The Isthmus

David T. Dyjack, Dr.PH, CIH
Executive Director
We are here.

X

CWA
CAA
RCRA
SARA
SDWA
OSHA
TSCA
EH

Climate
1-Health
DMI
AI
EJ
IAQ
Water
Emerging
EPH
Migrant families from Nicaragua and Honduras walk along the U.S. southern border on Jan. 23, 2022, near Sasabe, Ariz. (Salwan Georges/The Washington Post)

Opinion by José Andrés
May 22, 2023 at 7:31 p.m. ET

José Andrés is a chef and founder of the new Global Food Institute at George Washington University.

Threats to U.S. national security are not just measured in missiles, armies and terrorists. Political and economic turmoil, in countries that are important to America and its allies, can also be overwhelming.
A preliminary list of occupations (not exhaustive) is presented below.

<table>
<thead>
<tr>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>(core public health personnel)</td>
<td>(Health and care workers who perform one or more public health functions)</td>
<td>(Personnel from other allied occupations)</td>
</tr>
<tr>
<td>Epidemiologists</td>
<td>Medical doctors</td>
<td>Road safety personnel</td>
</tr>
<tr>
<td>Public health managers/officers</td>
<td>Nursing personnel</td>
<td>Food supply chain personnel</td>
</tr>
<tr>
<td>Public health researchers</td>
<td>Midwifery personnel</td>
<td>Agricultural personnel</td>
</tr>
<tr>
<td>Public health practitioners</td>
<td>Dentists</td>
<td>Veterinarians</td>
</tr>
<tr>
<td>Public health educators</td>
<td>Pharmacists</td>
<td>Environmental health personnel</td>
</tr>
<tr>
<td></td>
<td>Community health workers</td>
<td>Water sanitation and hygiene (WASH) personnel</td>
</tr>
<tr>
<td></td>
<td>Medical &amp; pathology laboratory technicians</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Paramedical personnel</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Traditional &amp; complementary medicine personnel</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambulance workers</td>
<td></td>
</tr>
</tbody>
</table>

5. Identify which occupations perform which tasks

The key occupations from each of the three groups of public health personnel will then be mapped against the tasks identified under the prioritized subfunctions. Otherwise, the mapping can be done directly with the prioritized subfunctions as a proxy for the tasks. This will provide information on the various occupations which are involved in the delivery of each subfunction. If any occupations are
Graduate Enrollment Trends and Graduation Rates from 2006-2007 to 2022-2023
Environmental Health is Public Health

## CHAPTER 5

### Workforce

Figure 5.10 | Staffing patterns (in median Full-Time Equivalents (FTEs)) at LHDs, by size of population served

