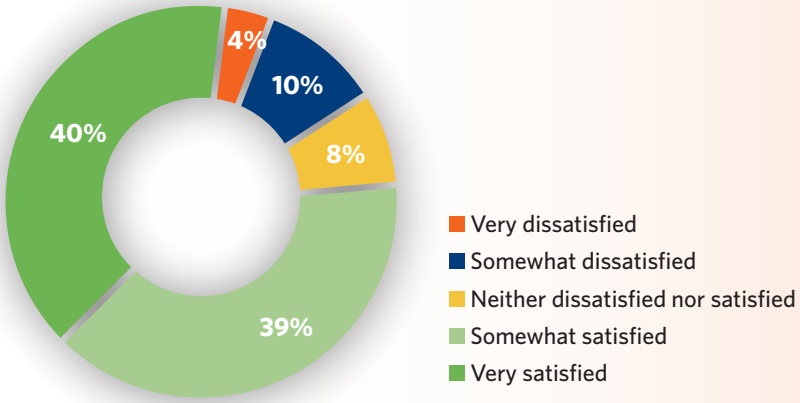
- Over half (52%) of state health agency workers do not have supervisory or management responsibilities (**Figure 2**).
- Nearly 60 percent of workers have been serving in their current position for five years or less. However, the remaining workforce has significant experience.
- Over half (54%) have 11 or more years of experience in the field.
- Only 17 percent of workers have any public health degree.
- The mean salary range of SHA employees is between $55,000 and $65,000.

JOB SATISFACTION

- Employees are more satisfied with their jobs than with their organizations, and more satisfied with their organizations than with their pay (**Figure 3**).
- Approximately one quarter (24%) report being somewhat dissatisfied with their pay, and 15 percent report being very dissatisfied with their pay.

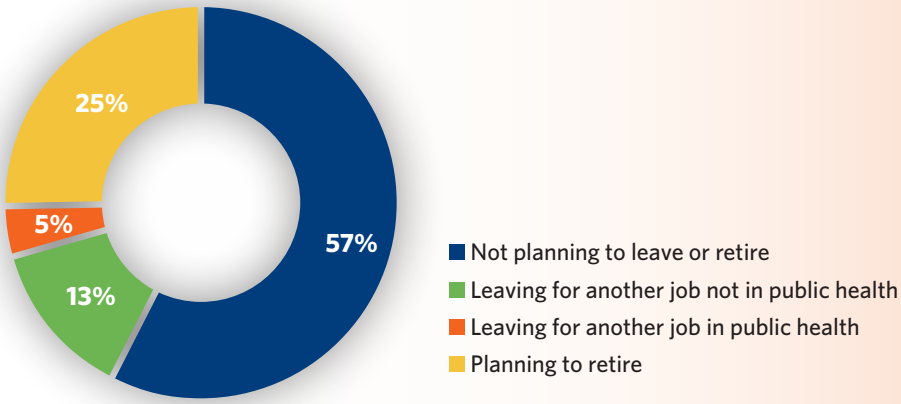
79%
are somewhat or very satisfied with their jobs.

FIGURE 3: JOB SATISFACTION



25%
plan to retire before 2020.

FIGURE 4: INTENT TO LEAVE



13%
plan to seek work outside governmental public health in the next year.

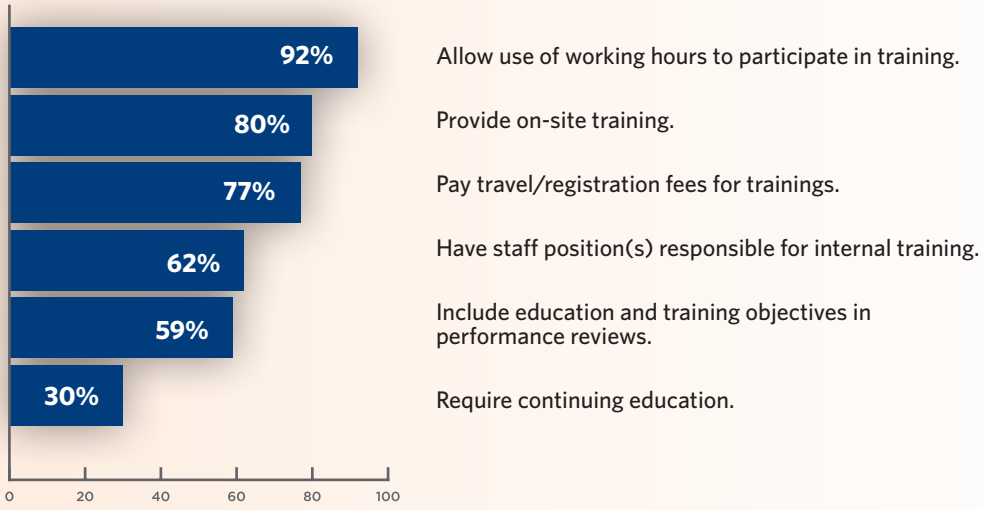
- Despite a high level of job satisfaction, 13 percent of workers plan to leave their jobs in the next year for jobs that are not in public health and an additional 25 percent plan to retire before 2020 (**Figure 4**).

A CULTURE OF LEARNING

92%
of SHAs allow use of working hours to participate in training.

- Almost all (92%) SHA employees are able to use working hours to participate in training, and rarely (30%) have continuing education requirements.
- Only 57 percent of state health agency employees report being recognized for their achievements, and only 45 percent report that their training needs are assessed.

FIGURE 5: SHA SUPPORT FOR PROFESSIONAL DEVELOPMENT



Note: Estimates have a margin of error of ±1 percent.

32%
of SHA employees need training in policy development.

TRAINING NEEDS

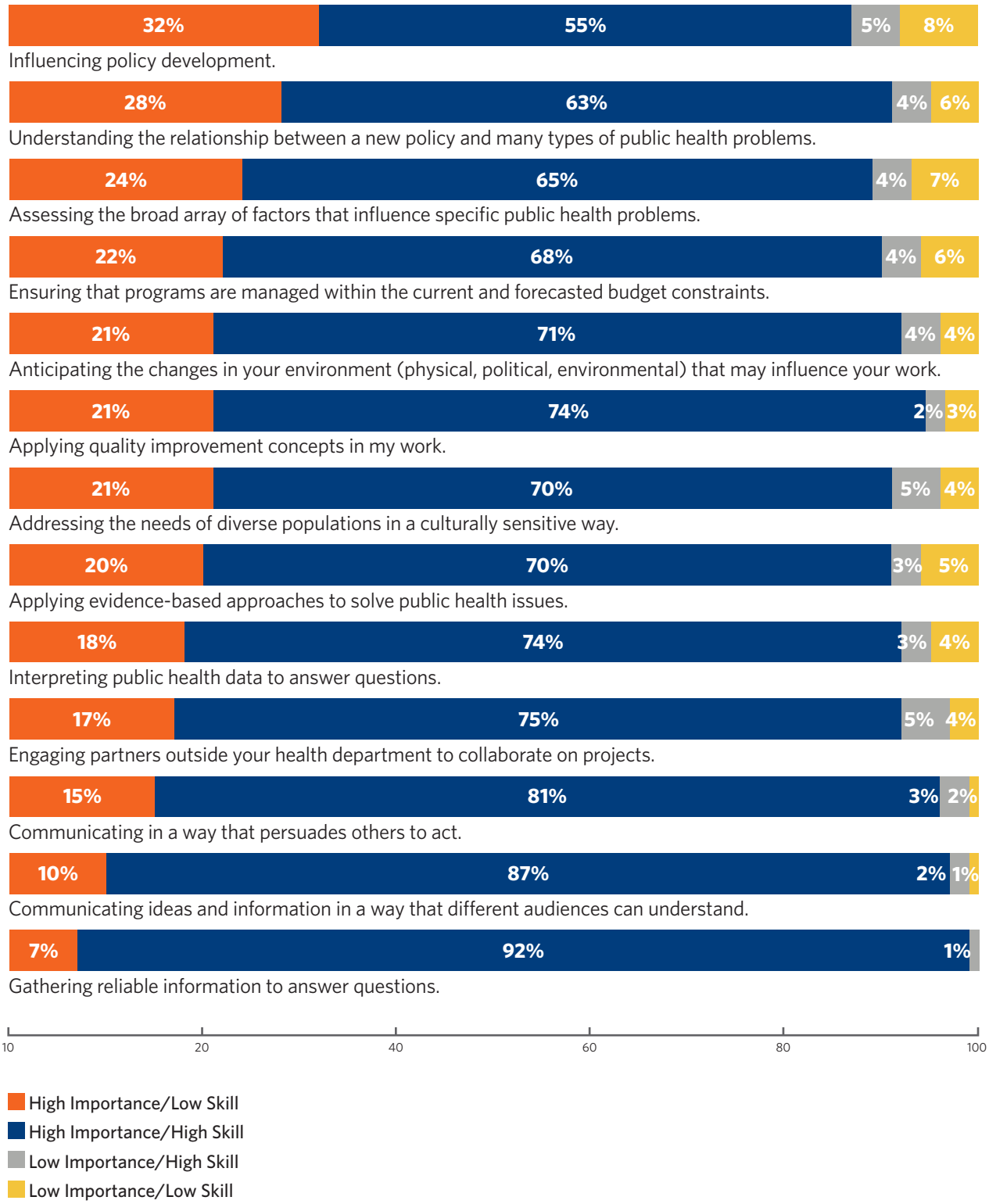
Training needs were identified by calculating the proportion of employees who believe the skill is somewhat or very important and also rate themselves as either unable to perform or at a beginner level for this skill. The top training needs (orange bars in **Figure 6**) are:

23%
want training in preparing budgets.

- Influencing policy development.
- Understanding the relationship between a new policy and many types of public health problems.
- Assessing the broad array of factors that influence specific public health problems.
- Preparing a program budget with justification.

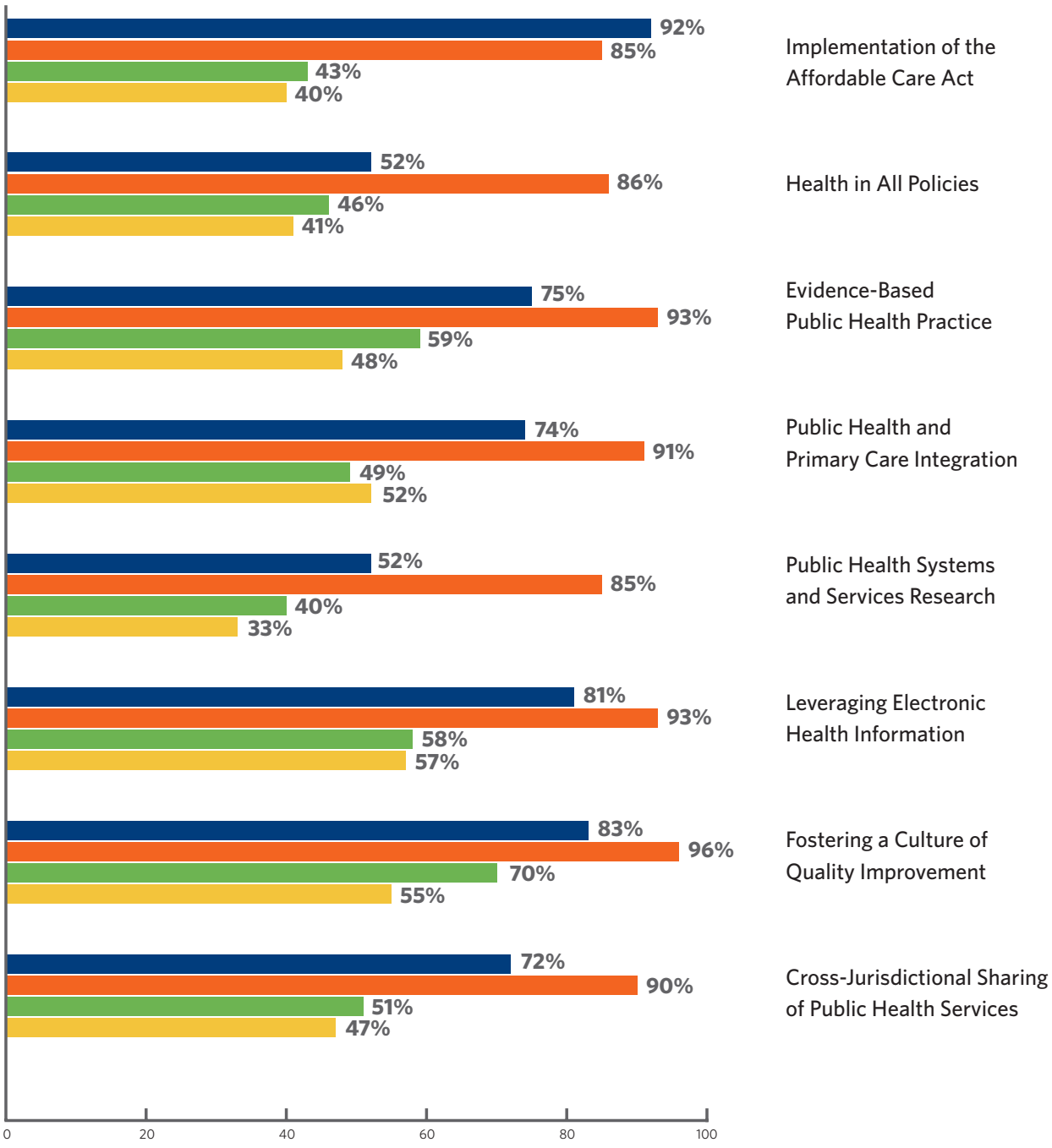
Additionally, only 50 percent of workers report that employees have sufficient training to use the technology needed to do their work.

FIGURE 6: SHA TOP TRAINING NEEDS



Margins of error range from ±1%–3 percent. Percentages may not add up to 100 because of rounding.

FIGURE 7: SHA PERCEPTIONS OF NATIONAL TRENDS



Perspectives of national trends results are displayed in **Figure 7**. Workers are more likely to think the trends are important to public health and less likely to think the trends will impact their work or that more emphasis should be placed on each trend. The greatest number of workers have heard about the implementation of the Affordable Care Act (92%), but this was considered to be among the least important of the trends listed (85%).

- "Fostering a culture of quality improvement" is almost universally rated as important (96%) and is considered the trend to be most likely to impact day-to-day work (70%).
- "Evidence-based public health practice" and "public health and primary care integration" are recognized by approximately 75 percent of workers, and are among the most highly-rated trends in terms of importance, at 93 percent and 91 percent, respectively.
- Only 52 percent of workers are familiar with the concept of Health in All Policies.

96%

rate fostering a culture of quality improvement as important.

52%

are familiar with Health in All Policies.

RECOMMENDATIONS

PH WINS fills a critical gap in public health practice and research by asking public health workers for their own perspectives on national initiatives. Although public health leaders have been building a vision of a transformed health system, previous efforts have not asked a nationally-representative sample of front-line workers how such transformations will impact them. PH WINS gives public health leaders a unique opportunity to better understand the workforce that they lead.

Findings from PH WINS support a number of concrete recommendations.

TAKE ACTION

Prioritize succession planning.

Recruit and retain diverse staff.

Address top training needs.

Make succession planning a high priority.

- Devise a strategy to recruit young and mid-career professionals into the field, with a particular emphasis on Hispanic/Latino staff, given their underrepresentation in the workforce.

Invest in training for the existing public health workforce.

- Policy analysis and development, business and financial management, systems thinking and social determinants of health, evidence-based public health practice, and collaborating with and engaging diverse communities were all identified training needs.

Provide information about national public health trends.

- Although almost half of the workforce has yet to hear about using a health in all policies approach to improve health and health equity, they have heard about quality improvement, harnessing the influx of electronic health information from electronic health records, and integrating public health with healthcare. They believe that these are important initiatives, and are ready to learn more and work harder to make these goals a reality.

Ensure that workplace policies and practices support job satisfaction and retention.

- The de Beaumont Foundation has made a $1 million investment in PH WINS: Research to Action, a partnership with ASTHO to strengthen workplace policies and practices through a community of practice. Health departments will use PH WINS data to drive improvements in workforce development.

"Most importantly, PH WINS provides information that can drive our action toward improving public health agencies and our workforce. We are already using the findings to help state health agencies meet current challenges and evolve into organizations that will be even more effective in addressing the issues we will face in the future"

Paul Jarris
Executive Director
ASTHO

"...the unprecedented scale and scope of the Public Health Workforce Interests and Needs Survey (PH WINS) provides uniquely valuable insights into the state of the current public health workforce and points the way to emerging trends and needs for continuing to strengthen the workforce."

Edward L. Baker
Adjunct Professor, Health Policy and Management
UNC Gillings School of Global Public Health

"PH WINS shows the enormity of our challenge, as well as pointing to opportunities. This undertaking allows us to document and assess the workforce in ways not previously attempted."

