

VERSION 2.0 WORK IN PROGRESS: Evidence Related to Environmental Health July 2019



The Public Health Accreditation Board is a 501(c)3 nonprofit organization dedicated to improving and protecting the health of the public by advancing and ultimately transforming the quality and performance of state, local, tribal, and territorial public health departments.



Public Health Accreditation Board
1600 Duke Street
Suite 200
Alexandria, VA 22314
Phone: 703-778-4549
Fax: 703-778-4556

www.phaboard.org

This document represents findings from a scan of the literature related to environmental public health. It is not meant to be an exhaustive search. If there are other resources on this topic of which you think PHAB should be aware, please contact Jessica Kronstadt at jkronstadt@phaboard.org.

Environmental Health Scope

Environmental health covers a wide variety of programmatic activities:

- Healthy People 2020 environmental health objectives focus on six themes: outdoor air quality, surface and groundwater quality, toxic substances and hazardous wastes, homes and communities, infrastructure and surveillance, and global environmental health.¹
- The National Environmental Health Association features the following topic areas: air quality, water quality, food safety, healthy homes, preparedness, climate change, vectors & pests, and tracking & informatics.²

Most health departments provide environmental health services. Of the top five population-based services provided by local health departments, four fall under the umbrella of environmental health including:

- Environmental health surveillance (85%),
- Regulation of food service establishments (79%),
- Food safety education (77%), and
- Public health nuisance abatement (76%).³

In addition, approximately half of all local health departments provide vector control services.³ Health departments provide up to 34 different environmental health services; however, the number of services provided by an individual health department varies greatly based on population size, number of EH FTEs, region, governance type, and jurisdiction characteristics.⁴ Among state health departments, the most common environmental health activities are environmental epidemiology (90%) and food safety training/education (80%).⁵

Furthermore, EH workers make up about 8% of local, state, and federal public health workforce, comprising the biggest segment behind administrative/clerical and public health nurses.⁶

Environmental health is also changing to address emerging threats including “natural and man-caused disasters, new potential health threats from climate change, new materials and processes, demographic shifts, and increased travel and trade resulting in the transport of infectious agents around the globe.”¹ Some of these changes are addressed below.

Data

CDC's Environmental Public Health Tracking Network “is a multitiered, online surveillance system with components at the local, state, and federal levels”⁷ that links data on environment (e.g., climate change, outdoor air, community water, homes, community design); exposure (e.g., pesticide exposures, childhood blood lead testing, biomonitoring population exposures); and health effects (e.g., asthma, birth defects, cancer, carbon monoxide poisoning, heart attacks, heat stress, reproductive and birth outcomes, developmental disabilities)⁸ with Public Health Actions (PHAs). “PHAs include activities such as identifying populations at risk, responding to environmental health threats, developing interventions, and informing policies.”⁹

Lessons learned from the Tracking Program include the importance of data use, technical infrastructure, workforce capacity, and partnerships to address public health issues, like identifying vulnerable populations for disease outbreak, influencing policy, and improving outreach to the public.^{7,10}

Future directions of the Tracking Program include “activities on improving operational efficiencies and exploring innovative approaches in planning, implementing, and evaluating environmental public health surveillance”⁹ and looking to the built environment, social environment and socioeconomic context, climate change, social determinants of health, and multifactorial exposures, as well as using Tracking Program data to inform community health needs assessments (CHNAs) and health impact assessments.⁴

Other directions for Tracking and other data-related efforts include the use of nontraditional data sources (e.g., mobile technology sources), reporting to national pharmaceutical databases, and citizen science, which allows the public to actively engage in data collection, analysis, and interpretation.^{4,11}

Health Impact Assessments

A health impact assessment (HIA) evaluates how a policy, project or program may affect the health of a population, as well as the distribution of those effects¹² and is a promising method for integrating health considerations into policies, including health in all policies (HiAP) approaches,¹³ and can improve communication between decisionmakers and health departments.¹²

- “HIA has four characteristics: assessing a policy proposal to predict population health and equity impacts, a structured process for stakeholder dialogue, making recommendations, and flexibly adapting to the policy process.”¹⁴
- While there are barriers/challenges to HIA, including time, resources, training, and political sensitivity, there is room for state health agencies to support local jurisdictions in HIA work through technical assistance and providing infrastructure.¹³
- Koehler et al. recommend that “HIAs should be adopted as a core tool and competency for environmental health practitioners. HIAs should be increasingly quantitative, both in terms of health consequences and benefits and in terms of economic costs and benefits.”¹¹

Environmental justice

"Environmental justice (EJ) research seeks to document and redress the disproportionate environmental burdens and benefits associated with social inequalities" and includes issues around energy, food (animal feeding operations), drinking water, flooding, and sustainability initiatives.¹⁵ "People living on the low end of the socioeconomic spectrum are the very ones most susceptible to illness or injury when environmental protective barriers do not exist"¹⁶ and yet those communities are often left out of the conversation when establishing environmental health policies, and those policies tend to focus on mitigation versus prevention.¹⁷