<table>
<thead>
<tr>
<th>10,000</th>
<th>10,000-24,999</th>
<th>25,000-49,999</th>
<th>50,000-99,999</th>
<th>100,000+</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 FTEs</td>
<td>9 FTEs</td>
<td>8 FTEs</td>
<td>9 FTEs</td>
<td>10 FTEs</td>
</tr>
<tr>
<td>2. Office and administrative support staff</td>
<td>2. Office and administrative support staff</td>
<td>2. Office and administrative support staff</td>
<td>5. Office and administrative support staff</td>
<td>10. Office and administrative support staff</td>
</tr>
<tr>
<td>8. Information systems specialist</td>
<td>1. Information systems specialist</td>
<td>3. Information systems specialists</td>
<td>5. Information systems specialists</td>
<td>5. Information systems specialists</td>
</tr>
<tr>
<td>10. Licensed practical or vocational nurse</td>
<td>1. Licensed practical or vocational nurse</td>
<td>3. Licensed practical or vocational nurse</td>
<td>4. Licensed practical or vocational nurse</td>
<td>7. Licensed practical and vocational nurse</td>
</tr>
<tr>
<td>11. Laboratory worker</td>
<td>1. Laboratory worker</td>
<td>3. Laboratory worker</td>
<td>3. Laboratory worker</td>
<td>3. Laboratory worker</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Office FTEs</th>
<th>Total FTEs</th>
<th>Office FTEs</th>
<th>Total FTEs</th>
<th>Office FTEs</th>
<th>Total FTEs</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 Registered nurses</td>
<td>17 Registered nurses</td>
<td>29.5 Registered nurses</td>
<td>48 Registered nurses</td>
<td>10 Registered nurses</td>
<td>17 Registered nurses</td>
</tr>
<tr>
<td>10 Office and administrative support staff</td>
<td>6 Office and administrative support staff</td>
<td>30.2 Office and administrative support staff</td>
<td>65.2 Office and administrative support staff</td>
<td>10 Office and administrative support staff</td>
<td>6 Office and administrative support staff</td>
</tr>
<tr>
<td>3 Agency leadership</td>
<td>6 Agency leadership</td>
<td>35.5 Agency leadership</td>
<td>49.5 Agency leadership</td>
<td>10 Agency leadership</td>
<td>6 Agency leadership</td>
</tr>
<tr>
<td>7 Environmental health workers</td>
<td>14 Environmental health workers</td>
<td>26 Environmental health workers</td>
<td>36 Environmental health workers</td>
<td>7 Environmental health workers</td>
<td>14 Environmental health workers</td>
</tr>
<tr>
<td>2 Health educators</td>
<td>3 Health educators</td>
<td>6.2 Health educators</td>
<td>12 Health educators</td>
<td>2 Health educators</td>
<td>3 Health educators</td>
</tr>
<tr>
<td>1 Preparations staff</td>
<td>2 Preparations staff</td>
<td>3 Preparations staff</td>
<td>5 Preparations staff</td>
<td>1 Preparations staff</td>
<td>2 Preparations staff</td>
</tr>
<tr>
<td>2 Nutritionists</td>
<td>4.1 Nutritionists</td>
<td>8 Nutritionists</td>
<td>19 Nutritionists</td>
<td>2 Nutritionists</td>
<td>4.1 Nutritionists</td>
</tr>
<tr>
<td>2 Business and financial operations staff</td>
<td>4 Business and financial operations staff</td>
<td>8 Business and financial operations staff</td>
<td>27 Business and financial operations staff</td>
<td>2 Business and financial operations staff</td>
<td>4 Business and financial operations staff</td>
</tr>
<tr>
<td>0.5 Epidemiologist</td>
<td>1 Epidemiologist</td>
<td>3 Epidemiologist</td>
<td>8 Epidemiologist</td>
<td>13 Epidemiologist</td>
<td>1 Epidemiologist</td>
</tr>
<tr>
<td>0.5 Public health physician</td>
<td>1 Public health physician</td>
<td>3 Public health physician</td>
<td>3 Public health physicians</td>
<td>3 Public health physicians</td>
<td>1 Public health physician</td>
</tr>
<tr>
<td>0.4 Community health worker</td>
<td>1.4 Community health worker</td>
<td>3.4 Community health workers</td>
<td>14 Community health workers</td>
<td>0.4 Community health worker</td>
<td>1.4 Community health worker</td>
</tr>
<tr>
<td>0.6 Information systems specialist</td>
<td>1.6 Information systems specialist</td>
<td>3.6 Information systems specialists</td>
<td>5.6 Information systems specialists</td>
<td>0.6 Information systems specialist</td>
<td>1.6 Information systems specialist</td>
</tr>
<tr>
<td>0.2 Public information professional</td>
<td>0.2 Public information professional</td>
<td>0.2 Public information professional</td>
<td>0.6 Public information professional</td>
<td>0.2 Public information professional</td>
<td>0.2 Public information professional</td>
</tr>
<tr>
<td>0.1 Licensed practical or vocational nurse</td>
<td>0.1 Licensed practical or vocational nurse</td>
<td>0.3 Licensed practical or vocational nurse</td>
<td>0.8 Licensed practical or vocational nurse</td>
<td>0.1 Licensed practical or vocational nurse</td>
<td>0.1 Licensed practical or vocational nurse</td>
</tr>
<tr>
<td>0.1 Laboratory worker</td>
<td>0.1 Laboratory worker</td>
<td>0.3 Laboratory worker</td>
<td>0.6 Laboratory worker</td>
<td>0.1 Laboratory worker</td>
<td>0.1 Laboratory worker</td>
</tr>
<tr>
<td>0.1 Behavioral health staff</td>
<td>0.1 Behavioral health staff</td>
<td>0.3 Behavioral health staff</td>
<td>0.6 Behavioral health staff</td>
<td>0.1 Behavioral health staff</td>
<td>0.1 Behavioral health staff</td>
</tr>
</tbody>
</table>

n=1,314, 1,468

- Staffing patterns of LHDs vary by the size of population served.
- LHDs serving the smallest jurisdictions typically employ registered nurses, office support staff, a top executive, and environmental health workers.
- LHDs serving medium-sized jurisdictions typically also employ some additional occupations, including health educators, preparedness staff, nutritionists, business and financial operations staff, epidemiologists, public health physicians, and community health workers.
- LHDs serving jurisdictions over one million people typically employ nearly 500 FTEs, including nearly 50 registered nurses, more than 75 office support staff, and many employees in specialized occupations, including information systems specialists, public information professionals, laboratory workers, and oral healthcare staff.
2012 IOM Report

All other programs and services beyond the Foundational Public Health Services—those that are specific to an HD or community’s needs.