Edward L. Hunter
CEO
de Beaumont Foundation

"...PH WINS and other public health environment surveys provide information about current and emerging health issues and needs, priorities, and factors influencing system changes that impact the public health profession and practice"

Judy Monroe
Deputy Director
Office for State, Tribal, Local, and Territorial Support
CDC

de Beaumont FOUNDATION

7501 Wisconsin Avenue | Suite 1310E | Bethesda, MD 20814
P: 301.961.5800 | **F:** 301.961.5802
deBeaumont.org @debeaumontfndtn

astho™

2231 Crystal Dr | Suite 450 | Arlington, VA 22202
P: 202.371.9090 | **F:** 571.527.3189
astho.org/phwins @astho #PHWINS

OPEN

The Public Health Workforce Interests and Needs Survey: The First National Survey of State Health Agency Employees

Katie Sellers, DrPH, CPH; Jonathon P. Leider, PhD; Elizabeth Harper, DrPH; Brian C. Castrucci, MA; Kiran Bharthapudi, PhD; Rivka Liss-Levinson, PhD; Paul E. Jarris, MD, MBA; Edward L. Hunter, MA

Context: Public health practitioners, policy makers, and researchers alike have called for more data on individual worker's perceptions about workplace environment, job satisfaction, and training needs for a quarter of a century. The Public Health Workforce Interests and Needs Survey (PH WINS) was created to answer that call. **Objective:** Characterize key components of the public health workforce, including demographics, workplace environment, perceptions about national trends, and perceived training needs. **Design:** A nationally representative survey of central office employees at state health agencies (SHAs) was conducted in 2014. Approximately 25 000 e-mail invitations to a Web-based survey were sent out to public health staff in 37 states, based on a stratified sampling approach. Balanced repeated replication weights were used to account for the complex sampling design. **Setting and Participants:** A total of 10 246 permanently employed SHA central office employees participated in PH WINS (46% response rate). **Main Outcome Measures:** Perceptions about training needs; workplace environment and job satisfaction; national initiatives and trends; and demographics. **Results:** Although the majority of staff said they were somewhat or very satisfied with their job (79%; 95% confidence interval [CI], 78-80), as well as their organization (65%; 95% CI, 64-66), more than 42% (95% CI, 41-43) were considering leaving their organization in the next year or retiring before 2020; 4% of those were considering leaving for another job elsewhere in governmental public health. The majority of public health staff at SHA central offices are female (72%; 95% CI, 71-73), non-Hispanic white (70%; 95% CI, 69-71), and older than 40 years (73%; 95% CI, 72-74). The greatest training needs include influencing policy development, preparing a budget, and training related to the social determinants of health. **Conclusions:** PH WINS represents the first nationally representative survey of SHA employees. It holds significant potential to help answer previously unaddressed questions in public health workforce research and provides actionable findings for SHA leaders.

KEY WORDS: public health workforce, Public Health Workforce Interests and Needs Survey (PH WINS), state health agencies, workforce development

The majority of the public health literature focuses on describing disease; identifying physical, social, and environmental correlates of disease; evaluating programmatic interventions; and reporting study results. Significantly less effort has focused on understanding the dynamics of the public health workforce—those who influence the entire public health system by

Author Affiliations: Association of State and Territorial Health Officials, Arlington, Virginia (Dr Sellers, Harper, Bharthapudi, Liss-Levinson, and Jarris); and de Beaumont Foundation, Bethesda, Maryland (Dr Leider and Messrs Castrucci and Hunter).

The Public Health Workforce Interests and Needs Survey (PH WINS) was funded by the de Beaumont Foundation. The de Beaumont Foundation and the Association of State and Territorial Health Officials acknowledge Brenda Joly, Carolyn Leep, Vicki Pineau, Lin Liu, Michael Meit, the PH WINS technical expert panel, and state and local health department staff for their contributions to PH WINS.

The authors declare no conflicts of interest.

Correspondence: Jonathon P. Leider, PhD, de Beaumont Foundation, 7501 Wisconsin Ave, Ste 1310E, Bethesda, MD 20814 (leider@gmail.com).

DOI: 10.1097/PHH.0000000000000331

cultivating and curating the necessary inputs and processes through which population outcomes are achieved.[1] Woltring and Novick commented that "the workforce is the most essential element in our collective efforts in assuring the public health."[2(p438)] To ensure that the public health workforce has the necessary capacities and skills to meet current and future population health challenges, public health practitioners and leaders in the field of public health workforce research have been calling for better data on the public health workforce for decades.[3-10]

Previous literature focuses on describing the size and composition of the workforce,[3,5,10,11] identifying competencies and training needs,[4,6,12-16] and supporting the need for improved recruitment and retention.[1,2,11,17] Gebbie and Merrill's[5] seminal workforce enumeration study provided more information on the size and composition of the workforce than the field had seen before. However, this study did not include any information on gender, age, education, ethnicity, or functional roles.[9] Subsequent enumeration updates[12] lacked information on these topics. A characterization of the Centers for Disease Control and Prevention's workforce was recently completed alongside the annually administered Federal Employee Viewpoint Survey. While comparable workforce characteristic estimates among state health agencies (SHAs) nationwide do exist,[13] national data on perceptions around job satisfaction and staff perceptions do not. A 25-year systematic review of the public health workforce literature lamented that "the literature on public health workforce diversity was meager"[14] despite the prioritization of workforce development by federal agencies and major policy initiatives, such as *Healthy People*.[18] This is in contrast to more robust literature in other fields, public and private,[11,15,16,19-25] where workforce development has been consistently recognized as a core need.[26-33]

The literature on the training needs of the public health workforce is more expansive and identifies certain topics repeatedly. Multiple authors contend that the managerial, leadership, and policy development skills of the public health workforce are all in need of improvement.[8,34] The Institute of Medicine (now National Academy of Medicine, [NAM]) identified 8 emerging areas in need of competency development: informatics, communications, community-based participatory research, global health, ethics, genomics, cultural competency, and policy and law.[35] Multiple other efforts have defined competencies for public health generally[36] and for specific disciplines (eg, epidemiology, public health nursing, or preparedness) or specific degree types (eg, master of public health).[37-42] While the list of competencies and training needs is robust, it is without clear prioritization. This remains a critical gap in workforce development.

Public health membership organizations have made significant contributions to workforce development through the development and implementation of various surveys. The National Association of County & City Health Officials and the Association of State and Territorial Health Officials each conduct profile surveys of their member health departments. These surveys have provided valuable insights into staffing levels, budget changes, and other important topics. These data have helped identify trends and inform policy. However, these data are collected at the agency level and cannot capture the beliefs, attitudes, opinions, and experiences of individual public health workers. Efforts to capture such data have been undertaken by the various membership groups including the Council on State and Territorial Epidemiologists and the Association of Maternal and Child Health Programs. However, different methods, time frames, and content have limited the ability to combine or compare data, and few have been published. For example, in Hilliard and Boulton's[14] 25-year systematic review of the public health workforce literature, the authors found only 1 article on job satisfaction, which was limited to public health nurses.[43]

The Public Health Workforce Interests and Needs Survey (PH WINS) fills many of the research gaps enumerated earlier. It is the first nationally representative survey to collect data from SHA workers about critical issues in today's transforming health system such as the diversity of the public health workforce, workers' ability to meet difficult challenges ahead, worker perspectives on current national trends, and aspects of the workplace environment that are likely to impact worker recruitment, retention, development, and performance. A more detailed discussion of the genesis and background of PH WINS is published concurrently in this supplement.[44] Broadly, PH WINS had 3 main goals: inform future workforce development investments, establish a baseline to evaluate future workforce development efforts, and explore workforce attitudes, morale, and climate. This article provides highlights of PH WINS, including the identification of greatest training needs, examination of staff perceptions and job satisfaction, and how well SHAs promote a culture of learning.[45] Our discussion focuses on implications of this first ever individual-level survey for workforce development and training priorities.

Methods

The Association of State and Territorial Health Officials and the de Beaumont Foundation convened a panel of survey and workforce experts to provide guidance on the development of the survey instrument and fielding

approach. The panel consisted of representatives from the Centers for Disease Control and Prevention, the Health Resources and Services Administration, the National Network of Public Health Institutes, the Public Health Foundation, the National Association of County & City Health Officials, and the Public Health Accreditation Board, as well as other experts in survey design and public health workforce development. The group agreed that the instrument should cover 4 key areas: training needs, individual worker perspectives on key national initiatives (such as quality improvement, health information exchange, and the Affordable Care Act), workplace environment (eg, morale, worker engagement, culture of learning), and demographic characteristics.

When developing the instrument, the research team sought to incorporate existing and/or validated measures when possible; the instrument drew heavily from previously used surveys, including the Centers for Disease Control and Prevention's Project Officer Survey, the 2009 Epidemiology Capacity Assessment, the Federal Employee Viewpoint Survey, the Public Health Foundation Worker Survey, and the Job in General Scale.[44] The research team drafted new questions when appropriate existing items could not be identified. The instrument adapted and used several items from Boulton and Beck's public health workforce taxonomy to ask respondents about occupational classification (see the Appendix), program area (see the Appendix), degrees and certifications, work setting, and demographics. Cognitive interviews were conducted, and the instrument was pretested with 3 groups of public health practitioners at the state and local levels. The finalized survey was administered online in fall 2014.

The complex sampling methodology for PH WINS has been outlined elsewhere.[44] Briefly, the national sampling frame of state public health employees was stratified on the basis of 5 geographic (paired HHS) regions using employee lists provided by each participating state and stratified with the state as the lowest stratum variable before selection of a random sample within each state. Participating states and paired regions are shown in Appendix Figures 3 and 4. The national sample was designed to ensure that estimates for each geographic region, each governance size, and each population-served size would have a maximum margin of error of 2.5% for a survey item estimate of 50% for SHA central office employees, as separate from those staff who work in local or regional health departments. States were given options to increase their sample size for state-level estimation or for conducting a census of their employees, allowing even more granular reporting. Because of multiple factors such as a state's workforce size and wishes of participating SHA officials for differing analytical needs, the sample for some states in the national sample was selected using a probability-based selection of the workforce whereas the sample for other states included all state public health employees as a census. This was accounted for in the complex sampling design and weighting.[44] Potential respondents were contacted directly by e-mail in line with the identified sampling approach. The survey was confidential; contact information was retained only to ascertain whether a potential respondent had indeed responded. No contact information is associated with responses in final PH WINS data sets. SHAs received aggregate reports; no identifiable information was shared.[44]

The data were weighted to account for nonresponse, and balanced repeated replication was used to adjust the variance estimates to account for complex sampling in PH WINS. More information regarding weighting methodology appears elsewhere in this supplement.[44] The research team used Stata 13 to calculate descriptive statistics and cross-tabulations for this study. The study was designated as "exempt" by the Chesapeake institutional review board (Pro00009674).

Results

Who is the public health workforce?

Across all 3 sample frames, approximately 54 000 state and local public health employees were selected for participation in PH WINS. Of these, 23 229 responded (a 44% response rate). Among central office employees (estimated at 42 000 nationally),[44] after accounting for undeliverable e-mails and individuals who confirmed they had left their position, the response rate was 46% (n = 10 246). After applying balanced repeated replication weights, descriptive statistics for the workforce were generated.

As shown in Table 1, a large majority of the workforce was female (72%; 95% confidence interval [CI], 71-73), most reported being non-Hispanic white (70%; 95% CI, 69-71), and most were older than 40 years (73%; 95% CI, 72-74). The mean age was 48.2 years and the median age was 50 years.

As shown in Table 2, just more than half (52%; 95% CI, 50-53) of SHA workers did not have supervisory or management responsibilities (see definitions in Appendix Table 2). The largest proportion of workers held public health science jobs, such as public health program managers, epidemiologists, and health educators (41%; 95% CI, 40-43), followed by administrative jobs (28%; 95% CI, 27-30). The vast majority (94%; 95% CI, 95-96) of respondents worked full-time.

Most state public health agency workers had been serving in their current position for 5 or fewer years (59%; 95% CI, 58-60). Workers had spent more time in

TABLE 1 ● Demographic Characteristics

Gender	Percent	(95% Confidence Interval)
Female	72%	(71%-73%)
Male	28%	(27%-29%)
Race/Ethnicity		
American Indian or Alaska Native	1%	(0%-1%)
Asian	5%	(4%-5%)
Black or African American	13%	(12%-14%)
Hispanic or Latino	7%	(6%-7%)
Native Hawaiian or other Pacific	0%	(0%-0%)
White	70%	(69%-71%)
Two or more races	5%	(4%-5%)
Age		
20 or below	0%	(0%-0%)
21 to 25	2%	(1%-2%)
26 to 30	6%	(6%-7%)
31 to 35	9%	(8%-10%)
36 to 40	10%	(9%-11%)
41 to 45	12%	(11%-13%)
46 to 50	14%	(12%-15%)
51 to 55	16%	(15%-17%)
56 to 60	17%	(16%-18%)
61 to 65	11%	(10%-11%)
66 to 70	3%	(2%-3%)
71 to 75	1%	(0%-1%)
76 or above	0%	(0%-0%)

the health department generally than in their current positions; 65% (95% CI, 64-66) had worked in the same health department for 6 or more years. Most workers had substantial experience in public health; 54% (95% CI, 53-55) had 11 or more years of experience in the field. Three-fourths (75%; 95% CI, 74-77) of the workforce reported a 4-year college degree, whereas 38% (95% CI, 36-40) held a master's and 9% (95% CI, 8-10) reported a doctoral degree. One-third (33%; 95% CI, 32-34) reported obtaining some sort of professional certification.

Are SHA workers satisfied with their jobs?

Figure 1 shows that SHA workers have a fairly high level of satisfaction with their jobs. A total of 79% of workers (78%-80%) report being somewhat satisfied or very satisfied with their jobs. Satisfaction with the organization for which they work is somewhat more muted; 65% (95% CI, 64-66) are somewhat satisfied or very satisfied with their organization. Satisfaction with pay is substantially lower, with only 48% being somewhat or very satisfied with pay. Almost a quarter (24%; 95%

TABLE 2 ● Workforce Characteristics

Supervisory status	Percent	(95% Confidence Interval)
Non-supervisor	52%	(50%-53%)
Team leader	15%	(14%-16%)
Supervisor	16%	(15%-17%)
Manager	13%	(12%-14%)
Executive	4%	(3%-4%)
Employed full-time	95%	(95%-96%)
Years in current position		
0-5 years	59%	(58%-60%)
6-10 years	22%	(21%-23%)
11-15 years	10%	(9%-10%)
16-20 years	5%	(4%-5%)
21 or above	5%	(4%-5%)
Years in current health department		
0-5 years	35%	(34%-36%)
6-10 years	22%	(21%-23%)
11-15 years	15%	(14%-16%)
16-20 years	10%	(9%-11%)
21 or above	18%	(17%-19%)
Years in public health		
0-5 years	25%	(24%-26%)
6-10 years	21%	(20%-22%)
11-15 years	17%	(16%-17%)
16-20 years	12%	(11%-13%)
21 or above	25%	(24%-27%)
Years in management (17% of total)		
0-5 years	32%	(28%-35%)
6-10 years	25%	(23%-28%)
11-15 years	17%	(15%-19%)
16-20 years	11%	(9%-13%)
21 or above	15%	(12%-17%)
Educational attainment		
Associates	18%	(17%-18%)
Bachelors	75%	(74%-77%)
Masters	38%	(36%-40%)
Doctoral	9%	(8%-10%)
Any formal professional certification	33%	(32%-34%)
Any degree in Public Health (any level)	17%	(16%-18%)
Job classification*		
Administrative	28%	(27%-30%)
Clinical and Lab	14%	(14%-15%)
Public Health Science	41%	(40%-43%)
Social Services and All Other	16%	(15%-17%)
Program area**		
Access	1%	(1%-1%)
Chronic Disease and Injury	3%	(2%-3%)
Communicable Disease	10%	(9%-11%)
Environmental Health	12%	(11%-12%)
Maternal and Child Health	11%	(10%-11%)
All Hazards	4%	(4%-5%)

(*continues*)

TABLE 2 ● Workforce Characteristics (*Continued*)

Supervisory status	Percent	(95% Confidence Interval)
Assessment	9%	(8%-10%)
Communications	4%	(4%-5%)
Organizational Competencies	16%	(14%-18%)
Other Health Care	3%	(2%-3%)
All Other	28%	(27%-29%)

Note: Data are shown as Point estimates of proportions as percent and (95% Confidence interval).
*Job classification was condensed from the Boulton and Beck taxonomy of job types. See Appendix for more information.
**Programmatic areas were condensed into the Foundational Areas and Foundational Capabilities from the Public Health Services model. See the Appendix for more information.

CI, 23-25) report being somewhat dissatisfied with pay, and 15% (95% CI, 14-16) are very dissatisfied.