The literature indicates that when community members know they are at risk for exposure to contaminants, they make efforts to reduce their exposure, meaning that it is critical to involve the community in the development of solutions.¹⁵ Furthermore, these community members can provide data through participatory research to raise awareness about disproportionate exposures to hazards to push for policy change.¹⁸

Climate change

The literature highlights the importance of environmental health surveillance capacity to quantify climate-change related health impacts by developing baseline data and monitoring changes, and to assess the impact on already vulnerable populations.^{19,20,21}

The Building Resilience against Climate Effects (BRACE) framework, developed by the CDC, is "an iterative approach to adaptively manage the health effects of climate change" and has links to PHAB requirements including stakeholder engagement and partnerships, use of best practices and evidence-based interventions, forecasting and assessment, developing plans, and evaluating impacts.²²

Furthermore, those health departments trying to affect behavior change to address climate change will have to use effective motivators of behavior change, e.g., the Health Belief Model, which indicates that personal perception of risk is a strong motivator for behavior change.²³

Other

Other themes that emerged from the literature included:

- QI projects related to EH. For example, the Tulsa Health Department, in Oklahoma, mapped mosquitos and used that for resource allocation, which led to increased efficiency in West Nile virus testing of collected mosquitos.²⁴
- The emergence of cross-jurisdictional sharing to help with cost-savings and ensuring access to environmental health services and expertise, particularly for smaller jurisdictions.²⁵
- The importance of cross-sector partnerships for solving environmental health problems, delivery of environmental health services and assessment and evaluation of policies.^{11,26,27}
- The importance of communicating the role of EH in keeping the community safe to a variety of audiences.^{11,28}

¹ Treser CD, Roberts WC, Samarya-Timm M. Healthy People 2030 and environmental health. *J Environ Health*. 2017;80(5):50-51.

² National Environmental Health Association. Environmental Health Topics Web site. <https://www.neha.org/eh-topics>. Accessed June 10, 2019.

³ National Association of County & City Health Officials. National profile of local health departments. http://nacchoprofilestudy.org/wp-content/uploads/2017/10/ProfileReport_Aug2017_final.pdf. Published August 2017.

- ⁴ Fox MA, Baksh S, Lam J, Resnick B. Building the future of environmental public health tracking: proceedings and recommendations of an expert panel workshop. *J Environ Health*. 2017;79(10):14-19.
- ⁵ Association of State and Territorial Health Officials. ASTHO profile of state and territorial public health. <http://www.astho.org/Profile/Volume-Four/2016-ASTHO-Profile-of-State-and-Territorial-Public-Health/>. Published 2017.
- ⁶ Heidari L, Chapple-McGruder T, Whitehead S, Castrucci BC, Dyjack DT. Characterizing the roles and skill gaps of the environmental health workforce in state and local health departments. *J Environ Health*. 2019;81(6):22-31.
- ⁷ Eatman S, Strosnider HM. CDC's National Environmental Public Health Tracking Program in action: case studies from state and local health departments. *J Public Health Manag Pract*. 2017;23(suppl 5):S9-S17.
- ⁸ Namulanda G. Biomonitoring and environmental health tracking. *J Environ Health*. 2015;77(9):36-38.
- ⁹ Wilson HR, Charleston AE. Environmental Public Health Tracking Program advances and successes: highlights from the first 15 years. *J Public Health Manag Pract*. 2017;23(suppl 5):S4-S8
- ¹⁰ Yip FY. Environmental public health tracking: from data to action. *J Public Health Manag Pract*. 2017;23(suppl 5):S1-S3.
- ¹¹ Koehler K, Latshaw M, Matte T, et al. Building healthy community environments: a public health approach. *Public Health Rep*. 2018;133(suppl 1):35S-43S.
- ¹² Dannenberg AL, Bhatia R, Cole BL, et al. Growing the field of health impact assessment in the United States: an agenda for research and practice. *Am J Public Health*. 2006;96(2):262-270.
- ¹³ Goff N, Wyss K, Wendel A, Jarris P. Implementing health impact assessment programs in state health agencies: lessons learned from pilot programs, 2009-2011. *J Public Health Manag Pract*. 2016;22(6):E8-E13.
- ¹⁴ Harris PJ, Kemp LA, Sainsbury P. The essential elements of health impact assessment and healthy public policy: a qualitative study of practitioner perspectives. *BMJ Open*. 2012;2(6):e001245.
- ¹⁵ Chakraborty J, Collins TW, Grineski SE. Environmental justice research: contemporary issues and emerging topics. *Int J Environ Res Public Health*. 2016;13(11):E1072.
- ¹⁶ Treser CD. Environmental health: the invisible profession. *J Environ Health*. 2018;81(5):34-35.
- ¹⁷ LeBrón AMW, Torres IR, Valencia E, et al. The state of public health lead policies: implications for urban health inequities and recommendations for health equity. *Int J Environ Res Public Health*. 2019;16(6):E1064
- ¹⁸ English PB, Richardson MJ, Garzón-Galvis C. From crowdsourcing to extreme citizen science: participatory research for environmental health. *Annu Rev Public Health*. 2018;39:335-350.
- ¹⁹ Manangan AP, Uejio CK, Saha S, et al. Assessing health vulnerability to climate change: a guide for health departments. *Climate and Health Technical Report Series*, 2014.
- ²⁰ Moulton AD, Schramm PJ. Climate change and public health surveillance: toward a comprehensive strategy. *J Public Health Manag Pract*. 2017;23(6): 618-626.
- ²¹ Radke V. The impacts of climate change are at our doorstep. *J Environ Health*. 2018;81(4):6-7.
- ²² Marinucci GD, Luber G, Uejio CK, Saha S, Hess JJ. Building resilience against climate effects – a novel framework to facilitate climate readiness in public health agencies. *Int J Environ Res Public Health*. 2014;11(6):6433-6458.
- ²³ Weems C, Subramaniam PR. Reframing climate change for environmental health. *J Environ Health*. 2017;79(8):24-27.
- ²⁴ Lamers V, Gerding J. Tools to drive quality improvement of vector control services. *J Environ Health*. 2017;79(10):38-40.
- ²⁵ Pezzino G, Corso LC, Blake RG, Libbey P. Sharing environmental health services across jurisdictional boundaries. *J Environ Health*. 2015;77(8):36-38.
- ²⁶ Freeland AL, Masters M, Nicholas D, Kramer A, Brown LG. Facilitators and barriers to conducting environmental assessments for food establishment outbreaks, National Environmental Assessment Reporting System, 2014-2016. *J Environ Health*. 2019;81(1):24-28.
- ²⁷ Osiecki KM. Collaborating to solve complex environmental health issues in our communities. *J Environ Health*. 2016;78(7):32-33.
- ²⁸ Custard B. Making environmental health indispensable. *J Environ Health*. 2016;78(7):6-7.