Foundational Areas
- Chronic Disease, Injury Prevention
- Environmental Public Health
- Maternal, Child, & Family Health
- Access to and Linkage with Clinical Care

Foundational Public Health Services
- Communicable Disease Control
- Assessment (Surveillance, Epidemiology, and Laboratory Capacity)
- All Hazards Preparedness/Response
- Policy Development/Support
- Communications
- Community Partnership Development
- Organizational Competencies (Leadership/Gov; Health Equity; Accountability/Performance Management, QI; IT; HR; Financial Management; Legal)
Environmental Public Health

- Access/Axis/Affect
- Chief Science Officer

Developing Wearable Technologies to Advance Understanding of Precision Environmental Health Workshop

JUNE 1, 2023 | 1:00 - 4:00 PM ET
JUNE 2, 2023 | 1:00 - 4:00 PM ET
Environmental Public Health is Profoundly Local

- In some cases “is” the LHD
- Vector Control
- Tap Water
- Retail Food
- Housing
- ECE
- Schools
- Spas/Pools
- Septic
- Tattoo
- Cannabis
- Animal Control

Clostridium perfingens - Gas Gangrene

- Lower bowel & rectum
- Found in surrounding skin flora
- Media reports - deaths following Liposuction
Saipan

- Vector
- ECE
- Schools
- Cemeteries
- Hospitality
- EP+R
- Vessel Clearance

- Water Vending
- Massage Parlors
- Nail Salons
- Barber Shops
- Retail Food
- Tattoo
- Lead
Massachusetts COVID-19 public health emergency to end May 11. Here's what that means.

The Commonwealth will no longer require masks in healthcare settings or executive department employees to be vaccinated, among other changes.
Climate Change

- Vectors
- Flooding
- Sea Level Rise
- Fisheries
- Drought
- Extreme Heat
- HABs
One Health

Overview

The mission of Tufts CTSI’s One Health Program is to optimize the health of humans, environment through an innovative and integrative, interdisciplinary approach to education, research, and practice.
New Era for Water

Wastewater surveillance could be a new way to track trends for illnesses like COVID

April 22, 2023 - 8:00 AM ET
Heard on Weekend Edition Saturday

Pien Huang

Public health officials say wastewater surveillance could help them track trends for many kinds of diseases - from COVID to polio - but only if they can keep the testing system going.

Locally caught fish are full of dangerous chemicals called PFAS, study finds
Cuban Refugees

Photos courtesy of Paige Dyjack
Venezuelan Refugees

Photos courtesy of Paige Dyjack
Data Modernization Initiative

Data saves lives. Better data saves more lives.

TOGETHER, WE ARE FOCUSED ON THE DATA • PEOPLE • POLICIES
WE NEED TO MOVE THE COUNTRY FORWARD

“AT CDC and throughout public health, we are in a pivotal moment for data and surveillance — one marked by opportunities, challenges, and the need for change.”

Dr. Rochelle P. Walensky, CDC Director

The ultimate goal of CDC’s Data Modernization Initiative (DMI) is to get better, faster, actionable insights for decision-making at all levels of public health.

Our vision is to create one public health community that can engage robustly with healthcare, communicate meaningfully with the public, improve health equity, and have the means to protect and promote health.
Lab-grown meat is OK for human consumption, FDA says

By Kate Wurth, CNN
Updated 12:56 AM GMT (7:56 AM EDT) Thursday, November 17, 2022

Fast Company

03-09-22 | MOST INNOVATIVE COMPANIES

The 10 most innovative biotech companies in 2022

Biotech companies such as Strata Oncology, TMRW Life Sciences, and DNA Script are breaking new ground in cancer detection, IVF storage, DNA synthesis, and more.

The US Food and Drug Administration has given a safety clearance to lab-grown meat for the first time.

Oxford Foods, a California-based company that makes meat from cultured chicken cells, will be able to begin selling its products since its facilities have been inspected by the US Department of Agriculture.