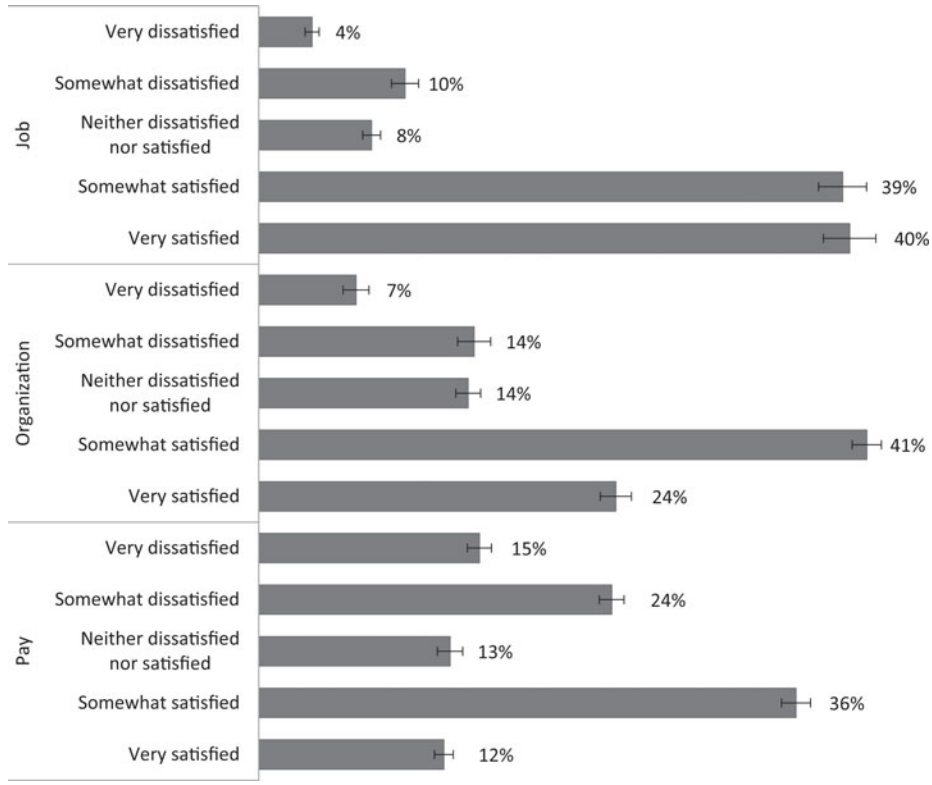
Despite this level of job satisfaction, more than a quarter (27%; 95% CI, 26-28) of the workforce plans to leave its current position in the coming year. Included in this number is the 5% (95% CI, 5-6) who intend to retire in 2015. Approximately 15% (95% CI, 14-16) plan to retire by 2020. About 5% (95% CI, 4-6) are considering leaving their job for another job in governmental public health in a different agency. If workers carry out their current plans, at least 38% will have left governmental public health by 2020.

Is there a "culture of learning" in health departments?

The vast majority of SHA workers report that they are allowed to use working hours to participate in training (92%; 95% CI, 91-92) (Table 3). Most (80%; 95% CI, 79-81) also report that the health agency provides on-site training. More than three-fourths (77%; 95% CI, 77-78) report that their employer pays for travel to and/or registration fees for trainings. Fewer (59%; 95% CI, 58-60), however, report having education and training objectives included in performance reviews. Less than a third (30%; 95% CI, 29-31) report their employer requires continuing education.

Most (82%; 95% CI, 81-83) report that employees learn from one another as they do their work, and most (71%; 95% CI, 70-72) report that supervisors support employee development. Recognition of achievement was reported to be less common (57%; 95% CI, 56-58), and only 45% (95% CI, 44-46) report having their training needs assessed. Half (50%; 95% CI, 48-51)

FIGURE 1 ● Employee Level of Satisfaction With Job, Organization, and Pay



Note: Capped bars represent 95% confidence intervals on the respective point estimates. Bars may not sum to 100% due to rounding errors.

TABLE 3 ● Employee Perceptions of Organizational Support for Workforce Development

Does Your Health Department Do Any of the Following?	Yes	(95% CI)	Please Rate Your Level of Agreement With the Following Items	Agree/Strongly Agree	(95% CI)
Require continuing education	30%	(29%-31%)	Provide recognition of achievement	57%	(56%-58%)
Include education and training objectives in performance reviews	59%	(58%-60%)	Supervisors/team leaders in my work unit support employee development	71%	(70%-72%)
Allow use of working hours to participate in training	92%	(91%-92%)	My training needs are assessed	45%	(44%-46%)
Pay travel/registration fees for trainings	77%	(77%-78%)	Employees have sufficient training to fully utilize technology needed	50%	(48%-51%)
Provide on-site training	80%	(79%-81%)	Employees learn from one another as they do their work	82%	(81%-83%)
Have staff position(s) responsible for internal training	62%	(61%-64%)			

Note: Data are shown as point estimates for response options for (Yes; Agree/Strongly Agree) as well as 95% confidence intervals.

report that employees have sufficient training to use the technology needed to do their work.

What are the important skills and training gaps in the workforce?

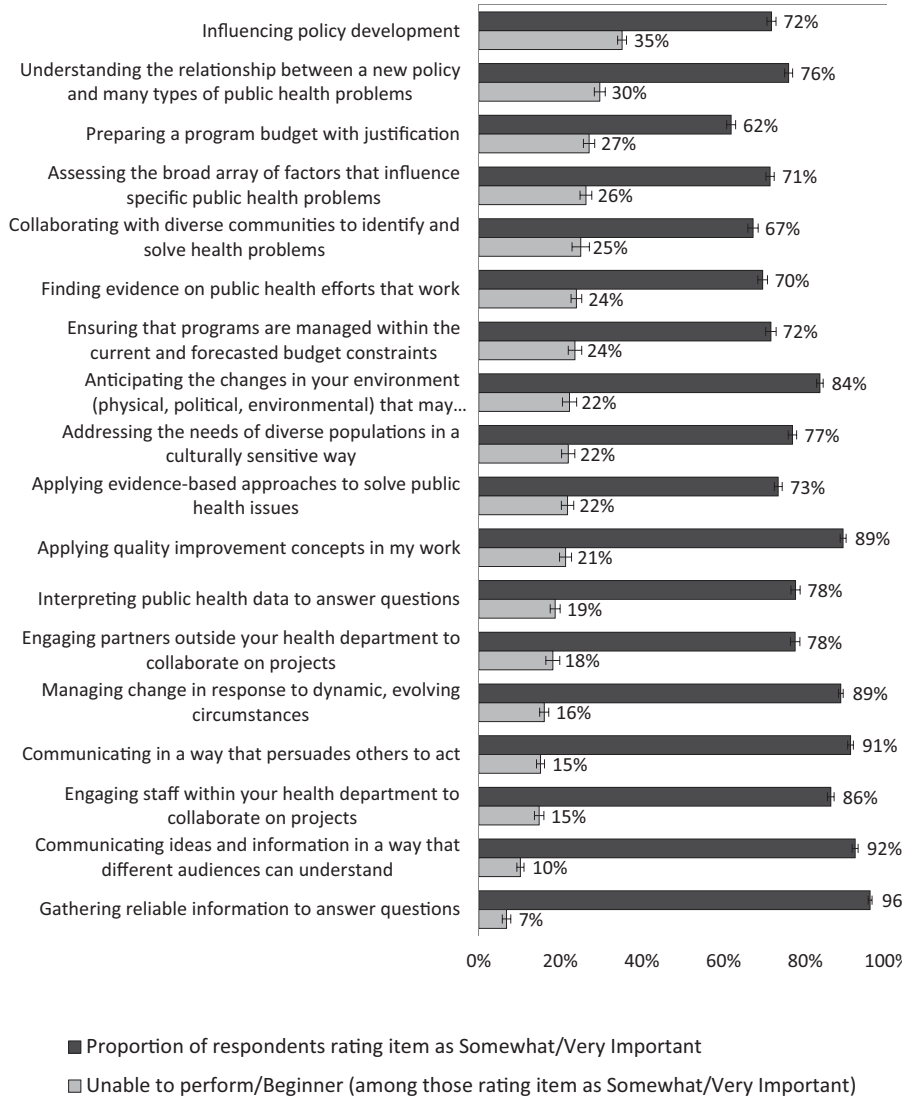
Respondents were given a list of skills and asked to rate them in terms of their importance for their current position. They were also asked to rate their level of proficiency for each skill. Figure 2 shows the list of skills, what proportion of the workforce rated the skills as "somewhat important" or "very important" in their day-to-day work, and what proportion of those workers rating the skill as "somewhat important" or "very important" also rated themselves as "unable to perform" or at a "beginner" level (termed a "competency gap"). "Influencing policy development" was reported to be somewhat or very important by 72% (95% CI, 71-73) of respondents, but 35% (95% CI, 34-36) indicate being either unable to perform this skill or having only a beginner's level of proficiency. Similarly, 62% (95% CI, 61-63) of workers consider "preparing a program budget with justification" to be important, but 27% (95% CI, 26-28%) report having a low level of skill in that area. "Understanding the relationship between a new policy and many types of health problems" was rated as important by 76% (95% CI, 75-77), but 30% (95% CI, 29-31) rate themselves as being a beginner or being unable to do this.

Workers across the United States were largely consistent in how they assessed competency gaps, with only marginal variation across the 5 paired HHS regions. Differences in these self-assessed competency gaps were observed between at least 2 paired HHS regions for 11 of the 18 training needs assessed in PH WINS (Table 4). These differences were statistically significant at $P < .05$ but rarely different by more than 2 to 3 percentage points across the paired regions. Analysis of unweighted responses within the 10 HHS regions also showed marginal differences within the 5 pairs of regions (data not shown). Within each of the 5 pairs of HHS regions (eg, comparing HHS regions 3 and 5), differences in competency gaps were 3 percentage points on average (median, 3 percentage points difference; minimum, 0 percentage points difference; maximum, 9 percentage points difference).

Is there recognition of national trends and initiatives?

Respondents were given a list of national trends, which included concise definitions, and asked to report how much they had heard about the trend, how important they thought it was, how much they thought it would impact their day-to-day work, and how much more or less emphasis they thought should be put on the trend in the future. Respondents were counted as having heard of a trend if they indicated they had heard about it "not much," "a little," or "a lot" (as opposed to "nothing at all"). The national trends results are displayed in Table 5. Respondents were most likely to have heard about "implementation of the Affordable Care Act" (92%; 95% CI, 91-93). While 85% (95% CI, 84-86) of staff who had heard of the Patient Protection and Affordable Care Act (ACA) considered it to be important to public health, this was among the least important of the trends listed. Implementation of the ACA was rated lower than most other trends in terms of impact on day-to-day work and needing more emphasis in the future. "Fostering a culture of quality improvement" was the next most common trend for workers

FIGURE 2 ● Gaps in Training Among Central Office Employees at State Health Agencies



Note: Capped bars represent margins of error on the respective point estimates.

to have heard of (83%; 95% CI, 83-84), and it was most almost universally rated as important (96%; 95% CI 95-96). Quality improvement was considered the trend to be most likely to impact day-to-day work and was second only to "leveraging electronic health information" in terms of trends needing more emphasis in the future.

"Evidence-based public health practice" and "public health and primary care integration" were recognized by approximately three-fourths of respondents and were among the most highly rated trends in terms of importance. Roughly half of respondents reported that more emphasis should be placed on these 2 trends in the future.

● Discussion

PH WINS is the first nationally representative survey of central office employees in SHAs. This survey provides a unique opportunity to learn about what workers from the front lines to the leadership teams know, think, and believe about their own training needs, the environment in which they work, and the national trends that are, to some extent, driving health system transformation. A number of the insights gained from this survey are immediately actionable for leaders wishing to develop a more robust workforce prepared to protect and promote population health in a transformed health system.

TABLE 4 ● Proportion of Staff With Self-reported Competency Gaps, by Paired HHS Region

	New England & Atlantic (HHS 1 & 2)	Mid-Atlantic & Great Lakes (HHS 3 & 5)	South (HHS 4 & 6)	Mountain/ Midwest (HHS 7 & 8)	West (HHS 9 & 10)
Communicating ideas and information in a way that different audiences can understand	12% (11%-14%)	11% (10%-12%)	8% (7%-10%)	11% (8%-13%)	11% (7%-14%)
Communicating in a way that persuades others to act	17% (15%-19%)	16% (14%-18%)	13% (11%-14%)	18% (13%-23%)	14% (13%-16%)
Collaborating with diverse communities to identify and solve health problems	27% (25%-30%)	28% (25%-31%)	22% (19%-25%)	28% (24%-31%)	24% (13%-34%)
Addressing the needs of diverse populations in a culturally sensitive way	24% (22%-26%)	26% (24%-28%)	18% (16%-20%)	30% (24%-35%)	18% (11%-25%)
Assessing the broad array of factors that influence specific public health problems	26% (24%-29%)	25% (24%-27%)	24% (23%-26%)	32% (27%-37%)	27% (20%-33%)
Understanding the relationship between a new policy and many types of public health problems	30% (27%-32%)	31% (29%-33%)	27% (26%-29%)	37% (33%-40%)	28% (22%-34%)
Engaging staff within your health department to collaborate on projects	16% (14%-18%)	15% (13%-17%)	13% (12%-14%)	18% (15%-20%)	15% (10%-20%)
Engaging partners outside your health department to collaborate on projects	21% (16%-25%)	17% (16%-18%)	17% (14%-19%)	19% (15%-23%)	19% (13%-26%)
Managing change in response to dynamic, evolving circumstances	17% (16%-19%)	18% (16%-20%)	14% (13%-16%)	18% (15%-22%)	14% (10%-18%)
Anticipating the changes in your environment (physical, political, environmental) that may influence your work	27% (25%-29%)	23% (21%-25%)	19% (15%-23%)	26% (22%-30%)	21% (16%-25%)
Gathering reliable information to answer questions	8% (7%-10%)	7% (6%-7%)	6% (5%-8%)	7% (4%-9%)	6% (1%-11%)
Interpreting public health data to answer questions	19% (16%-21%)	19% (16%-21%)	17% (16%-18%)	22% (19%-26%)	20% (15%-26%)
Finding evidence on public health efforts that work	24% (21%-26%)	23% (22%-25%)	22% (20%-24%)	32% (28%-36%)	24% (18%-29%)
Applying evidence-based approaches to solve public health issues	22% (19%-26%)	20% (18%-22%)	22% (20%-23%)	24% (20%-28%)	22% (14%-29%)
Applying quality improvement concepts in my work	23% (20%-26%)	24% (22%-26%)	19% (16%-21%)	26% (21%-30%)	19% (14%-24%)
Influencing policy development	37% (35%-40%)	38% (36%-40%)	31% (29%-33%)	43% (39%-47%)	33% (31%-35%)
Preparing a program budget with justification	25% (23%-28%)	26% (24%-29%)	27% (25%-29%)	30% (25%-36%)	28% (23%-32%)
Ensuring that programs are managed within the current and forecasted budget constraints	25% (24%-27%)	25% (22%-27%)	23% (20%-25%)	23% (20%-26%)	23% (16%-30%)

As expected, the survey showed that women are strongly disproportionally represented among public health workers. The proportion of African Americans among public health workers mirrors that of the general public. Hispanic/Latino workers, on the contrary, make up 7% of the workforce compared with 17% of the population.[46] Young adults are also represented in the workforce in markedly smaller proportion to the population, with only 8% of the workforce 30 years or younger and almost half (47%) older than 50 years. These findings are consistent with demographic characteristics previously reported by the Association of State and Territorial Health Officials.[47] Addressing the health needs of Hispanics and Latinos will be a continuing priority of SHAs as their population size continues to grow, making the recruitment of Hispanic/Latino workers a priority. And to ensure a sustainable workforce, recruitment of young adults will also be a priority.

While the workforce is largely college-educated (75% hold at least a bachelor's degree, and another 10% hold an associate's degree), only 17% have any formal training in public health. Given recent growth in the undergraduate public health major and the potential to bring these recruits in at lower price points than

TABLE 5 ● Overview of Workforce Perception of National Trends in Public Health

	Have Heard of Trend	Trend Is Somewhat/Very Important to Public Health*	Trend Will Impact My Day-to-Day Work a Fair Amount/a Great Amount*	More Emphasis Should Be Placed on This Trend in the Future*
Cross-jurisdictional sharing of public health services	72% (71%-73%)	90% (89%-92%)	51% (49%-53%)	47% (45%-49%)
Fostering a culture of quality improvement	83% (82%-84%)	96% (95%-96%)	70% (69%-72%)	55% (53%-56%)
Leveraging electronic health information	81% (81%-82%)	93% (93%-94%)	58% (57%-60%)	57% (56%-58%)
Public Health Systems and Services Research	52% (51%-54%)	85% (84%-86%)	40% (38%-42%)	33% (31%-35%)
Public health and primary care integration	74% (73%-75%)	91% (90%-91%)	49% (48%-51%)	52% (50%-54%)
Evidence-Based Public Health Practice	75% (74%-76%)	93% (92%-94%)	59% (58%-60%)	48% (46%-49%)
Health in All Policies	52% (50%-53%)	86% (85%-87%)	46% (45%-48%)	41% (39%-43%)
Implementation of the Affordable Care Act	92% (91%-93%)	85% (84%-86%)	43% (42%-44%)	40% (38%-41%)

Note: The proportion of respondents for "Have heard of trend" comprises those who indicated they had heard of the item "not much," "a little," or "a lot" (i.e., respondents saying "nothing at all" are excluded). The remaining variables have been condensed as indicated in the column heading.
*Among those who had indicated they had heard of an item "not much," "a little," or "a lot".

master's educated staff, agencies might consider targeting graduates of bachelor's in public health programs when recruiting young adults and ensure that those without public health degrees participate in basic public health science training.