VERSION 2.0 WORK IN PROGRESS: Environmental Health – What Have We Learned from Accredited Health Departments? July 2019



The Public Health Accreditation Board is a 501(c)3 nonprofit organization dedicated to improving and protecting the health of the public by advancing and ultimately transforming the quality and performance of state, local, tribal, and territorial public health departments.



Public Health Accreditation Board
1600 Duke Street
Suite 200
Alexandria, VA 22314
Phone: 703-778-4549
Fax: 703-778-4556

www.phaboard.org

This document summarizes what PHAB has learned about how accredited health departments (HDs) are engaging in environmental health-related activities. In particular, it focuses on the reasons that HDs struggled with measures that relate to environmental health. It also includes findings from Section II of accredited HDs' Annual Reports and an analysis of the community health improvement plans of accredited HDs.

Below is a summary of the distribution of assessments for related measures. These data are for 179 HDs assessed under Version 1.0 and 124 HDs assessed under Version 1.5. Measures were selected because they are relevant to environmental health (for example, they might require or suggest an environmental health example). However, they are broader than environmental health. Therefore, HDs may have been assessed as Not or Slightly Demonstrated on these measures for reasons

Measure	% Fully Demonstrated	% Largely Demonstrated	% Slightly Demonstrated	% Not Demonstrated	N
1.3.1 (ver 1.0)	64.8%	23.5%	11.7%	0.0%	179
1.3.1 (ver 1.5)	31.5%	51.6%	16.9%	0.0%	124
1.3.2	75.9%	14.5%	7.6%	2.0%	303
2.1.1	70.3%	21.8%	6.9%	1.0%	303
2.1.2 (ver 1.0)	60.9%	29.1%	8.9%	1.1%	179
2.1.2 (ver 1.5)	48.4%	27.4%	21.0%	3.2%	124
2.1.3	89.8%	4.3%	3.3%	2.6%	303
2.1.4	67.0%	27.1%	5.9%	0.0%	303
2.1.5	73.9%	22.4%	3.6%	0.0%	303
2.1.6 S	81.6%	10.5%	7.9%	0.0%	38
2.2.1	70.3%	21.5%	6.9%	1.3%	303
2.2.2	59.1%	24.8%	13.9%	2.3%	303
2.2.3	56.8%	36.3%	6.9%	0.0%	303
2.3.1	70.3%	26.7%	3.0%	0.0%	303
2.3.2	80.5%	16.8%	2.6%	0.0%	303
2.3.3	53.8%	34.0%	10.9%	1.3%	303
2.3.4	73.6%	23.1%	2.6%	0.7%	303
6.1.1 (ver 1.0)	53.6%	27.9%	17.3%	1.1%	179
6.1.1 (ver 1.5)	28.2%	48.4%	23.4%	0.0%	124
6.1.2	80.2%	9.6%	5.6%	4.6%	303
6.2.1	68.3%	24.1%	6.6%	1.0%	303
6.2.2	96.4%	1.7%	1.0%	1.0%	303
6.2.3	94.7%	3.0%	1.3%	1.0%	303
6.3.1	85.5%	12.2%	2.0%	0.3%	303
6.3.2	64.7%	25.7%	8.3%	1.3%	303
6.3.3	67.0%	24.8%	7.9%	0.3%	303
6.3.4 (ver 1.0)	50.8%	27.9%	19.0%	2.2%	179
6.3.4 (ver 1.5)	33.9%	41.1%	23.4%	1.6%	124
6.3.5	53.1%	30.4%	14.5%	2.0%	303
12.1.1	90.8%	7.6%	1.7%	0.0%	303

unrelated to their environmental health work.

To better understand HDs' performance on these Measures, PHAB conducted an analysis of the conformity comments of HDs that were assessed as Not or Slightly Demonstrated in at least 5% of the first 303 Site Visit Reports. The results of those analyses are shown below. For each Measure, the most common reasons for the assessment are listed, including the number of HDs for which that reason was indicated. One HD could have multiple reasons listed. The reasons are linked to specific required documentation listed in the PHAB Standards and Measures. For reference, please see:

https://www.phaboard.org/wp-content/uploads/2019/01/PHABSM_WEB_LR1.pdf.

Measure 1.3.1: Data analyzed and public health conclusions drawn

The most common challenges among HDs assessed as Not or Slightly Demonstrated were deficiencies in documentation of the following:

- Requirement 1c – Analysis and conclusions that have comparison data (21 HDs)
- Requirement 2 – Review and discussion of the data analysis with others (17 HDs)
- Requirement 1b – Description of the analytic process used that is evidence-based with citation (14 HDs)
- Requirement 1 – Conclusions drawn from the data (13 HDs)
- Requirement 1 – Analysis of data (12 HDs)

Measure 1.3.2: Public health data provided to various audiences on a variety of public health issues

The most common challenges were deficiencies in documentation of the following:

- Provision of an analytic report or analysis (21 HDs)
- Documentation of sharing/distribution (6 HDs)
- Identification of specific audiences (5 HDs)

Measure 2.1.1: Protocols for investigation process

The documentation must address health problems and environmental health hazards. The most common challenges were deficiencies in documentation of the following:

- Requirement 1b – Inclusion of a timeline (11 HDs)
- Requirement 1a – Assignment of responsibilities (10 HDs)
- Within the timeframe of 24 months (9 HDs)
- Requirement 1b – Case investigation steps (8 HDs)
- Requirement 1b – Reporting requirements (8 HDs)

Measure 2.1.2: Capacity to conduct an investigation of infectious disease

For state HDs, the measure requires documentation of the capacity to conduct and/or support investigations of multiple diseases simultaneously. (Of the 5 state HDs that were assessed as Not or Slightly Demonstrated, 2 were cited for concerns related to simultaneous investigations.) The most common challenges among HDs assessed as Not or Slightly Demonstrated were:

- Documentation did not align investigation reports with procedures (28 HDs)
- Lack of demonstration of HD's capacity to respond to outbreak (23 HDs)
- Documentation did not represent an audit or peer review of investigation reports (15 HDs)

Measure 2.1.3: Capacity to conduct investigations of non-infectious health problems, environmental, and/or occupational public health hazards

The most common challenge was deficient documentation of the following:

- Completed investigation of a non-infectious health problem or hazard (9 HDs)

Measure 2.1.4: Collaborative work through established governmental and community partnerships on investigations of reportable diseases, disease outbreaks, and environmental public health issues

The most common challenges were deficiencies in documentation of the following:

- Requirement 1 – Documentation of contracts/MOAs/MOUs/etc. that established partnerships for the investigation of outbreaks of disease, health care associated infections, or environmental public health concerns (7 HDs)
- Within appropriate timeframes (6 HDs)
- Requirement 1 – Appropriate partners within the HD's jurisdiction (5 HDs)
- Requirement 1 – Related to disease outbreak or environmental health investigations (5 HDs)
- Requirement 2 – Description of partner roles and responsibilities (5 HDs)

Measure 2.1.5: Monitored timely reporting of notifiable/reportable diseases, lab test results, and investigation results

The most common challenge was deficiencies in documentation of the following:

- Requirement 1 – Tracking log/audit or sufficient evidence of tracking various elements of investigation (10 HDs)

Measure 2.1.6 S: Consultation, technical assistance, and/or information provided to Tribal and local HDs in the state regarding the management of disease outbreaks and environmental public health hazards.

This is a state-only measure with only 3 HDs assessed as ND/SD. No clear patterns emerged.