The finding that 79% of workers are "very satisfied" or "somewhat satisfied" with their jobs was surprising. Given the multiple rounds of cumulative budget cuts SHAs have experienced, along with the constant change induced by health reform, technological advances, and emerging health issues, it would have been reasonable to predict that morale at SHAs would be below average. The Federal Employee Viewpoint Survey found that 64% of all federal workers and 67% of federal HHS staff are "very satisfied" or "somewhat satisfied" with their jobs. Among federal workers, 55% are somewhat or very satisfied with their organization (61% in HHS) compared with 65% among SHA central office employees.[48,49] A survey of workers from a variety of fields in both the public and private sectors found that 81% of employees were "very satisfied" or "somewhat satisfied" with their jobs.[50] Two other articles in this supplement explore worker satisfaction in more depth.[51,52]

For some time, those with an interest in monitoring the public health workforce have warned that many workers will be leaving their jobs. The proportion of workers eligible for retirement has been alarmingly high for years. Possibly because of the recession of 2007-2009, however, many who were eligible did not retire, and some who retired were subsequently rehired. But those who delayed retirement during the recession are several years older now and more likely to retire. This is the first study of the governmental public health workforce to use nationally representative data on intentions to retire, augmenting retirement eligibility data. When combined with the 13% of workers intending to leave governmental public health in the next year for reasons other than retirement, the 25% leaving to retire before 2020 contribute to a bleak forecast: at least 38% of current workers may have left public health by 2020. SHAs will be under pressure to hire new employees, train them, and retain them. Much of the institutional memory, managerial experience, and leadership experience represented by the more senior segment of the workforce will soon be gone. Despite high overall job satisfaction, leaders of SHAs need to identify subgroups with higher rates of intention to leave, determine what aspects of the job or organization are driving lower satisfaction in those subgroups, and target interventions toward improving those specific aspects. This targeted approach could help prevent some of the turnover workers are contemplating, even in the context of fairly high overall job satisfaction.

While most SHA employees have some access to training (92% are allowed to use working hours for training, 80% have on-site training available, and 77% report that the agency pays travel or registration fees for training), there is more that can be done, even without

substantial new funding for workforce development. Only 45% of workers report that their training needs are assessed, and only 59% report that the agency provides recognition of achievement. Another opportunity for improvement is in providing the training workers need to use technology and information systems needed to perform their jobs; only half of workers report having adequate training to use their technology.

SHA workers clearly communicated that they need to increase their skills, especially in the areas of policy analysis and development as well as business and financial management, echoing the National Academy of Medicine's 1998 and 2002 reports.[3,4,35] Systems thinking and working with diverse populations have also been highlighted as a potential need by other studies in recent years.[53] Likewise, workers seem eager to learn what they need to know to find "evidence on public health efforts that work" and apply "evidence-based approaches to solve public health issues." This study also found receptivity to the idea of training on "collaborating with diverse communities to identify and solve health problems" and "addressing the needs of diverse populations in a culturally sensitive way." All of these findings reinforce previous calls for crosscutting training that transcends the traditional, categorically funded silos of public health practice.[37,54]

Interestingly, workers rated the items related to persuasive communications as very important, but something they felt they already performed fairly well. Kaufman et al[54] found that public health leaders from across the entire breadth of public health practice believe that public health workers do not have well-developed skills in communicating persuasively. This may be an example of an individual worker's assessment of his or her own skills differing from that of a colleague or supervisor.

In addition to showing an interest in training in policy development, management, systems thinking, and other topics, the workforce also indicated receptivity to stronger emphasis on quality improvement, leveraging health information, and public health/health care integration. The fact that awareness of these trends was high, combined with a pervasive belief that these trends are important, means that the workforce is mentally ready to do what is needed to advance these initiatives. Public health leaders can seize this opportunity to ensure that the workforce knows what to do continuously improve quality, make the most of electronic health information, and collaborate effectively with the health care sector. On the contrary, only 52% had heard of Health in All Policies. Particularly given the strong interest in policy, public health leaders should make sure the whole public health workforce hears about the use of a Health in All Policies approach to improving both health and health equity.

Limitations

The generalizability of these findings is limited by the fact that 13 of the 50 states did not agree to participate. We used a large sample, a regional approach, and statistical weights to minimize the impact of nonparticipating states (and individuals), but this remains a limitation. We also acknowledge that many workers were concerned about the confidentiality of their responses and recognize that some may have tempered their responses (particularly in the workplace environment questions) for fear that their employers would read the concerns they expressed. Others with low levels of job or organizational satisfaction may have declined to participate because of confidentiality concerns or lack of interest. We limited this potential bias by keeping the survey anonymous and assuring all respondents that raw data would not be shared with their employers. An important consideration is that these data are a cross section of SHA central office employees during fall 2014. The results should not necessarily be generalized to local or regional health department staff. See articles by Shah and Madamala[55] and Ye et al[56] in this supplement for analyses of data from staff working in local and regional health departments. Finally, we used workers' self-assessments to measure their training needs, which likely yield different information from what an objective test of their skills or observation of their performance might yield. The workers' self-assessments, however, provide important insight into the workers' receptivity to training.

Conclusions

PH WINS fills a critical gap in the literature by asking public health workers for their own perspectives on national initiatives. Public health leaders at the national level have been working tirelessly to ensure that quality improvement becomes infused in the culture of health departments or that public health departments can harness the power of electronic health data in a meaningful way, but no one else has asked the nation's public health workers what they think of these important developments. Public health leaders have been building a vision of a transformed health system but have not asked frontline workers how such transformation will impact them. PH WINS gives public health leaders a unique opportunity to better understand the workforce they rely on to follow their lead.

These findings support a number of concrete recommendations. First, governmental public health must make a high priority of succession planning. Preserving institutional knowledge, preparing mid-level managers to lead, and retaining high-performing individuals must be key objectives of the workforce

and succession planning. SHAs also need to devise a strategy to recruit young and mid-career professionals into the field, with a particular emphasis on Hispanic/Latino staff given their underrepresentation in the workforce and the needs of the population they serve. The demographic composition of the workforce will need to be continually monitored as the demographics of the population evolve in order to ensure that the workforce is well suited to serve the diverse population of the United States.

Second, the results recommend investments in training for the existing public health workforce in policy analysis and development, business and financial management, systems thinking and social determinants of health, evidence-based public health practice, and collaborating with and engaging diverse communities. These topics are covered in the Core Competencies, which should be used to develop the curricula and evaluate the training.

Third, the workforce has heard about quality improvement, harnessing the influx of electronic health information from electronic health records and elsewhere, and integrating public health with health care, and believe these are important initiatives. Almost half of the workforce has yet to hear about using a Health in All Policies[57,58] approach to improving health and health equity. More education and training on this topic will be important.

The PH WINS data set contains a large amount of rich data on understudied topics in public health services and systems research. With repeated rounds of the survey in the future, particularly with more robust local health department participation, these data could serve to answer many of the previously unaddressed questions in public health workforce research.

REFERENCES

1. University of Kentucky Center for Public Health Systems and Services Research. Public Health Systems and Services Research Workforce report: recent and future trends in public health workforce research, 2009. http://www.nlm.nih.gov/nichsr/phssr/phssr_workforce.html. Published 2010. Accessed June 16, 2015.
2. Woltring CS, Novick LF. Public health workforce: infrastructure's keystone. *J Public Health Manag Pract*. 2003;9(6):438-439. http://www.ncbi.nlm.nih.gov/pubmed/14606180. Accessed June 16, 2015.
3. Walker B. The Future of Public Health: the Institute of Medicine's 1988 report. *J Public Health Policy*. 1989;10(1):19-31. http://www.ncbi.nlm.nih.gov/pubmed/2715336. Accessed February 18, 2015.
4. Institute of Medicine (US) Committee on Assuring the Health of the Public in the 21st Century. The future of the public's health in the 21st century. http://www.ncbi.nlm.nih.gov/books/NBK221239. Published 2002. Accessed March 6, 2015.
5. Gebbie K, Merrill J. The Public Health Work Force Enumeration 2000. http://bhpr.hrsa.gov/healthworkforce/supplydemand/publichealth/publichealthenumeration2000.pdf. Published 2000. Accessed March 25, 2015.
6. Lichtveld MY, Cioffi JP, Baker EL, et al. Partnership for frontline success: a call for a national action agenda on workforce development. *J Public Health Manag Pract*. 2001;7(4):1-7. http://www.ncbi.nlm.nih.gov/pubmed/11434035. Accessed February 16, 2015.
7. Gebbie K, Merrill J, Tilson HH. The public health workforce. *Health Aff (Millwood)*. 2002;21(6):57-67. http://www.ncbi.nlm.nih.gov/pubmed/12442840. Accessed February 16, 2015.
8. Lichtveld MY, Cioffi JP. Public health workforce development: progress, challenges, and opportunities. *J Public Health Manag Pract*. 2003;9(6):443-450. http://www.ncbi.nlm.nih.gov/pubmed/14606182. Accessed February 16, 2015.
9. Tilson H, Gebbie KM. The public health workforce. *Annu Rev Public Health*. 2004;25:341-356. http://www.ncbi.nlm.nih.gov/pubmed/15015924. Accessed February 16, 2015.
10. Tilson HH. Turning the focus to workforce surveillance: a workforce data set we can count on. *Am J Prev Med*. 2014;47(5)(suppl 3):S278-S279.
11. Rashman L, Withers E, Hartley J. Organizational learning and knowledge in public service organizations: a systematic review of the literature. *Int J Manag Rev*. 2009;11(4):463-494. http://doi.wiley.com/10.1111/j.1468-2370.2009.00257.x. Accessed October 29, 2014.
12. Boulton ML, Beck AJ, Coronado F, et al. Public health workforce taxonomy. *Am J Prev Med*. 2014;47(5)(suppl 3):S314-S323. http://www.ajpmonline.org/article/S0749379714003821/fulltext. Accessed January 22, 2015.
13. Coronado F, Polite M, Glynn MK, Massoudi MS, Sohani MM, Koo D. Characterization of the federal workforce at the Centers for Disease Control and Prevention. *J Public Health Manag Pract*. 2014;20(4):432-441. http://www.ncbi.nlm.nih.gov/pubmed/23963253. Accessed June 16, 2015.
14. Hilliard TM, Boulton ML. Public health workforce research in review: a 25-year retrospective. *Am J Prev Med*. 2012;42(5)(suppl 1):S17-S28. http://www.sciencedirect.com/science/article/pii/S074937971200092X. Accessed February 6, 2015.
15. Jacobs RL, Hawley JD. In: Maclean R, Wilson D, eds. *The Emergence of "Workforce Development": Definition, Conceptual Boundaries and Implications*. Dordrecht, the Netherlands: Springer Netherlands; 2009: chap VIII.16, pp1383-1393. http://www.springerlink.com/index/10.1007/978-1-4020-5281-1. Accessed May 1, 2015.
16. Dawe S, Nguyen N. *Education and Training That Meets the Needs of Small Business: A Systematic Review of Research*. Stational Arcade, Adelaide, South Australia: National Centre for Vocational Education Research. http://www.ncver.edu.au/publications/index.html. http://eric.ed.gov/?id=ED499699. Published 2007. Accessed May 15, 2015.
17. Beck AJ, Boulton ML, Lemmings J, Clayton JL. Challenges to recruitment and retention of the state health department epidemiology workforce. *Am J Prev Med*. 2012;42(1):76-80. http://www.sciencedirect.com/science/article/pii/S0749379711007343. Accessed February 6, 2015.

18. US Department of Health and Human Services. Public Health Infrastructure. Heal Web site. http://www.healthypeople.gov/2020/topics-objectives/topic/public-health-infrastructure. Accessed June 16, 2015.
19. Naquin SS, Holton EF. Redefining state government leadership and management development: a process for competency-based development. *Public Pers Manage*. 2003;32(1):23-46. http://ppm.sagepub.com/content/32/1/23.abstract. Accessed May 15, 2015.
20. Fryer KJ, Antony J, Douglas A. Critical success factors of continuous improvement in the public sector. *TQM Mag*. 2007;19(5):497-517. http://www.emeraldinsight.com/doi/abs/10.1108/09544780710817900. Accessed March 30, 2015.
21. Latham GP. Human resource training and development. *Annu Rev Psychol*. 1988;39(1):545-582. http://www.annualreviews.org/doi/pdf/10.1146/annurev.ps.39.020188.002553. Accessed May 15, 2015.
22. Salas E, Cannon-Bowers JA. The science of training: a decade of progress. *Annu Rev Psychol*. 2001;52(1):471-499. http://www.ncbi.nlm.nih.gov/pubmed/11148314. Accessed March 12, 2015.
23. Locke EA, Latham GP. *A Theory of Goal Setting & Task Performance*. Ann Arbor, MI: Prentice Hall Inc; 1990.
24. Tannenbaum SI, Yukl G. Training and development in work organizations. *Annu Rev Psychol*. 1992;43(1):399-441. http://www.annualreviews.org/doi/abs/10.1146%2Fannurev.ps.43.020192.002151. Accessed May 15, 2015.
25. Hunt JG. *Leadership: A New Synthesis*. Thousand Oaks, CA: Sage Publications Inc; 1991. http://www.sagepub.com/books/Book3149. Accessed March 25, 2015.
26. Gray KC, Herr EL. *Workforce Education: The Basics*. Atlanta, GA: Pearson; 1998. http://www.pearsonhighered.com/educator/product/Workforce-Education-The-Basics/9780205198344.page. Accessed March 25, 2015.
27. Heywood L, Gonczi A, Hager P. *A Guide to Development of Competency Standards for Professions*. Canberra, Australia: Australian Government Publishing Service; 1992. http://www.voced.edu.au/content/ngv33638. Accessed May 15, 2015.
28. Askov EN, Gordon EE. The brave new world of workforce education. *New Dir Adult Contin Educ*. 1999;1999(83):59-68. http://doi.wiley.com/10.1002/ace.8305. Accessed May 15, 2015.
29. Brownson RC, Fielding JE, Maylahn CM. Evidence-based public health: a fundamental concept for public health practice. *Annu Rev Public Health*. 2009;30:175-201. http://www.annualreviews.org/doi/abs/10.1146/annurev.publhealth.031308.100134?journalCode=publhealth. Accessed May 15, 2015.
30. Jackson SE, Schuler RS. Understanding human resource management in the context of organizations and their environments. *Annu Rev Psychol*. 1995;46:237-264. http://www.annualreviews.org/doi/abs/10.1146/annurev.ps.46.020195.001321. Accessed May 15, 2015.
31. Arthur W, Bennett W, Edens PS, Bell ST. Effectiveness of training in organizations: a meta-analysis of design and evaluation features. *J Appl Psychol*. 2003;88(2):234-245. http://www.ncbi.nlm.nih.gov/pubmed/12731707. Accessed May 15, 2015.
32. Sitzmann T, Kraiger K, Stewart D, Wisher R. The comparative effectiveness of Web-based and classroom instruction: a meta-analysis. *Pers Psychol*. 2006;59(3):623-664. http://doi.wiley.com/10.1111/j.1744-6570.2006.00049.x. Accessed May 15, 2015.
33. Wheelan SA. *Group Processes: A Developmental Perspective*. Columbus, OH: Allyn & Bacon; 1994.
34. Honoré PA. Aligning public health workforce competencies with population health improvement goals. *Am J Prev Med*. 2014;47(5)(suppl 3):S344-S345. http://www.ncbi.nlm.nih.gov/pubmed/25439255. Accessed February 4, 2015.
35. *Who Will Keep the Public Healthy? Educating Public Health Professionals for the 21st Century*. Washington, DC: National Academies Press; 2003. https://books.google.com/books?hl=en&lr=&id=KBadAgAAQBAJ&pgis=1. Accessed February 26, 2015.
36. Council on Linkages Between Academia and Public Health Practice. Core Competencies for Public Health Professionals. phf.org/corecompetencies. Published 2014. Accessed March 25, 2015.
37. Allegrante JP, Moon RW, Auld ME, Gebbie KM. Continuing-education needs of the currently employed public health education workforce. *Am J Public Health*. 2001;91(8):1230-1234. http://ajph.aphapublications.org/doi/abs/10.2105/AJPH.91.8.1230. Accessed February 16, 2015.
38. Calhoun JG, Ramiah K, Weist EM, Shortell SM. Development of a core competency model for the master of public health degree. *Am J Public Health*. 2008;98(9):1598-1607. http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=2509588&tool=pmcentrez&rendertype=abstract. Accessed June 16, 2015.
39. Gebbie K, Merrill J. Public health worker competencies for emergency response. *J Public Health Manag Pract*. 2002;8(3):73-81. http://www.ncbi.nlm.nih.gov/pubmed/15156628. Accessed June 16, 2015.
40. Gebbie KM, Qureshi K. Emergency and disaster preparedness: core competencies for nurses. *Am J Nurs*. 2002;102(1):46-51. http://www.ncbi.nlm.nih.gov/pubmed/11839908. Accessed June 16, 2015.
41. Barry MM, Allegrante JP, Lamarre M-C, Auld ME, Taub A. The Galway Consensus Conference: international collaboration on the development of core competencies for health promotion and health education. *Glob Health Promot*. 2009;16(2):5-11. http://www.ncbi.nlm.nih.gov/pubmed/19477858. Accessed June 16, 2015.
42. Markenson D, DiMaggio C, Redlener I. Preparing health professions students for terrorism, disaster, and public health emergencies: core competencies. *Acad Med*. 2005;80(6):517-526. http://www.ncbi.nlm.nih.gov/pubmed/15917353. Accessed June 16, 2015.
43. Campbell SL, Fowles ER, Weber BJ. Organizational structure and job satisfaction in public health nursing. *Public Health Nurs*. 2004;21(6):564-571. http://www.ncbi.nlm.nih.gov/pubmed/15566562. Accessed March 1, 2015.
44. Leider J, Bharthapudi K, Pineau V, Liu L, Harper E. The methods behind PH WINS. *J Public Health Manag Pract*. 2015;21(6 Supp):S28-S35.
45. Popper M, Lipshitz R. Organizational learning mechanisms: a structural and cultural approach to organizational learning. *J Appl Behav Sci*. 1998;34(2):161-179.