Measure 2.2.1: Protocols for containment/mitigation of public health problems and environmental public health hazards

The most common challenges were deficiencies in documentation of the following:

- Protocols that address prophylaxis/biologics (14 HDs)
- Protocols that address clinical management (12 HDs)
- Protocols that address disease-specific mitigation and containment (11 HDs)
- Protocols that address the process for exercising legal authority for disease control (11 HDs)
- Protocols that address contact management (11 HDs)

Measure 2.2.2: A process for determining when the All Hazards EOP will be implemented

The most common challenges were deficiencies in documentation of the following:

- Providing protocols that addressed All Hazards Emergency Operations Plan activation in the following circumstances:
 - Requirement 1 – infectious disease outbreaks (25 HDs)
 - Requirement 2 – environmental public health issues (24 HDs)
 - Requirement 3 – cluster evaluations (22 HDs)
- Providing any protocols that addressed the following circumstances
 - Requirement 2 – environmental public health issues (21 HDs)
 - Requirement 3 – cluster evaluations (20 HDs)
 - Requirement 1 – infectious disease outbreaks (15 HDs)

Measure 2.2.3: Complete After Action Reports (AARs)

The most common challenges were deficiencies in documentation of the following:

- Requirement 1 – Documentation of a protocol describing the processes used to determine when events rise to the significance of requiring an AAR (11 HDs)
- Requirement 2 – List of events comprehensive of outbreaks and environmental public health risks (8 HDs)
- Requirement 2 – List of events including indication of which required an AAR (8 HDs)

Measure 2.3.1: Provisions for the health department's 24/7 emergency access to epidemiological and environmental public health resources capable of providing rapid detection, investigation, and containment/mitigation of public health problems and environmental public health hazards

The most common challenges were deficiencies in documentation of the following:

- Requirement 1 – 24/7 access (4 HDs)
- Requirement 3 – Defined access to resources within contracts/MOUs (4 HDs)
- Requirement 2 – Sufficient call down list for contacting epidemiological and environmental public health resources (3 HDs)
- Requirement 3 – List of contracts/MOUs (3 HDs)

Measure 2.3.2: 24/7 access to laboratory resources capable of providing rapid detection, investigation and containment of health problems and environmental public health hazards

The most common challenges were deficiencies in documentation of the following:

- Requirement 3 – Inclusion of a comprehensive scope of specimens (5 HDs)
- Requirement 2 – Inclusion of contracts/MOUs with laboratories to provide support services (4 HDs)

Measure 2.3.3: Access to laboratory and other support personnel and infrastructure capable of providing surge capacity

The most common challenges were deficiencies in documentation of the following:

- Requirement 2 – Staffing lists indicating specific staffing needed for a surge response and how the HD will fill those needs (24 HDs)
- Requirement 2 – Demonstration of how the staff will access the staffing list (22 HDs)
- Requirement 1 – Documentation of pre-identified support personnel to provide surge capacity (20 HDs)
- Requirement 5 – Contracts or MOAs/MOUs for additional staff capacity for surge situations (12 HDs)
- Requirement 1 – Surge capacity protocol (11 HDs)
- Requirement 4 – Training/exercise schedule for surge personnel (11 HDs)

Measure 2.3.4: Collaboration among Tribal, state, and local health departments to build capacity and share resources to address Tribal, state, and local efforts to provide for rapid detection, investigation, and containment/mitigation of public health problems and environmental public health hazards

The most common challenges were deficiencies in documentation of the following:

- Requirement 1 – Evidence of sharing resources or building capacity (4 HDs)
- Requirement 2 – Demonstration of working with other agencies (4 HDs)

Measure 6.1.1: Laws reviewed in order to determine the need for revisions

The most common challenges were deficiencies in documentation of the following:

- Requirement 1c – Documentation of stakeholder input on proposed and/or reviewed laws (43 HDs)
- Requirement 1b – Documentation of model public health laws, checklists, templates and/or exercises in reviewing laws (40 HDs)
- Requirement 1a – Documentation demonstrating evaluation of laws for consistence with public health evidence-based and/or promising practices (38 HDs)

Version 1.5 introduced the requirement to evaluate the impact of the law on health equity.

- Of 31 HDs assessed as Slightly or Not Demonstrated under Version 1.5, 15 didn't document consideration of health equity

Measure 6.1.2: Information provided to the governing entity and/or elected/appointed officials concerning needed updates/amendments to current laws and/or proposed new laws

The most common challenge was:

- Documentation submitted did not represent a written review/recommendation of existing or proposed laws (23 HDs)

Measure 6.2.1: Department knowledge maintained and public health laws applied in a consistent manner

The most common challenges were:

- Requirement 1 – Training not about enforceable laws (13 HDs)
- Requirement 2 – Documentation does not address consistent application of public health laws (12 HDs)
- Requirement 1 – Evidence of who completed training incomplete/missing (6 HDs)

Measure 6.3.4: Patterns or trends identified in compliance from enforcement activities and complaints

The most common challenges were incomplete/missing documentation of the following:

- Requirement 1 – Documentation of trends of complaints, enforcement activities, or compliance (50 HDs)
- Requirement 1 – Summary of enforcement activities or compliance (34 HDs)
- Requirement 2 – Documentation of debriefings or other evaluations on enforcement (26 HDs)
- Requirement 2 – Evaluation/debrief that includes process improvements (19 HDs)
- Requirement 1 – Summary or tally of complaints (16 HDs)
- Requirement 1 – Inclusion of an annual report/summary (14 HDs)
- Requirement 2 – Documentation of enforcement activities (12 HDs)

Measure 6.3.5: Coordinated notification of violations to the public, when required, and coordinated sharing of information among appropriate agencies about enforcement activities, follow-up activities, and trends or patterns

The most common challenges among HDs assessed as Not or Slightly Demonstrated fell into two major categories:

- Deficiencies in protocols for communication or application of those protocols
 - Requirement 1 – Protocols for notifying the public of enforcement activities (25 HDs)
 - Requirement 3 – Examples of notification of enforcement activities that tie back to protocols provided (16 HDs)
 - Requirement 1 – Protocol that addresses interagency communication (15 HDs)
- Documentation provided does not address enforcement activities:
 - Requirement 1 – Communication protocol for interagency notifications (20 HDs)
 - Requirement 2 – Protocol for notifying the public of enforcement activities (14 HDs)
 - Requirement 3 – Examples of notification of enforcement activities (14 HDs)

Annual Reports

Annual Reports (AR) were also reviewed to identify activities that HDs selected to report on in the “Emerging Issues” section. A total of 349 ARs submitted by 192 HDs that had completed at least one Annual Report by December 2018 were reviewed.

HDs were able to check a box to indicate if they were doing work related to climate change. Approximately 30% of the health departments providing annual reports from 2018 checked that box. Among the HDs that are working on climate change, 17 described their work in more detail. Their

efforts focused on a range of topics including: drought, flooding, pollutants, vector control, health and extreme weather. Common activities include:

- Conducting vector control
- Conducting surveillance and data collection/analysis (e.g., greenhouse gas inventory)
- Developing plans
- Convening committees/tasks forces
- Planning for increased use of renewable energy
- Providing health education
- Identifying vulnerable populations (e.g., using Social Vulnerability Index and Medical Vulnerability Index)

Below are other commonly reported activities:

- Zika: 9 ARs, including activities related to surveillance, education, vector control, protection of blood supply, development of a state zika pregnancy registry, and incident command structure
- Food safety: 5 ARs, including several activities related to mobile/special event food vendors
- Health impact assessments: 5 ARs, including activities related to a brownfield site, retail mall, mining, and an animal feeding operation

Other ARs described work related to lead, septic tanks, tattoo/body piercing establishments, and Highly Pathogenic Avian Influenza (HPAI) virus.

Community Health Improvement Plans

PHAB also analyzed 314 community health improvement plans (CHIPs) of state and local HDs (plus the local HDs that were accredited as part of the centralized integrated system) accredited as of December 2018. The analysis identified CHIP objectives that relate to environmental health. The most common categories are listed below with an indication of what percentage of CHIPs had at least one objective in each topic:

- Access to exercise opportunities, including community walkability/bikeability and access to public transit (38%)
- Air quality, including smoke free policies (22%)
- Aging housing stock/lead (8%)
- Other conservation (7%)

VERSION 2.0 WORK IN PROGRESS: Environmental Public Health Think Tank Summary May 2019



The Public Health Accreditation Board is a 501(c)3 nonprofit organization dedicated to improving and protecting the health of the public by advancing and ultimately transforming the quality and performance of state, local, tribal, and territorial public health departments.



Public Health Accreditation Board
1600 Duke Street
Suite 200
Alexandria, VA 22314
Phone: 703-778-4549
Fax: 703-778-4556

www.phaboard.org

PHAB convened environmental public health experts from across the country in a think tank on May 21-22, 2019 for the purpose of reviewing what had changed in environmental public health since the accreditation standards and measures were published in 2013. Proposed recommendations from the think tank discussion were then shared at the National Environmental Health Association's Annual Education Conference on July 11, 2019. This summary contains the recommendations from both sessions.

Recommendations for Proposed Changes to the Standards and Measures Related to EPH:

- A. In many of the current measures, environmental public health is included with public health hazards and infectious diseases. A recommendation is to clarify where EPH should be called out specifically in the examples.
- B. Be more specific about those events that would trigger an Emergency Operations Plan with environmental public health implications (Measure 2.2.2A). This would include both more specificity about what EPH events trigger an EOP as well as examples in the documentation guidance.
- C. Health departments should have access to expertise to track/review trends in EPH enforcement activities and complaints as well as from debriefings or other evaluation processes (Measure 6.3.4A) to inform quality improvement and performance management. PHAB should be clear about whether such analysis requires a specific skill set, such as environmental epidemiology or whether this is not detailed analysis but tracking and monitoring issues, complaints, etc. with enforcement activities to inform QI/PM.
- D. CDC and NEHA have done a lot of work in analyzing the EPH workforce including the questions related to credentialing (UNCOVER EPH). This information was referred to the PHAB Workforce Think Tank.
- E. Environmental public health increasingly depends on robust information systems to conduct their jobs. Assurance of a sound EPH information infrastructure to make data-informed decisions was referred to the PHAB Data/Surveillance Think Tank.
- F. Environmental public health has a role in addressing the social determinants of health and health equity. In the measures where those areas are addressed, PHAB should include EPH language.