46. US Census Bureau. March 2014 Current Population Survey: annual social and economic supplement. http://www.census.gov/cps/about/supplemental.html. Published 2014. Accessed March 25, 2015.
47. Association of State and Territorial Health Officials. *ASTHO Profile of State Public Health*. Vol Three3. Arlington, VA: Association of State and Territorial Health Officials; 2014. www.astho.org/profile. Accessed March 25, 2015.
48. US Department of Health and Human Services. Results of the 2014 Annual Employee Survey. http://www.hhs.gov/asa/ohr/fhcs/hhs2014evs.html. Published 2014. Accessed June 16, 2015.
49. US Office of Personnel Management. 2014 Federal Employee Viewpoint Survey: employees influencing change. http://www.fedview.opm.gov/2014/Reports. Published 2014. Accessed June 16, 2015.
50. Society for Human Resource Management. *Employee Job Satisfaction and Engagement: The Road to Economic Recovery*. Alexandria, VA: Society for Human Resource Management; 2014. http://www.shrm.org/research/surveyfindings/articles/pages/employee-job-satisfaction-and-engagement-the-road-to-economic-recovery.aspx. Accessed January 30, 2015.
51. Harper E, Castrucci B, Bharthapudi K. Understanding the correlates of employee job satisfaction in public health. *J Public Health Manag Pract*. 2015;21(6 Supp):S46–S55.
52. Liss-Levinson R, Bharthapudi K, Sellers K, Leider J. Loving and leaving public health: predictors of intentions to quit among state health agency workers. *J Public Health Manag Pract*. 2015;21(6 Supp):S91-S101.
53. Place JL, Edgar M, Sever M. Assessing the needs for public health workforce development. Paper presented at: PHTC Annual Meeting; 2012; Washington, DC.
54. Kaufman NJ, Castrucci BC, Pearsol J, et al. Thinking beyond the silos: emerging priorities in workforce development for state and local government public health agencies. *J Public Health Manag Pract*. 2014;20(6):557-565. http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=4207571&tool=pmcentrez&rendertype=abstract. Accessed January 23, 2015.
55. Shah G, Madamala K. Knowing where public health is going: levels and determinants of workforce awareness of national public health trends. *J Public Health Manag Pract*. 2015;21(6 Supp):S1102-S110.
56. Ye J, Leep C, Robin N, Newman S. Perception of workforce skills needed among public health professionals in local health departments: staff vs. top executives. *J Public Health Manag Pract.* 2015;21(6 Supp):S151–S158.
57. Wernham A, Teutsch SM. Health in All Policies for big cities. *J Public Health Manag Pract*. 2015;21(suppl 1):S56-S65. http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=4243805&tool=pmcentrez&rendertype=abstract. Accessed June 16, 2015.
58. World Health Organization. Adelaide Recommendations on Healthy Public Policy. http://www.who.int/healthpromotion/conferences/previous/adelaide/en/index1.html. Published 1988. Accessed May 14, 2015.

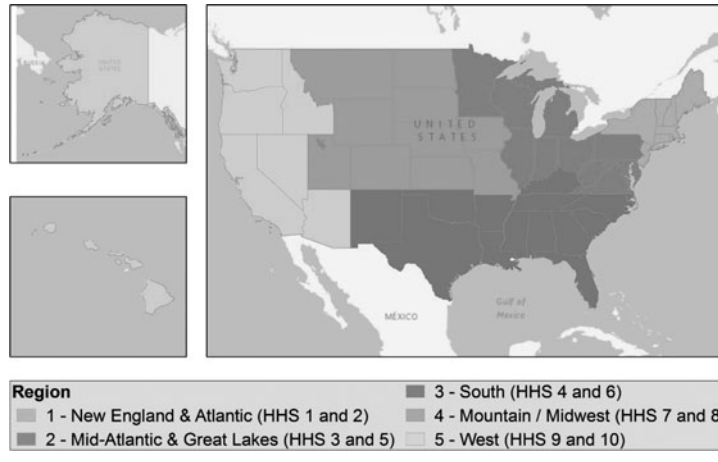
APPENDIX: Job Classification Categories

These items were collapsed from a list of job classifications respondents were asked to select as best representing their position. This includes Administration & Business Support—Accountant/Fiscal, Clerical Personnel (Administrative Assistant, Secretary), Custodian, Grant and Contracts Specialist, Health Officer, Human Resources Personnel, Information Technology Specialist, Other Facilities/Operations worker, Public Health Agency Director, Public Information Specialist; Clinical and Lab & Behavioral Health Professional, Community Health Worker, Home Health Worker, Laboratory Aide/Assistant, Laboratory Developmental Scientist, Laboratory Scientist (Manager, Supervisor), Laboratory Scientist/Medical Technologist, Laboratory Technician, Licensed Practical/Vocational Nurse, Medical Examiner, Nutritionist, Other Oral Health Professional, Other Physician, Other Registered Nurse—Clinical Services, Other Veterinarian, Physician Assistant, Public Health Dentist, Public Health/Preventative Medicine Physician, Registered Nurse—Community Health Nurse, Registered Nurse—Unspecified; Public Health Science & Animal Control Worker, Behavioral Health Professional, Department/Bureau Director, Deputy Director, Engineer, Environmentalist, Epidemiologist, Health Educator, Other Management and Leadership, Other Professional and Scientific, Program Director, Public Health Manager/Program Manager, Public Health Veterinarian, Public Health Informatics Specialist, Sanitarian/Inspector, Technician, Statistician, Student—Professional and Scientific; Social Services and All Other & Social Services Counselor, Social Worker, Other.

APPENDIX FIGURE 1 ● State Health Agency Participation in PH WINS

This map indicates the participation status of 50 state health agencies (SHAs) in the 2014 Public Health Workforce Interests and Needs Survey. Staff from 37 states constituted the national sample. In addition, 3 SHAs increased their sample size to attain agency-level estimates, and 24 had all their employees surveyed. Twelve states declined participation in PH WINS. Alaska and Hawaii are not pictured to scale.

APPENDIX FIGURE 2 ● Paired HHS Regions in the Public Health Workforce Interests and Needs Survey 2014



APPENDIX TABLE 1[a]

Program Area (PH WINS Instrument)	Designated FA or FC From Foundational Public Health Services Model
Communicable Disease—HIV	FA—Communicable Disease
Communicable Disease—STD	FA—Communicable Disease
Communicable Disease—TB	FA—Communicable Disease
Other Communicable Disease	FA—Communicable Disease
Noncommunicable Disease	FA—Chronic Disease and Injury
Injury	FA—Chronic Disease and Injury
Environmental Health	FA—Environmental Health
Maternal and Child Health	FA—Maternal and Child Health
Maternal and Child Health—WIC	FA—Maternal and Child Health
Clinical Services (excluding TB, STD, family planning)	Other Health Care
Clinical Services—Immunizations	Other Health Care
Oral Health/Clinical Dental Services	Other Health Care
Administration/Administrative Support	FC—Organizational Competencies
Mental Health	Other Health Care
Substance Abuse, including tobacco control programs	Other Health Care
Public Health Genetics	FC—Assessment
Vital Records	FC—Assessment
Medical Examiner	FC—Assessment
Animal Control	FA—Environmental Health
Emergency Preparedness	FC—All Hazards
Epidemiology Surveillance	FC—Assessment
Program Evaluation	FC—Organizational Competencies
Health Education	FC—Communications
Health Promotion/Wellness	FA—Chronic Disease and Injury
Community Health Assessment/Planning	FC—Assessment
Training/Workforce Development	FC—Organizational Competencies
Global Health	Other
Other Program Area (specify)	Other
I work equally in multiple programs	Other

Abbreviations: FA, Foundational Area; FC, Foundational Capability; PH WINS, Public Health Workforce Interests and Needs Survey; STD, sexually transmitted disease; TB, tuberculosis; WIC, Special Supplemental Nutrition for Women, Infants, and Children.
[a]This table represents a crosswalk between the PH WINS instrument's question on job classification and the appropriate area or capability from the Foundational Public Health Services model.

APPENDIX TABLE 2[a]

Question: What is your supervisory status? Please note, supervisory levels are defined as follows:

Nonsupervisor: You do not supervise other employees.

Team leader: You provide employees with day-to-day guidance in work projects but do not have official supervisory responsibility or conduct performance appraisals.

Supervisor: You are responsible for employees' performance appraisals and approval of their leave but you do not supervise other supervisors.

Manager: You are in a management position and supervise 1 or more supervisors.*Executive*: Member of Senior Executive Service or equivalent.

[a]The text from this table was used in the PH WINS instrument to allow respondents to classify themselves into a type of supervisory status.

OPEN

The Methods Behind PH WINS

Jonathon P. Leider, PhD; Kiran Bharthapudi, PhD; Vicki Pineau, MS; Lin Liu, MS; Elizabeth Harper, DrPH

The Public Health Workforce Interests and Needs Survey (PH WINS) has yielded the first-ever nationally representative sample of state health agency central office employees. The survey represents a step forward in rigorous, systematic data collection to inform the public health workforce development agenda in the United States. PH WINS is a Web-based survey and was developed with guidance from a panel of public health workforce experts including practitioners and researchers. It draws heavily from existing and validated items and focuses on 4 main areas: workforce perceptions about training needs, workplace environment and job satisfaction, perceptions about national trends, and demographics. This article outlines the conceptualization, development, and implementation of PH WINS, as well as considerations and limitations. It also describes the creation of 2 new data sets that will be available in public use for public health officials and researchers—a nationally representative data set for permanently employed state health agency central office employees comprising over 10 000 responses, and a pilot data set with approximately 12 000 local and regional health department staff responses.

KEY WORDS: public health systems, public health workforce, Public Health Workforce Interests and Needs Survey (PH WINS), state health agencies, workforce development

Identifying a Need

Workforce development has been a major focus of governmental public health for the better part of a quarter century, and especially since the landmark 1988 Institute of Medicine report (now the National Academy of Medicine, [NAM]).[1-9] The early 1990s saw significant progress in workforce development, hand in hand with the formalization of the Ten Essential Services.[8,10,11] Because of the siloed nature of public health funding and thus the organization of public health itself at federal, state, and local levels, experts in the field identified 2 major challenges central to workforce development during those years.

First, the governmental public health enterprise needed to establish how many people worked in the field. No comprehensive data had been collected to address this, limiting the ability to characterize the field, monitor trends, or conduct research.[7,12-16] Divided responsibilities under the US' Federalist system allowed states to develop state and local public health systems that sometimes looked incredibly different one state to the next, leading to the adage, "If you've seen one health department, you've seen one health department."[17,18] However, larger and more complex systems such as health care delivery and education managed to measure the size of the workforce and so too could public health. Thus began enumeration efforts that have continued to this day.

A second challenge caused by the disciplinary and funding silos was an inability to identify systems-level workforce development and training needs in public health.[10] Speculation has long existed that a very small proportion of the workforce has any formal

Author Affiliations: de Beaumont Foundation, Bethesda, Maryland (Dr Leider); Association of State and Territorial Health Officials, Arlington, Virginia (Drs Bharthapudi and Harper); and NORC at the University of Chicago, Bethesda, Maryland (Mss Pineau and Liu).

PH WINS was funded by the de Beaumont Foundation. The de Beaumont Foundation and the Association of State and Territorial Health Officials acknowledge Brenda Joly, Carolyn Leep, Michael Meit, the Public Health Workforce Interests and Needs Survey (PH WINS) technical expert panel, and state and local health department staff for their contributions to the PH WINS.

The authors declare no conflicts of interest.

Supplemental digital content is available for this article. Direct URL citation appears in the printed text and is provided in the HTML and PDF versions of this article on the journal's Web site (http://www.JPHMP.com).

Correspondence: Jonathon P. Leider, PhD, de Beaumont Foundation, 7501 Wisconsin Ave, Ste 1310E, Bethesda, MD 20814 (leider@gmail.com).

DOI: 10.1097/PHH.0000000000000285

training in public health; this has made on-the-job training critical to the field.[1] Major efforts have been undertaken to create a set of core competencies for public health professionals generally, as well as specifically by discipline and seniority.[19,20] While this set of core competencies has been critical in workforce development, 2 challenges have persisted: (1) these competencies are more widely accepted in academia than in public health practice; and (2) the competencies represent a universe of training needs, without explicit prioritization. Establishing priorities among many training needs was a key reason behind the creation of the Public Health Workforce Interests and Needs Survey (PH WINS).

Similar to the excellent and critical training needs assessments conducted by the Public Health Training Centers in recent years, PH WINS was created to help better understand the perceptions and needs of the public health workforce. However, unlike the Public Health Training Centers' previous surveys that focused on varying types of public health practitioners within a specific jurisdiction, PH WINS was meant to attain a nationally representative sample of permanently employed (i.e., not temporary staff or interns), central office employees at state health agencies (SHAs) and to take initial steps toward obtaining responses from local public health department employees.

Beyond training needs and enumeration, little was known about the motivations of the public health workforce, as well as perceptions of workplace environment and job satisfaction.[1] This gap was addressed somewhat in the course of workplace surveys, which a small number of state and local health departments (LHDs) conducted among varying staff populations at varying time points.[8,9] Systematic collection and analysis of these sorts of data from multiple health departments were tremendously difficult and occurred infrequently.[8] This was another key motivation for the creation of PH WINS.

Survey Development

The idea for PH WINS grew out of a summit held by the Association of State and Territorial Health Officials and the de Beaumont Foundation in 2013. This summit convened leaders of public health membership organizations, discipline-specific affiliate groups, federal partners, and other public health workforce experts to identify crosscutting training needs for governmental public health. Many training needs had been identified in recent years, but leaders in public health had yet to identify which needs were most immediate.[10] The 31 organizations represented at the summit prioritized systems thinking, communicating persuasively, change management, information and analytics, problem solving, and working with diverse populations as the major crosscutting training needs. However, there was significant interest as to whether the public health workforce agreed with these leaders about the greatest training needs in the field.

After the summit, a technical expert panel was convened to develop the Web-based survey. The panel comprised 30 public health scientists, researchers, academics, and policy makers. The panel established the goal of PH WINS to "collect perspectives from the field on workforce issues, to validate responses from leaders on workforce development priorities, and to collect data to monitor over time." This yielded three concrete aims:

a. To inform future workforce development initiatives.
b. To establish a baseline of key workforce development metrics.
c. To explore workforce attitudes, morale, and climate.

Sample Frames

PH WINS includes multiple, distinct sample frames. Major considerations included the size of the jurisdiction served, the geographic location of the respondents' jurisdictions, and the governance classification of the state in which the jurisdictions were located. Governance classification refers to the relationship between the SHA and LHDs (ie, centralized, decentralized, shared, and mixed as outlined by Meit et al[21]).

The first frame is a nationally representative sample of permanent, central office employees in SHAs. The second frame consists of employees of members of the Big Cities Health Coalition (BCHC), a membership group of the largest LHDs in the country. The third is a pilot frame of LHD employees; it was decided that it would be too difficult to get a nationally representative sample of LHD employees in the first fielding of PH WINS.

The "state" frame involved stratified sampling of staff working at the central office of SHAs. Stratification occurred over 5 regions (paired, contiguous US Department of Health and Human Services regions), and a potential respondent was selected at random with probability proportional to the SHA's total staff as a percentage of the total number of staff from all participating SHAs in the region. Practically, this meant each SHA had a number of needed responses. Staff directories were used to constitute the sample, and e-mail addresses were used to e-mail selected staff directly. A number of states elected to increase their sample size (in line with other large national surveys that provide for sample augmentation, such as the National Adult Tobacco Survey).[22] Twenty-four of 37 participating states elected to field the survey to their entire staff. A significant complication was that a number of states were unable to parse contact information from staff

who worked in the central office from those working in local or regional health departments. As such, a sample-without-replacement approach was used to ensure we received enough completed surveys from individuals who identified themselves as central office employees to constitute a nationally representative sample. This was planned and accounted for in the complex sampling design; weighting approaches are discussed in more detail later. State health agency employees who indicated they worked at local or regional departments were moved to the local pilot data set, discussed later.

Pilots for LHD Employees

The BCHC and "local" frames may be thought of as pilots—different fielding methods were used to ascertain best practices for a potential, future iteration of PH WINS and related studies; although the data have importance for the localities in which they were collected, it is not intended to constitute a nationally representative sample. Respondents from 14 BCHC LHDs and more than 50 other LHDs participated. In most cases, a staff directory-based approach was used, where staff were contacted directly and asked to participate in PH WINS. In a few cases, the local health official distributed a survey link to their entire staff by e-mail.

The local pilot used several different (state-based) approaches to gather information for the next iteration of PH WINS.

- The majority of respondents in the local pilot data set come from states where the SHA was unable to distinguish between central office and local/regional employees. Staff from more than 400 LHDs participated in this way. In "centralized" states, this implies equal probability of selection among all LHD employees. In other states, this may not be the case—while these staff are SHA employees, they may work in local or regional health departments with staff *not* employed by the SHA. As such, only a subset of states can create state-based estimates for LHD employees. National estimates *cannot* be constructed from the LHD respondent data set.
- Respondents from 4 states were sampled differently, all using a variant of clustering-based sampling.
  - In 2 states (1 centralized and 1 shared), we drew a stratified random sample of LHDs, based on the size of jurisdiction served and type of jurisdiction (city, city-county, county, and multicounty).
    - e-mails were sent to all staff members of selected LHDs directly.
  - In 2 states (both decentralized), we enlisted local health officials to e-mail survey links to their entire staff members (32 LHDs in total across both states). Weights for all approaches were calculated appropriately, and are discussed in detail later.

Development of the Survey Instrument

The survey was guided by 2 primary principles. First, brevity to minimize burden on practitioners/respondents. With a target length of 15 minutes, 4 major domains are addressed in PH WINS—training needs, workplace environment/job satisfaction, perceptions of national trends, and demographics. The full instrument is available in the Appendix (see Supplemental Digital Content, available at: http://links.lww.com/JPHMP/A163). The first domain assessed training needs broadly, including, specifically, organizational support for continuing education and training, perceptions of importance of and ability related to training needs. The second related to workplace environment, relationship with peers and supervisors, and satisfaction with one's job, pay, organization, and job security. The third domain related to perceptions around national trends, including whether staff had heard about a number of major national issues in public health—for example, implementation of the Patient Protection and Affordable Care Act (ACA). Questions in this section also related to how important the trend was to public health, to the staff's day-to-day work, and whether more emphasis should be placed on the issue going forward. The final section related to demographics and allowed for enumeration of staff by race/ethnicity, educational attainment, supervisory status, and a number of other measures.

A second guiding principle drove the creation of the PH WINS instrument, relating to maximizing data quality of the instrument through utilization of previously used items and questions wherever possible. As such, workforce-related questions were gathered from the peer-reviewed literature, workforce development surveys, and validated scales. The final version of PH WINS draws heavily from the Centers for Disease Control and Prevention Technical Assistance and Service Improvement Initiative: Project Officer Survey; the 2009 Epidemiology Capacity Assessment; the Federal Employee Viewpoint Survey; the Public Health Foundation Worker Survey; the Bowling Green State University Job in General Scale; and the University of Michigan Public Health Workforce Schema.[23-28] Cognitive interviews were conducted, and the instrument was pretested among 3 groups of state and local public health practitioners. After each round of pretesting, the survey was streamlined and a small number of items were modified for accessibility and clarity. The pretests and the final version of the instrument

were created in Qualtrics (Qualtrics, LLC, Salt Lake, Utah).

Institutional Review Board Approval and Outreach

PH WINS began development in spring 2013 and was fielded approximately a year and a half later in fall 2014. The survey received a judgment of "exempt" from the Chesapeake institutional review board (Pro00009674) due to its focus on professional experiences and perceptions, and low risk to participants. PH WINS was fielded such that contact information was retained only to aid in nonrespondent follow-up. That is, no identifiers are included in the final PH WINS data sets and were only used during fielding to see whether a potential respondent had completed the survey. Only the project team had access to identifiers used in fielding follow-up, and participating agencies received only summary statistics and cross-tabulations; individual records were not shared.

Several months prior to the launch of the survey, one "workforce champion" was identified in each state health department. The workforce champion was the human resources director, workforce development director, or another member of SHA staff with interest, expertise, or responsibility for workforce-related issues. The workforce champion was nominated by the SHA to serve as the point of contact for the PH WINS project, assisting in providing the staffing lists used to generate the final sample and also partnering in the agency-wide promotion and administration of the survey. However, to protect participant confidentiality and the integrity of the project, respondent information was not shared with the workforce champions (eg, e-mail addresses) about who was invited to participate, who participated, who did not participate, or who declined to participate in the survey.

Survey Fielding

The PH WINS Web-based survey was fielded in September-December 2014.

State frame

Workforce champions helped promote the survey in their respective SHAs prior to the launch. Using centrally developed material, workforce champions posted PH WINS flyers, published blurbs in their internal newsletters, distributed PH WINS FAQs, and sent launch date announcements via agency-wide e-mails. In some cases, SHA deputy directors and deputy commissioners also e-mailed announcements, urging their workforce to participate. These prelaunch exercises helped heighten the attention about the survey among potential participants and reduced the possibility of survey e-mails being deleted or left unattended.

In total across all 3 PH WINS frames, approximately 54 000 invitations to participate in a Web-based survey were sent, about 25 000 of which went to central office employees. The primary launch e-mail campaign and subsequent reminder e-mail campaigns were reviewed to assess the percentage of e-mail bounces, initial response rates, unopened rates, partial completes, and refusals. Overall, about 4.1% of the e-mails were undeliverable, in 3.3% of cases, potential respondents opened the survey but did not complete any answers, 1% declined to participate, and in 7.2% of cases, potential respondents answered at least 1 question but did not complete the survey. Analysis of partial completes did not suggest systematic differences in perceptions of workplace environment or training needs; the majority of partial completes did not fill in demographic information, including whether they were permanently employed by their agency and at which level (eg, SHA central office or LHD). These 2 items were needed for weight calculation and so were used as requirements to count the response as completed.

We also monitored sporadic technical difficulties with the survey and provided technical assistance to workforce champions and survey takers by answering their phone calls and e-mails. Participants contacted us with questions about privacy, technical malfunctions, and other reasons. In exceptional cases, we worked directly with an SHA's information technology department to fix any potential gatekeeping issues. We monitored sample characteristics in real-time including state, region, population size, governance, permanent vs temporary/contractual, full-time/part-time status, central/regional office setting. The eligibility and fielding rates from real-time monitoring were used to estimate and select additional sample for states with lower than desired completed cases for central office staff. The selected sample size was also increased to account for undeliverable e-mails, declines, and noncentral office responses in each participating noncensus SHA.

To increase the response rate, we continued outreach and promotions while the survey was in the field. In general, reminder e-mails were sent every other week. We also repeated most of the prelaunch promotion exercises during the survey administration phase—that is, we partnered with workforce champions to campaign for their workforce participation in the survey. Phone calls were also placed to about 5700 staff members in an attempt to boost response rates—about one-third were reached directly, one-third were left a voicemail, and one-third were not in their position anymore, had inaccurate contact information, or were otherwise unreachable.

Local pilot and BCHC frames

The outreach and promotional efforts for BCHC and local pilot frames were similar to outreach for the state frame. However, because it was a pilot, mixed fielding types were tried to ascertain what worked best (Table).

Data Set Preparation and Weighting Approach

Data preparation for PH WINS involved edits, logic checks, creation of composite variables, and cleaning of survey responses to produce final analytic files for the national and local pilot samples and a national public use file. Data cleaning procedures included univariate and descriptive analyses to identify outliers and assess missing data and inconsistencies. When appropriate, new variables were created by collapsing multiple survey items or calculating new variables. Procedures to address issues of missing data were applied such as recoding extreme observations as missing and recoding "missing" as appropriate to account for logic skips. Sample weighting procedures were implemented both to provide sample design base weights reflecting probabilities of selection and to provide the final weights that included adjustments to account for nonresponse. The state frame yielded a nationally representative sample of permanently employed central office employees of SHAs. The local pilot data were

TABLE Overview of PH WINS Fielding and Data Set Creation

Fielding	State	Local Pilot	BCHC
Design	Stratified random sample	Cluster-based design	Mixed design
Participating agencies	37 SHAs	50 LHDs across 4 pilot states	14/20-member LHDs participated
Contact type	Sample generated from SHA directories	LHDs identified/asked to participate and then all staff members would be invited to participate in PH WINS	For 12 cities, the sample generated from staff directories and staff was contacted directly. For 2 cities, leadership sent an e-mail to all staff members inviting them to participate
Notes	Often could not distinguish central office employees from noncentral ones; SHAs had ability to increase the sample beyond minimum requirements if more detailed SHA-based estimates were desired	In 2 states, sampled local staff were directly e-mailed invitations. In 2 states, participating LHDs e-mailed their staff members.	12 members participated as a census; 2 had agency-level estimates
Invites sent	40 091 e-mails sent out to staff directly at 37 SHAs, estimated 25 000 to central office, 15 000 to local	3319 e-mails sent out	10 436 e-mails sent out
Responses	19 171 responded	1380 responded	2670 responded
Considerations	890 worked in other agencies (excluded) 552 were not permanent central office staff (excluded) 7229 worked in LHDs/RHDs as permanent employee (moved to the local pilot data set) 258 worked in LHDs/RHDs not as permanent employee (excluded)	37 did not work in LHDs/RHDs (excluded) 44 were not permanent staff (excluded)	232 were not permanent staff (excluded)
Final data set	10 246 were permanently employed central office employees	2438 were permanently employed by a BCHC LHD; 8541 were permanently employed by other LHDs/RHDs; 10 979 in total	
Representative of	Weights can be applied to all 10 246 respondents to generate regional and nationally representative weights of permanently employed, central office employees	Weights can be applied to a subset of respondents to generate agency- and state-level estimates. Cannot be used to generate national estimates	

Abbreviations: BCHC, Big Cities Health Coalition; LHD, local health department; PH WINS, Public Health Workforce Interests and Needs Survey; RHD, regional health department; SHA, state health agency.

weighted differently. Both approaches are described later.

State frame

For the state frame, to compensate for differential unit nonresponse, the sampling weights of employees with a completed survey were adjusted to account for the estimated number of employees who failed to complete a survey in each state. The nonresponse adjustment for the state frame of PH WINS sample is a nonresponse cell adjustment of the base weights. The nonresponse cell procedure used state control totals for central office/noncentral office staff initially obtained from the 2012 Association of State and Territorial Health Officials Profile Survey, which were validated by participating states. The nonresponse cell procedure applies a proportional adjustment to the current weights of the employees who belong to the same category of the variable (ie, central office staff and noncentral office staff in each state). This approach ensures that the new weights have employee totals that match the desired control totals for central office and noncentral office staff in each state. The nonresponse adjusted weights for the state PH WINS sample constitute the final sampling weights. Finalized regional weights were calculated by poststratifying the state-based weights described earlier to marginal national distributions of paired HHS geographic region (5 levels), governance type (4 levels as previously described), and population size served (3 levels). Regional weights are appropriate for calculating estimates for central office, permanent public health employees for the entire United States. For calculating sampling error for survey outcomes in the state frame, balanced repeated replication (BRR) variance methodology was used.[29] To support BRR variance estimation for the PH WINS data, replicate weight variables required for the BRR variance methodology were produced and are included as variables in the analysis and public use files. Assessment of nonresponse bias was limited since contact information provided for sampling, such as role, supervisory status, or demographic information, did not include other information about employees.

Local pilot and BCHC frames

Local/BCHC base weights were calculated on the basis of the type of sample design (eg, systematic sampling of employees or "probability proportional to size" sampling of LHDs) and reflect the selection probabilities. The nonresponse adjustment for the PH WINS local pilot samples is a simple poststratification cell adjustment of the base weights. The nonresponse cell procedure used state sample frame staff totals as a benchmark. The nonresponse cell procedure applies a ratio adjustment to the current base weights of the employees to inflate the number of respondents (using the base weight) to match the staff totals for each participating state/agency. These nonresponse-adjusted weights for the PH WINS local pilot sample constitute the final sampling weights.

Methodology Strengths and Limitations

PH WINS has a number of strengths—and limitations—tied to its first-of-its-kind status.

A heavily pretested instrument focusing on critical issues in public health

The survey instrument was developed on the basis of the recommendations of a range of experts from practice, academia, training, and national partner organizations. Furthermore, the majority of survey items were drawn from previously used instruments. Cognitive interviews and preliminary pretesting were conducted to help understand how respondents interpret questions and their ability to select a given response option.

The survey was also pretested with 3 groups that worked in a variety of positions in 20 different state and local health departments. Respondents were asked to complete the survey and respond to a series of open-ended questions to help determine its strengths and weaknesses. The results were used by the survey team to refine the directions, item wording, formatting, sequencing, and other issues that may warrant attention.

Representative and generalizable

PH WINS is the first nationally and regionally representative survey of staff working in central offices at SHAs. These data represent all regions, governance structures, and population sizes. With appropriate weighting, findings are generalizable to all permanently employed SHA central office employees in the United States. The participation of more than 10 000 state central office public health workers from diverse demographics, role classifications, program areas, and educational levels enhances generalizability.

Insights into the collection of survey data from local practitioners

A core component of PH WINS was the local pilot. The pilot was significant in size and scope with more than 10 000 responses. It allowed an examination of the efficacy of varying sampling and fielding approaches while providing data useful to participating agencies

and researchers. The pilot shows higher response rates associated with direct e-mail contact with staff versus an approach in which local health officials are asked to distribute a survey link. This suggests that any future fieldings of PH WINS or comparable studies would need to use staff directories to directly contact potential participants or increase sample size requirements.

Independent and comprehensive

PH WINS offers insight into priorities within potential training and professional development needs and quality improvement efforts. It also provides a significant advance in enumerating the governmental public health workforce and its distribution and focuses on topics such as organizational and supervisory support, employee engagement and satisfaction, and impact of the ACA. More importantly, the survey was administered directly to state public health workers at all levels by an outside entity without gatekeeping by the organization's leadership. The identity and individual responses from public workers remain confidential and will not be shared with the employers. This offers greater integrity and independence to the survey findings. It also offers pilot data on respondents from LHDs—large and small—that may offer insight to that component of the workforce.

Methodology limits

Despite participation from all geographic regions, governance types, and population sizes, the participation of the remaining 13 states in the state frame would have further strengthened PH WINS' generalizability. The state sample frame was developed on the basis of staff directories from SHAs. While largely unproblematic, some directories did not contain the most up-to-date records of the employees, did not always provide valid e-mail addresses, and did not always filter central office and noncentral office employees (the latter of which was accounted for in our complex sampling design). While these issues posed challenges to the methodology, these weaknesses were addressed by cleaning and standardizing the data sets and via sampling adjustments as mentioned earlier. By design, responses from staff working at local or regional health departments are not nationally generalizable.

Future Direction and Use of PH WINS in Workforce Development

Workforce development is a critical area of public health. Yet, there is very little prior research that comprehensively brings the interests, needs, and challenges of public health workers into focus. Because PH WINS was designed with both practitioner and researcher use in mind (while protecting respondent confidentiality), it serves as a vast reservoir and a baseline to develop and expand research in areas related to core competencies, workplace environment, and workforce preparedness to confront major initiatives such as accreditation and the implementation of the ACA. Furthermore, PH WINS data can be used in concert with other data sets to make more meaningful and conclusive policy recommendations—PH WINS can be a resource to further explore the impact of policy, governance, and organizational structures on the state of the public health workforce. State health agencies can use aggregate findings from PH WINS data to validate and improve their own surveys and develop follow-up surveys to combine information gained from micro-level insight with macro-level findings. With information gathered as part of the local pilot and BCHC frames in this fielding of PH WINS, organizations interested in future fieldings of this or similar studies should be able to draw a nationally representative sample of LHD employees in addition to the nationally representative sample of central office employees. In combination with efforts by the federal agencies to assess training needs of the federal public health workforce, PH WINS will be able to contribute to data-driven workforce development decisions at the local, state, and federal levels.