G. Emerging areas for EPH include environmental justice; effects of the climate on health; and environmental health assessments using a health lens analysis. To the extent that PHAB will address any of these concepts in the updated standards and measures, EPH considerations should be included.

H. Measure 6.3.2 and other measures address “frequency” of inspections. It was recommended that the standards and measures require “schedules” (which may require varying frequencies).

I. Measure 6.3.5 calls for notification of the public of enforcement violations. A recommendation was made for PHAB to consider what goal this requirement would address for health departments. A potential improved measure would call for how the public can access routine inspection reports and/or public notifications of those enforcement actions that identify specific public health threats. In general, the recommendation was to use the term “collaborative compliance” rather than “enforcement.” The emphasis should be on educating and the provision of technical assistance so that standards are met and problems are corrected. Enforcement is formal action and is the last resort.

Other Recommendations Unrelated to Specific Standards and Measures:

1. The crosswalk between the FDA Retail Food Safety Guidelines and the PHAB Accreditation Standards and Measures was identified as a helpful resource. A recommendation was made to do that work again when the revised standards and measures have been completed.

2. A PHAB tip sheet could be developed to highlight measures for which environmental public health examples could be used and would be appropriate. The tip sheet could include examples of such items as how states and locals work together to differentiate their roles; examples of how EPH examples could be used across domains; and examples of how EPH staff are included in the CHA/CHIP process.

3. Recommended Changes in Terms and Definitions:

Current Terms	Existing Definitions	Proposed Definitions / Recommendations
<p>Environmental Public Health</p>	<p>Environmental health is the science and practice of preventing human injury and illness and promoting well-being by: identifying and evaluating environmental sources and hazardous agents; and limiting exposures to hazardous physical, chemical, and biological agents in air, water, soil, food, and other environmental media or settings that may adversely affect human health. https://www.neha.org/about-neha/definitions-environmental-health</p>	<p>Environmental Health is the branch of public health that focuses on the interrelationships between people and their environment, promotes human health and well-being, and fosters healthy and safe communities. As a fundamental component of a comprehensive public health system, environmental health works to advance policies and programs to reduce chemical and other environmental exposures in air, water, soil, and food to protect residents and provide communities with healthier environments. Environmental health protects the public by tracking environmental exposures in communities across the United States and potential links with disease outcomes.</p> <p>Adopted from NEHPC; https://www.apha.org/news-and-media/news-releases/apha-news-releases/2017/environmental-health-playbook</p> <p>Recommendation: There was a recommendation to remove “Public” from the term, so it reads “Environmental Health.” However, this might affect the original purpose for using EPH to distinguish EH from a public health perspective versus that of other environmental agencies. Additionally, would this require changing EPH to EH throughout the standards and measures? Would this have bearing on other terms that use EPH, such as EPH functions?</p>

<p>Environmental Public Health Consultation</p>	<p>Environmental public health consultation is advice and guidance provided by an environmental public health professional in response to a specific request for information on a potential hazard or condition that may adversely affect human health or the environment. Consultations are informative and educational and not associated with regulatory or enforcement actions. (Public Health Accreditation Board. <i>Environmental Public Health Think Tank Report</i>. 2010-2011)</p>	<p>Recommendation: Eliminate this definition, considering it does not appear in the standards and measures.</p>
<p>Environmental Public Health Event</p>	<p>Environmental public health events are occurrences that may impact public health or the environment. Examples include natural events such as earthquakes, floods, wildfires, heat waves and drought; technological incidents such as explosions or the release of chemicals from manufacturing facilities, oil tanker spills and train derailments; deliberate release of biological, chemical or radioactive material by terrorists; and disease outbreaks caused by an infection transmitted through person-to-person contact, animal-to-person contact, or from contamination of food and water or other media. (Public Health Accreditation Board. <i>Environmental Public Health Think Tank Report</i>. 2010-2011)</p>	<p>Recommendation: In the term, replace the word “event” with “incident.”</p> <p>Recommendation: Revise first sentence in the definition: Environmental public health incidents are occurrences that may impact the environment and public health.</p>
<p>Environmental Public Health Expertise</p>	<p>Environmental public health expertise is the special knowledge, skills and abilities of an environmental public health practitioner that allow them to anticipate, recognize, and respond to environmental public health challenges. Human resources are organized into department, programs, and agencies to provide expertise on drinking water, food protection, vector control, community environmental health assessment and other areas of environmental public health. (Public Health Accreditation Board. <i>Environmental Public Health Think Tank Report</i>. 2010-2011)</p>	<p>Environmental public health professionals possessing the appropriate academic education and training and registration or certification to:</p> <ul style="list-style-type: none"> • investigate, sample, measure, and assess hazardous environmental agents in various environmental media and settings; • recommend and apply protective interventions that control hazards to health; • develop, promote, and enforce guidelines, policies, laws, and regulations; • develop and provide health communications and educational materials; • manage and lead environmental health units within organizations; • perform systems analysis; • engage community members to understand, address, and resolve problems; • review construction and land use plans and make recommendations; • interpret research utilizing science and evidence to understand the relationship between health and environment; and • interpret data and prepare technical summaries and reports. <p>Adopted from NEHA, 2013; https://www.neha.org/about-neha/definitions-environmental-health</p>
<p>Environmental Public</p>	<p>As an integral part of the public health system, environmental public health helps to assure the conditions in which people can be healthy. The core functions of environmental public health</p>	<p>Environmental public health functions include:</p> <ul style="list-style-type: none"> • Provide timely, statewide, and locally relevant and accurate information to the state, health care system, and community on