REFERENCES

1. Gebbie KM, Rosenstock L, Hernandez LM. *Who Will Keep the Public Healthy? Educating Public Health Professionals for the 21st Century*. Washington, DC: National Academies Press; 2002.
2. Institute of Medicine, Committee for the Study of the Future of Public Health. *The Future of Public Health*. Washington, DC: National Academies Press; 1988.
3. Reid WM, Beitsch LM, Brooks RG, Mason KP, Mescia ND, Webb SC. National Public Health Performance Standards: workforce development and agency effectiveness in Florida. *J Public Health Manag Pract*. 2001;7(4):67-73.
4. Lichtveld MY, Cioffi JP. Public health workforce development: progress, challenges, and opportunities. *J Public Health Manag Pract*. 2003;9(6):443-450.
5. Cioffi JP, Lichtveld MY, Tilson H. A research agenda for public health workforce development. *J Public Health Manag Pract*. 2004;10(3):186-192.
6. Tilson H, Gebbie KM. The public health workforce. *Annu Rev Public Health*. 2004;25:341-356.
7. Bureau of Health Professions. *Public Health Workforce Study*. Rockville, MD: Bureau of Health Professions; 2005.
8. Hilliard TM, Boulton ML. Public health workforce research in review: a 25-year retrospective. *Am J Prev Med*. 2012;42(5)(suppl 1):S17-S28.
9. Place J, Edgar M, Sever M. *Assessing the Needs for Public Health Workforce Development*. Public Health Training Center Annual Meeting; 2011.

10. Kaufman NJ, Castrucci BC, Pearsol J, et al. Thinking beyond the silos: emerging priorities in workforce development for state and local government public health agencies. *J Public Health Manag Pract.* 2014;20(6):557-565.
11. Corso LC, Wiesner PJ, Halverson PK, Brown CK. Using the essential services as a foundation for performance measurement and assessment of local public health systems. *J Public Health Manag Pract.* 2000;6(5):1-18.
12. Gebbie KM. *The Public Health Work Force: Enumeration 2000*. Washington, DC: US Department of Health and Human Services, Health Resources and Services Administration, Bureau of Health Professions, National Center for Health Workforce Information and Analysis; 2000.
13. Gebbie KM, Raziano A, Elliott S. Public health workforce enumeration. *Am J Public Health.* 2009;99(5):786-787.
14. Boulton M, Beck A. *Enumeration and Characterization of the Public Health Nurse Workforce*. Ann Arbor, MI: University of Michigan Center of Excellence in Public Health Workforce Studies; 2013.
15. Beck AJ, Boulton ML, Coronado F. Enumeration of the governmental public health workforce, 2014. *Am J Prev Med.* 2014;47(5)(suppl 3):S306-S313.
16. Public Health Workforce Development Consortium. *Consortium Proceedings*. Washington, DC: Government Printing Office; 1989.
17. Russo P, Kuehnert P. Accreditation: a lever for transformation of public health practice. *J Public Health Manag Pract.* 2014;20(1):145-148.
18. Mays GP, Scutchfield FD, Bhandari MW, Smith SA. Understanding the organization of public health delivery systems: an empirical typology. *Milbank Q.* 2010;88(1): 81-111.
19. Council on Linkages Between Academia and Public Health Practice. *Core Competencies for Public Health Professionals*. Washington, DC: Public Health Foundation; 2010.
20. Honore PA. Aligning public health workforce competencies with population health improvement goals. *Am J Prev Med.* 2014;47(5)(suppl 3):S344-S345.
21. Meit M, Sellers K, Kronstadt J, et al. Governance typology: a consensus classification of state-local health department relationships. *J Public Health Manag Pract.* 2012;18(6):520-528.
22. Centers for Disease Control and Prevention. *2009-2010 National Adult Tobacco Survey*. Atlanta, GA: Centers for Disease Control and Prevention; 2011.
23. Boulton ML, Hadler J, Beck AJ, Ferland L, Lichtveld M. Assessment of epidemiology capacity in state health departments, 2004-2009. *Public Health Rep.* 2011;126(1):84.
24. Centers for Disease Control and Prevention. *CDC's Technical Assistance & Service Improvement Initiative: Summary of Assessment*. Atlanta, GA: Centers for Disease Control and Prevention; 2011.
25. Office of Personnel Management. *Federal Employee Viewpoint Survey Results*. Washington, DC: Office of Personnel Management; 2014.
26. Public Health Foundation. *Public Health Workforce Survey Instrument*. Washington, DC: Public Health Foundation; 2010.
27. Ironson GH, Smith PC, Brannick MT, Gibson W, Paul K. Construction of a Job in General scale: a comparison of global, composite, and specific measures. *J Appl Psychol.* 1989;74(2):193.
28. Boulton ML, Beck AJ, Coronado F, et al. Public health workforce taxonomy. *Am J Prev Med.* 2014;47(5):S314-S323.
29. Kolenikov S. Resampling variance estimation for complex survey data. *Stata J.* 2010;10(2):165-199.

9. NBPHE: Certified in Public Health Exam

New CPH Content Outline

CPH Certified in Public Health
by National Board of Public Health Examiners

Current Exam Coverage

General Principles (25 items)

Core areas	Cross Cutting (25 items)
• Biostatistics (30 items) • Epidemiology(30 items) • Environmental Health Sciences (30 items) • Health Policy & Management (30 items) • Social and Behavioral Sciences (30 items)	• Communication & Informatics • Diversity & Culture • Leadership • Professionalism • Program Planning • Public Health Biology • Systems thinking

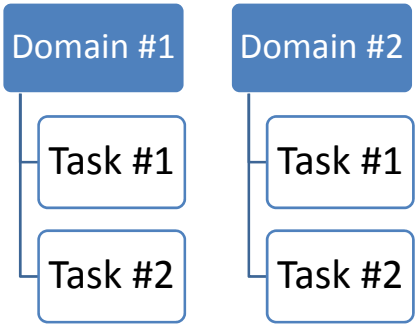
CPH Certified in Public Health
by National Board of Public Health Examiners

NCCA Accreditation Requirements

CPH Certified in Public Health
by National Board of Public Health Examiners

What is a Job Task Analysis?

Survey to define performance domains and tasks performed by a professional group, and the necessary knowledge and skills associated with these tasks.



CPH Certified in Public Health
by National Board of Public Health Examiners

Major classifications (domains) of tasks

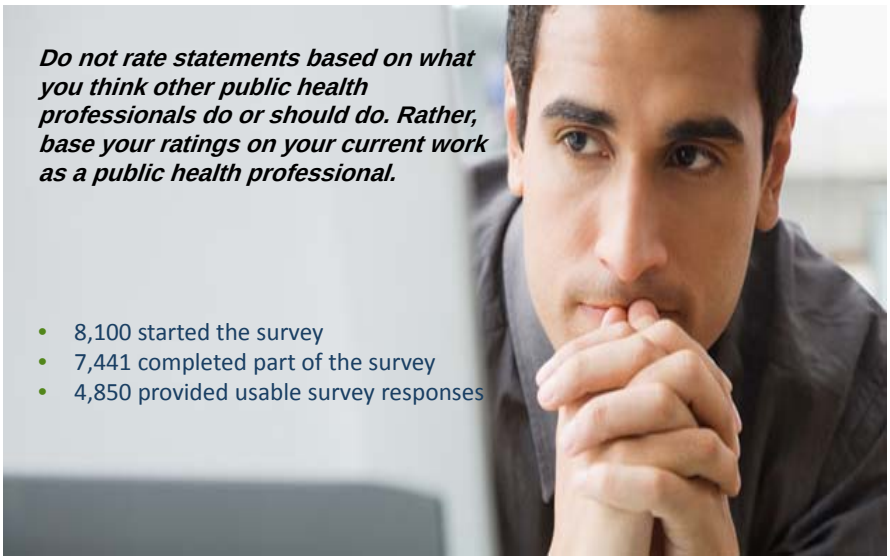
CPH Certified in Public Health
by National Board of Public Health Examiners

Survey development

- Identified (200) task statements for the survey instrument
- Determined the rating scales – 0 to 4:
  - Never performed = 0
  - Not very important = 1
  - Important = 2
  - Very important = 3
  - Essential = 4

CPH Certified in Public Health
by National Board of Public Health Examiners

Survey Responses



CPH Certified in Public Health
by National Board of Public Health Examiners

Revisions of tasks

- Eliminated tasks which less then 60% of respondents rated as performing as important (or essential)
- Eliminated approx. 5 redundant tasks
- Reviewed suggestions for additional tasks submitted by JTA respondents and ensured tasks were adequately represented
- Eliminated items with less than a 2.50 mean importance (scale of 1-4)
- After extensive discussion based on the above rules, task lists was reduced from 200 tasks to 150

CPH Certified in Public Health
by National Board of Public Health Examiners

Factor Analysis

CPH Certified in Public Health
by National Board of Public Health Examiners

PHAB Standards and Measures	Council of Linkages Core Competencies	ASTHO PH Wins	ASPPH Blue Ribbon PH Employer's Advisory Board	ASPPH Framing the Future: MPH Report	NBPHE Job Task Analysis
Contribute To And Apply The Evidence Base Of Public Health	Analytical/Assessment Skills	Informatics and Analytics	Analytic Methods & Technology and Information	Analysis	Evidence-Based Approaches to Public Health
Conduct, Disseminate Assessments …On Population Health Status And Public Health Promote Strategies To Improve Access To Health Care	Community Dimensions of Practice Skills	Diverse Populations & Diverse Workforce & Staff Development		Diversity	Health Equity and Social Justice
Develop Public Health Policies And Plans	Policy Development/Program Planning Skills	Political Sensitivity	Policy	Policy	Policy in Public Health
Maintain A Competent Public Health Workforce	Leadership and Systems Thinking Skills	Systems Thinking	How the Health System Works & Leadership	Systems Thinking	Leadership
Maintain Admin And Management Capacity Evaluate And …Improve …Processes, Programs, And Interventions	Financial Planning and Management Skills	Change Management/Flexibility Adaptability & Resilience	Budgeting and Finance Management and Teamwork		Program Planning and Evaluation Program Management
Investigate Health Problems And Environmental Public Health Hazards To Protect The Community	Public Health Sciences Skills			Science	Biological Determinants of Health
Inform And Educate About Public Health Issues And Functions Engage With The Community To Identify And Address Health Problems	Communication Skills			Collaboration	Collaborating and Partnering Communication
Enforce Public Health Laws					Law and Ethics
Maintain Capacity To Engage The		Problem Solving	Global Health Problem Solving	Global Health Policy	

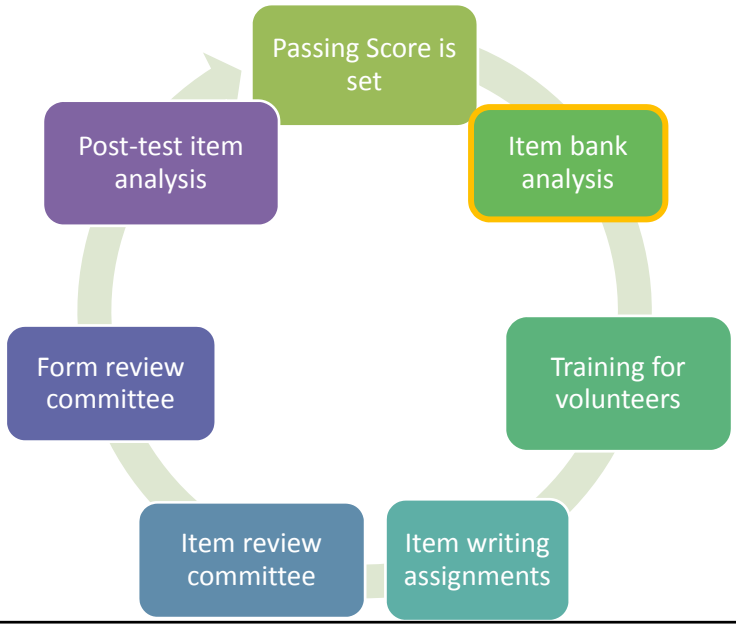
CEPH MPH Foundational Competencies	CPH Job Task Analysis Domains
Evidence-based Approaches to Public Health	Evidence-based Approaches to Public Health
Public Health & Health Care Systems	Determinants of Population Health *or* Health Equity and Social Justice
Planning and Management to Promote Health	Program Planning and Evaluation Program Management
Policy in Public Health	Policy in Public Health
Leadership Systems Thinking	Leadership Collaboration and Partnership
Communication	Communication
Inter-professional Practice	
	Law and Ethics Public Health Biology

Certified in Public Health

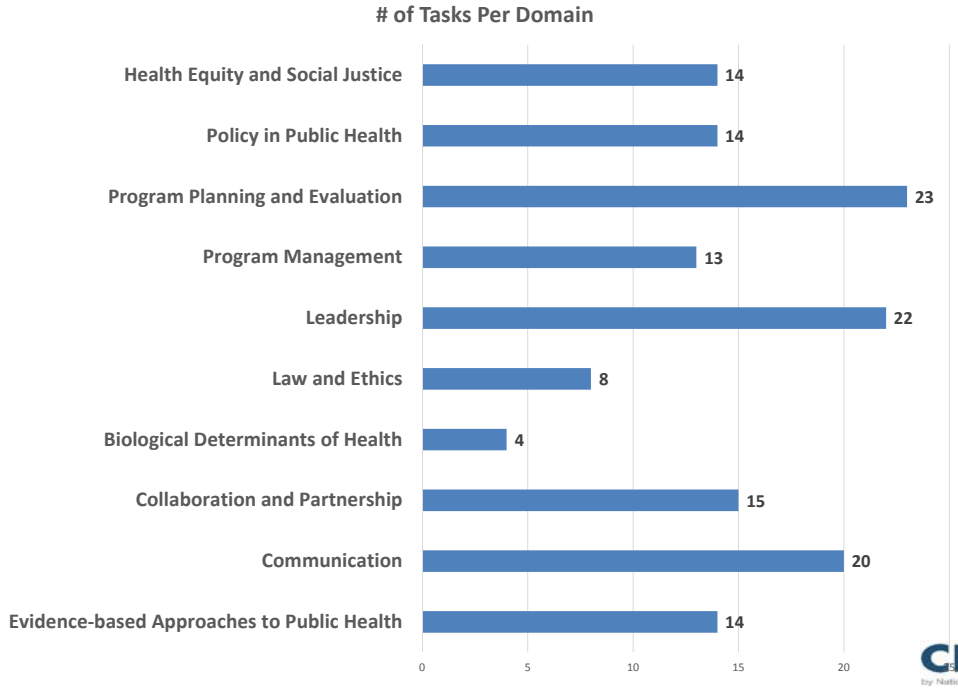
Next steps: Lots of Item-Writing

CPH Certified in Public Health
by National Board of Public Health Examiners

Next Steps: Test Development



CPH Certified in Public Health
by National Board of Public Health Examiners



CPH Certified in Public Health
by National Board of Public Health Examiners

10. Supplemental Materials:

- **Council Constitution and Bylaws**
- **Council Participation Agreement**
- **Council Strategic Directions, 2016-2020**

The Council on Linkages Between Academia and Public Health Practice

Council on Linkages Between Academia and Public Health Practice

Constitution and Bylaws

ARTICLE I. – **MISSION:**

The mission of the Council on Linkages Between Academia and Public Health Practice (Council) is to improve the performance of individuals and organizations within public health by fostering, coordinating, and monitoring collaboration among the academic, public health practice, and healthcare communities; promoting public health education and training for health professionals throughout their careers; and developing and advancing innovative strategies to build and strengthen public health infrastructure.

ARTICLE II. – BACKGROUND AND PURPOSE:

In order to bridge the perceived gap between the academic and practice communities that was documented in the 1988 Institute of Medicine report, *The Future of Public Health*, the Public Health Faculty/Agency Forum was established in 1990.

After nearly two years of deliberations and a public comment period, the Forum released its final report entitled, *The Public Health Faculty/Agency Forum: Linking Graduate Education and Practice*. The report offers recommendations for: 1) strengthening relationships between public health academicians and public health practitioners in public agencies; 2) improving the teaching, training, and practice of public health; 3) establishing firm practice links between schools of public health and public agencies; and 4) collaborating with others in achieving the nation's Year 2000 health objectives. In addition, the Public Health Faculty/Agency Forum issued a list of "Universal Competencies" to help guide the education and training of public health professionals.

The Council was formed initially to help implement these recommendations and competencies. Over time, the Council's mission and corollary objectives may be amended to best serve the needs of public health's academic and practice communities.

ARTICLE III. – MEMBERSHIP:

A. Member Composition:

The Council is comprised of national public health academic and practice agencies, organizations, and associations that desire to work together to help build academic/practice linkages in public health. Membership on the Council is limited to any agency, organization, or association that:

1. Can demonstrate that agency, organization, or association is national in scope.
2. Is unique and not currently represented by existing Council Member Organizations.
3. Has a mission consistent with the Council's mission and objectives.
4. Is willing to participate as a Preliminary Member Organization on the Council for one year prior to formal membership, at the participating organization's expense.
5. Upon being granted formal membership status, signs the Council's Participation Agreement.

Individuals may not join the Council.