<p>Health Functions Environmental Public Health Functions</p>	<p>include the assessment of information on the health and environmental conditions of communities, the development of comprehensive environmental public health policy, and assurance that environmental public health services are available in all communities. These three core functions of environmental public health are defined further, expanded and operationalized in the ten essential services of environmental public health and the Environmental Public Health Performance Standards. (Public Health Accreditation Board. Environmental Public Health Think Tank Report. 2010-2011)</p>	<p>environmental public health issues and health impacts from common environmental or toxic exposures.</p> <ul style="list-style-type: none"> • Identify statewide and local community environmental public health partners and their capacities, develop and implement a prioritized plan, and seek action funding for high priority initiatives. • Conduct mandated environmental public health laboratory testing, inspections, and oversight to protect food, recreation sites, and drinking water; manage liquid and solid waste streams safely; and, identify other public health hazards related to environmental factors in accordance with federal, state, and local laws and regulations. • Protect workers and the public from chemical and radiation hazards in accordance with federal, state, and local laws and regulations • Participate in broad land use planning and sustainable development to encourage decisions that promote positive public health outcomes (e.g. housing and urban development, recreational facilities, and transportation systems) and resilient communities. • Coordinate and integrate categorically-funded environmental public health programs and services. <p>Adopted from PHNCI, 2018; https://phnci.org/uploads/resource-files/FPHS-Factsheet-November-2018.pdf</p>
<p>Environmental Public Health Hazards</p>	<p>Environmental public health hazards are situations or materials that pose a threat to human health and safety in the built or natural environment, as well as to the health and safety of other animals and plants, and to the proper functioning of an ecosystem, habitat, or other natural resource. Chemical, biological, radiological, or physical agents in the environment that have the capacity to produce adverse health effects or ecological damage are considered hazards. Risk is the probability or likelihood that an adverse outcome will occur in a person, population or environment exposed to a particular concentration or dose of the agent. Risk is a function of exposure and dose. A hazard is the source of a risk. The likelihood of harm from an exposure distinguishes risk from hazard. Risk is created by a hazard. A toxic chemical that is a hazard to human health does not constitute a risk unless humans are exposed to it. Environmental public health programs prevent risks to human health and the environment by identifying and controlling hazards and preventing exposure to potentially harmful agents or conditions. (Public Health Accreditation Board. <i>Environmental Public Health Think Tank Report</i>. 2010-2011)</p>	<p>Environmental public health hazards are situations or materials that pose a threat to human health and safety in the built or natural environment. Chemical, biological, radiological, or physical agents in the environment that have the capacity to produce adverse health effects or ecological damage are considered hazards. Environmental public health programs prevent risks to human health and the environment by identifying and controlling hazards and preventing exposure to potentially harmful agents or conditions. (Public Health Accreditation Board. Environmental Public Health Think Tank Report. 2010-2011)</p>
<p>No existing term</p>		<p>Recommendation: Add the term “Environmental Epidemiology”</p> <p>Possible definitions: An Environmental Epidemiologist is a person who collects, analyzes, interprets, and disseminates data related to acute and chronic diseases or risk factors where an environmental exposure</p>

		<p>is important. CSTE, 2013; http://www.cste2.org/2013eca/CSTEEHEpidemiologyCapacityAssessment2014final.pdf</p> <p>Environmental epidemiology is the study of the effect on human health of physical, biologic, and chemical factors in the external environment, broadly conceived. By examining specific populations or communities exposed to different ambient environments, it seeks to clarify the relationship between physical, biologic or chemical factors and human health. Committee on Environmental Epidemiology; https://www.ncbi.nlm.nih.gov/books/NBK234293/</p>
--	--	--

Environmental Public Health Think Tank Participants:

- Michael Abbott (ME)
- Stacie Duitsman (MO)
- Jeff Freund (OR)
- Kendra Goff (FL)
- Kayleigh Hall (CDC, Water, Food & Environmental Health Services Branch)
- Niki Lemin (OH)
- Julianne Price (FL)
- Pieter Sheehan (VA)
- Carmily Stone (IA)
- Liza Corso (CDC, CSTLTS)
- Justin Gerding (CDC, Water, Food, & Environmental Health Services Branch)
- Abraham Kulumgara (ASTHO)
- Jackie Reszetar (NEHA)
- Chelsea Gridley-Smith (NACCHO)
- Sandra Whitehead (NEHA)
- Kerry Wyss (ASTHO)