B. Member Organizations:

Council Member Organizations include:

- American Association of Colleges of Nursing (AACN)
- American College of Preventive Medicine (ACPM)
- American Public Health Association (APHA)
- Association for Community Health Improvement (ACHI) – Preliminary Member Organization
- Association for Prevention Teaching and Research (APTR)
- Association of Accredited Public Health Programs (AAPHP)
- Association of Public Health Laboratories (APHL)
- Association of Schools and Programs of Public Health (ASPPH)
- Association of State and Territorial Health Officials (ASTHO)
- Association of University Programs in Health Administration (AUPHA)
- Centers for Disease Control and Prevention (CDC)
- Community-Campus Partnerships for Health (CCPH)
- Council on Education for Public Health (CEPH) – Preliminary Member Organization
- Health Resources and Services Administration (HRSA)
- National Association of County and City Health Officials (NACCHO)
- National Association of Local Boards of Health (NALBOH)
- National Environmental Health Association (NEHA)
- National Library of Medicine (NLM)
- National Network of Public Health Institutes (NNPHI)
- National Public Health Leadership Development Network (NLN)
- Quad Council Coalition of Public Health Nursing Organizations (Quad Council)
- Society for Public Health Education (SOPHE)

Membership Categories:

An organization must petition the Council to become a member in accordance with the Council's membership policy. If membership is granted, the agency, organization, or association will become a Preliminary Member Organization for the period of one year. At the conclusion of one year as a Preliminary Member Organization, the Council will vote to approve or decline the agency, organization, or association as a Formal Member Organization. If granted formal membership status, the agency, organization, or association will be reimbursed for travel related expenses for future meetings, if funds permit.

I. Preliminary Member Organization Privileges

1. Preliminary Member Organizations may fully participate in all discussions and activities associated with Council meetings at which they are required to attend.
2. Preliminary Member Organizations retain the right to vote at Council meetings during their preliminary term.
3. Preliminary Member Organizations can participate in any and all Council subcommittee/taskforce discussions that they desire to join.
4. Preliminary Member Organizations' names and/or logos will be included in Council resources that depict Member Organizations during the preliminary term.
5. Preliminary Member Organizations will be responsible for all travel related expenses for attending meetings.

II. Formal Member Organization Privileges

1. In accordance with the Council's travel policy and as funding permits, Organizational Representatives (Representatives) from Formal Member Organizations are entitled to reimbursement up to a predetermined amount for airfare, transportation to and from meeting site, and hotel accommodations for Council meeting travel.
2. As funding permits, Representatives from Formal Member Organizations will be reimbursed at the federally-approved per diem rate for meals consumed during travel to and from Council meetings.
3. Substitutes for officially designated Representatives are not eligible for travel reimbursement.
4. Formal Member Organizations retain full participation privileges in all Council discussions, activities, votes, and subcommittee/taskforces.
5. Formal Member Organizations will be represented either via logo or text in all Council resources that depict membership.
6. Formal Member Organizations must comply with the signed Participation Agreement.
7. Representatives from federal government agencies will not receive funding from the Council for travel or related expenses.

ARTICLE IV. – MEMBER ORGANIZATION RESPONSIBILITIES:

In order for the Council to meet its goals and corollary objectives, membership on the Council requires a certain level of commitment and involvement in Council activities. At a minimum, Council membership requires that:

- Each Member Organization (Organization) select an appropriate Representative to serve on the Council for, at a minimum, one year. Organizations are strongly encouraged to select Representatives who can serve for terms of two or more years.
- The Representative have access to and communicate regularly with the Organization's leadership about Council activities.
- The Representative be able to present the perspectives of the Organization during Council meetings.
- The Representative attend and actively participate in scheduled meetings and shall not miss two consecutive meetings during a given year unless the absence is communicated to Council staff and approved by the Chair before the scheduled meeting.
- Each Organization identify a key staff contact who will keep abreast of Council activities via interaction with Council staff, attendance at locally-held meetings, and/or regular contact with the Representative.
- During at least one meeting each year, Representatives present the progress their respective Organizations and members have made toward implementing and sustaining productive academic/practice linkages.
- Each Representative (or staff contact) respond to requests for assistance with writing and compiling Council documents and resources.
- Representatives and Organizations disseminate information on linkage activities using media generally available to the Council's constituency and specifically to the respective memberships of the Organizations.

- Upon request of the Council Chair, Representatives officially represent the Council at meetings or presentations widely attended by members of the practice and academic public health communities.
- Upon request of the Council Chair, Representatives assist Council staff with identifying and securing funding for projects, advocating Organizational support for specific initiatives, and serving on Council subcommittees.

If a Representative or Organization does not fulfill the above responsibilities, Council staff will first contact the Representative and Organization in writing. If a Representative fails to address the concerns—for example, in the case of chronic absenteeism at Council meetings—the Council chair may request that a new Representative be selected. Then, if a Member Organization consistently fails to perform its responsibilities after a written warning, Council staff will inform that Organization in writing that the full Council will vote on revoking that Organization's membership. If a majority of all Representatives vote to revoke an Organization's membership, that Organization will no longer be considered a part of the Council.

ARTICLE V. – Discussions, Decisions, and Voting:

A. The following overlying principle shall govern decisions within the Council:

Each Member Organization shall have one vote. Only Representatives or officially designated substitutes can vote. To designate a substitute, Member Organizations must provide the name and contact information for that individual to Council staff in advance of the meeting.

B. Discussions & Decisions:

Council meetings will use a modified form of parliamentary procedure where discussions among the Representatives will be informal to assure that adequate consideration is given to a particular issue being discussed by the Council. However, decisions will be formal, using Robert's Rules of Order (recording the precise matters to be considered, the decisions made, and the responsibilities accepted or assigned).

C. Voting:

1. Each Representative shall have one vote. If a Representative is unable to attend a meeting, the Organization may designate a substitute (or Designee) for the meeting. That Designee will have voting privileges for the meeting.
2. **Quorum** is required for a vote to be taken and shall consist of a majority of the Representatives or Designees of all participating groups composing the Council.
3. **Simple Majority** Vote will be required for internal Council administrative, operational, and membership matters (i.e.: Minutes approvals).
4. The Council will seek **Consensus** (Quaker style – No-one blocking consensus) when developing major new directions for the Council (i.e.: moving forward with studying leadership tier of credentialing). No more than one-quarter of Representatives or their Designees can abstain, or the motion will not pass. Representatives will be expected to confer with the leadership of their organizations prior to the meeting to ensure that their votes reflect the Organization's views on the topic.
5. A two-thirds **Super Majority** of all Representatives will be required to vote on accepting or amending this Constitution and Bylaws.

ARTICLE VI. – COUNCIL LEADERSHIP:

One Representative will serve as the Council Chair. The Chair is charged with opening and closing meetings, calling all votes, and working with Council staff to set meeting agendas.

The term of the Chair is two years. There is no limit to the number of terms a Representative can serve as Chair. At the end of each two-year term, another Council Representative and/or the current Chair may nominate him/herself or be nominated for the position of Chair. To be elected Chair requires a majority affirmative vote of Council membership. In the event that there are several nominees and no nominee receives a clear majority of the vote, a runoff will be held among the individuals who received the highest number of votes.

To be eligible to serve as Chair, an individual must:

- have served as a Council Representative for at least two years; and
- have some experience working in public health practice.

ARTICLE VII. – MEETINGS:

The Council shall convene at least one in-person meeting a year. Funds permitting, the Council will convene additional meetings either in-person or via conference call. All meetings are open to the public.

ARTICLE VIII. – COUNCIL STAFF ROLES AND RESPONSBILITIES:

The Council is staffed by the Public Health Foundation. Council staff provide administrative support to the Council and its Organizations and Representatives. This includes, but is not limited to:

1. Planning and convening Council meetings;
2. General Council administration such as drafting meeting minutes, yearly deliverables, progress reports, action plans, etc.;
3. Working with Representatives and their Organizations to secure core and special project funding for Council activities and initiatives; and
4. Officially representing the Council at meetings related to education and practice.

ARTICLE IX. – FUNDING:

Council staff, with approval from the Council Chair, may seek core and special project funding on behalf of the Council in accordance with Council-approved objectives, strategies, and deliverables.

Adopted: January 24, 2006
Amended: January 27, 2012
Article I. Mission Updated: October 7, 2016
Article III.B. Member Organizations Updated: September 6, 2013; March 31, 2014; August 19, 2015; January 20, 2016; August 18, 2016

The Council on Linkages Between Academia and Public Health Practice

Participation Agreement

The Council on Linkages Between Academia and Public Health Practice (Council) exists to improve the performance of individuals and organizations within public health by fostering, coordinating, and monitoring collaboration among the academic, public health practice, and healthcare communities; promoting public health education and training for health professionals throughout their careers; and developing and advancing innovative strategies to build and strengthen public health infrastructure. In order to fulfill this mission, membership on the Council requires a certain level of commitment and involvement in Council activities. At a minimum, Council involvement requires that:

- The Member Organization (Organization) selects an appropriate Representative (Representative) to serve on the Council for, at a minimum, one year. Organizations are strongly encouraged to select Representatives who can serve for terms of two or more years.

- The Representative has access to and communicates regularly with the Organization's leadership about Council activities.

- The Representative is able to present the perspectives of the Organization during Council meetings.

- The Representative attends and actively participates in scheduled meetings and does not miss two consecutive meetings during a given year unless the absence is communicated to Council staff and approved by the Chair before the scheduled meeting.

- The Organization identifies a key staff contact who will keep abreast of Council activities via interaction with Council staff, attendance at locally-held meetings, and/or regular contact with the Representative.

- During at least one meeting each year, the Representative presents the progress his/her respective Organization and members have made toward implementing and sustaining productive academic/practice linkages.

- The Representative and Organization contribute to the Council's understanding of how Council initiatives and products are being used by the members/constituents of the Council Organization.

- The Representative (or staff contact) responds to requests for assistance with writing and compiling Council documents and resources.

- The Representative and Organization disseminate information on linkage activities using media generally available to the Council's constituency and specifically to the respective membership of the Council Organization.

- Upon request of the Council Chair, the Representative officially represents the Council at meetings or presentations widely attended by members of the practice and academic public health communities.

- Upon request of the Council Chair, the Representative assists Council staff with identifying and securing funding for projects, advocating Organizational support for specific initiatives, and serving on Council subcommittees.

We have read and understand the Participation Agreement described above and agree to the obligations and conditions for membership on the Council on Linkages Between Academia and Public Health Practice. We understand that membership and representation is voluntary, and we may withdraw Representative and/or Organizational participation at any time if we are unable to meet the above outlined responsibilities.

_____ _____

Council Representative Designated by Organization Date

_____ _____

Organizational Executive Director Date

_____

Member Organization

The Council on Linkages Between Academia and Public Health Practice

Council on Linkages Between Academia and Public Health Practice: Strategic Directions, 2016-2020

Mission

To improve the performance of individuals and organizations within public health by:

- Fostering, coordinating, and monitoring collaboration among the academic, public health practice, and healthcare communities;
- Promoting public health education and training for health professionals throughout their careers; and
- Developing and advancing innovative strategies to build and strengthen public health infrastructure.

Values

- Teamwork and Collaboration
- Focus on the Future
- People and Partners
- Creativity and Innovation
- Results and Creating Value
- Health Equity
- Public Responsibility and Citizenship

Objectives

- Foster collaborations between academia and practice within the field of public health and between public health and healthcare professionals and organizations.
- Enhance public health practice-oriented education and training.
- Support the development of a diverse, highly skilled, and motivated public health workforce with the competence and tools to succeed.
- Promote and strengthen the evidence base for public health practice.

Objectives, Strategies, & Tactics

Objective A. Foster collaborations between academia and practice within the field of public health and between public health and healthcare professionals and organizations.

Strategy 1: Promote development of collaborations between academia and practice within public health.

Tactics:

a. Support the development, maintenance, and expansion of academic health department partnerships through the Academic Health Department Learning Community.
b. Document and highlight progress being made in academic/practice collaboration within public health and the impact of that collaboration.

Adopted: August 15, 2016

c. Document contributions of Council on Linkages member organizations, individually and collectively, to improving public health performance through implementation of the Council on Linkages' Strategic Directions.
d. Coordinate with other national initiatives, such as the Foundational Public Health Services, public health department and academic institution accreditation, Healthy People, National Consortium for Public Health Workforce Development, Public Health Workforce Interests and Needs Survey (PH WINS), and Health Impact in Five Years (HI-5) initiative, to improve public health performance through implementation of the Council on Linkages' Strategic Directions.
e. Learn from and share with other countries and global health organizations strategies for strengthening the public health workforce.

Strategy 2: Promote development of collaborations between public health and healthcare professionals and organizations.

Tactics:

a. Identify population health competencies aligned with the Core Competencies for Public Health Professionals that are designed for non-clinical settings.
b. Encourage the inclusion of healthcare professionals and organizations in academic health department partnerships.
c. Document and highlight progress being made in public health/healthcare collaboration and the impact of that collaboration.

Objective B. Enhance public health practice-oriented education and training.

Strategy 1: Develop and support the use of consensus-based competencies relevant to public health practice.

Tactics:

a. Review the Core Competencies for Public Health Professionals every three years for possible revision.
b. Develop and disseminate tools and training to assist individuals and organizations with implementing and integrating the Core Competencies for Public Health Professionals into education and training.
c. Work with the Council on Education for Public Health to encourage use of the Core Competencies for Public Health Professionals and academic/practice partnerships by schools and programs of public health.
d. Work with the National Board of Public Health Examiners to encourage use of the Core Competencies for Public Health Professionals in the Certified in Public Health credentialing program.
e. Contribute to the development and measurement of Healthy People objectives related to public health infrastructure.
f. Advance opportunities for using the Core Competencies for Public Health Professionals in the education and training of health professionals and other professionals who impact health.

Strategy 2: Encourage development of quality training for public health professionals.

Tactics:

a. Provide resources and tools for enhancing and measuring the impact of training.
b. Contribute to efforts to develop quality standards for public health training.
c. Explore the desirability and feasibility of creating a process for approving and advancing training for general public health continuing education units.

Strategy 3: Promote public health practice-based learning.

Tactics:

a. Conduct a periodic review of practice-based content in public health education.
b. Develop tools to assist academic health departments in providing high quality practica.

Objective C. Support the development of a diverse, highly skilled, and motivated public health workforce with the competence and tools to succeed.

Strategy 1: Develop a comprehensive plan for ensuring an effective public health workforce.

Tactics:

a. Support the use of evidence in recruitment and retention strategies for the public health workforce.
b. Use existing data to better understand the composition and competencies of the public health workforce.
c. Participate in the Public Health Accreditation Board's workforce development, quality improvement, and performance management activities to encourage use of Core Competencies for Public Health Professionals and academic/practice partnerships by health departments.
d. Explore approaches for determining contributions of credentialing for ensuring a competent public health workforce.
e. Participate in, facilitate, and/or convene efforts to develop a national strategic or action plan for public health workforce development and monitor progress.

Strategy 2: Define training and life-long learning needs of the public health workforce, identify gaps in training, and explore mechanisms to address these gaps.

Tactics:

a. Explore emerging leadership competencies needed within the public health workforce for health systems transformation.
b. Identify skills needed for public health professionals to assume the responsibilities of community chief health strategist.

Strategy 3: Provide access to and assistance with using tools to enhance competence.

Tactics:

a. Develop and disseminate tools and training to assist individuals and organizations with implementing and integrating the Core Competencies for Public Health Professionals into practice.
b. Assist individuals and organizations with using tools and training to implement and integrate the Core Competencies for Public Health Professionals into practice.
c. Encourage use of the Core Competencies for Public Health Professionals as a foundation for the development of discipline-specific and interprofessional competencies.
d. Assist with developing, refining, and implementing discipline-specific and interprofessional competencies aligned with the Core Competencies for Public Health Professionals.
e. Assist other countries and global health organizations with developing and using public health competencies.

Strategy 4: Demonstrate the value of public health to achieving a culture of health.

Tactics:

a. Document contributions of the various professions within public health to achieving healthy communities.
b. Describe the unique contributions that public health professionals can bring to health systems transformation.
c. Encourage public health professionals to engage other professions and sectors in developing strategies for achieving healthy communities.
d. Document how public health research can and does contribute to achieving healthy communities.
e. Participate in, facilitate, and/or conduct a profile study of the public health workforce.

Objective D. Promote and strengthen the evidence base for public health practice.

Strategy 1: Support efforts to further public health practice research, including public health systems and services research (PHSSR).

Tactics:

a. Identify gaps in data and opportunities for improving data for conducting research relevant to practice.
b. Identify emerging needs for public health practice research to support health systems transformation.
c. Collaborate with other national efforts to help build capacity for and promote public health practice research.
d. Convene potential funders to increase financial support for public health practice research.
e. Assess progress related to public health practice research.

Strategy 2: Support the translation of research into public health practice.

Tactics:

a. Identify ways to disseminate and improve access to evidence-based practices.
b. Demonstrate the value of public health practice research to the practice of public health.
c. Explore opportunities to support The Guide to Community Preventive Services.

Strategy 3: Encourage the engagement of public health practitioners in contributing to the public health evidence base.

Tactics:

a. Develop and support implementation of an academic health department research agenda.
b. Foster the development, sharing, and use of practice-based evidence.