The agency said it had evaluated the information submitted by Oxford Foods and it had "no further questions of this
Artificial Intelligence in Medicine and Public Health: Prospects and Challenges Beyond the Pandemic

March 1, 2022 by Danielle Nafzley, Mui J. Khoury, Office of Genomics and Precision Public Health, Centers for Disease Control and Prevention, Atlanta, Georgia

Though still in its infancy as a field, artificial intelligence (AI) is poised to transform the practice of medicine and the delivery of healthcare. Powered by breakthroughs in machine learning (ML) algorithms, enhanced computing power, and increased data...
Fungi, Bacteria, & HAIs

- Climate Mediated Adaptations
- Antibiotic Resistance Organisms
- Antibiotics in CAFOs
- LTCs

Climate change may be aiding a deadly fungus in infecting humans
The number of cases of fungal infections has increased around the world

_Fungus called C. neoformans (Illustrated) can cause deadly infections in people._

First US cases of treatment-resistant ringworm found in patients in New York City

By Jen Christensen, CNN
Updated 4:50 PM EDT, Thu May 11, 2023

(CNN) — The US Centers for Disease Control and Prevention is reporting the first known cases of an antifungal-resistant ringworm in the United States and urging providers to be on the lookout for such infections.

The details of the cases were reported to the CDC in February and shared in a report published Thursday. The patients – two unrelated women in New York City – first had infections in December and January, respectively.
How We Engage with Food

Meal Kits & Ghost restaurants
• UberEats
• Instacart
• DoorDash
• Blue Apron
• Hello Fresh
• Grubhub
• Home Chef
• Seamless
• Home Restaurants & Groceraunts

• Food Freedom & Cottage Foods
Smoke from Canadian fires is pouring into the US and could linger for days

Published 5:17 AM CDT, Fri May 19, 2023

(CNN) — Smoke from wildfires in Canada is moving into parts of the central US and could linger in the days ahead, health and weather officials warned Thursday.

Air quality alerts have been posted as of early Friday across several states, including Nebraska, Washington, Montana, Minnesota...
CDC sets first target for indoor air ventilation to prevent spread of Covid-19
by Brenda Goodman
Published 5:51 PM EDT, Fri May 12, 2023

The CDC recommends using MERV-13 air filters in HVAC systems, if possible.

(CNN) — The US Centers for Disease Control and Prevention has extensively updated its ventilation guidance on helping prevent indoor transmission of the virus that causes Covid-19.
Environmental Racism

“This is environmental racism’
How a protest in a North Carolina farming town sparked a national movement
There is Plenty of Help

MODEL LOCAL ENVIRONMENTAL HEALTH PROGRAM PLAN 2022

Dear David,

We already have more than 30 job seekers signed up for our Virtual Career Fair on May 23! Each participant is ready and eager to step into the environmental health workforce.

Join us at the Career Fair to find a match for an open position in your organization.

Date: May 23, 2023

Who: State, local, tribal, and territorial environmental public health agencies and job seekers who have/will graduate from environmental health programs accredited by the Environmental Health Accreditation Council (EHAC).

When: Open from 12-4 p.m. ET with one-hour segments dedicated to highlighting agencies in each time zone:

- Eastern Spotlight: 1 - 1 p.m. ET
Join Us!

Professional Member
International
Emerging Professional
Retired Professional

neha.org/membership
We Connect Experts to Share Knowledge

• National Environmental Assessment Reporting System (NEARS)
• Private Water Network
• Climate and Health Community
• National Environmental Public Health Internship Program Network (NEPHIP)
• Concurrent Disasters Community of Practice
• Environmental Health Strike Team Standard Community of Practice
We Create Space for Community

NEHA Community
• Online platform
• Members only
• Directory, events, workgroups
• Exchange ideas & advice
• Build collaboration & camaraderie
We’re Working to Raise the Visibility of EH

4-pronged strategy
• Self-promotion training and materials
• Advertising
• EH leadership discussion
• Community outreach

KERIANNE
HEALTH PROTECTION SCIENTIST
Bernalillo County - New Mexico

• Protecting our land from hazardous waste
• Most days you can find me on my way to investigate illegal dumping
• I am environmental public health

BEN
ENVIRONMENTAL HEALTH SPECIALIST
Lincoln-Lancaster County Health Department - Nebraska

• Not just an inspector, a “Healthy Home Hero”
• Dedicated to protecting families from lead poisoning
• I am environmental public health
Knowledgeable & Trained EH Workforce

Water

Emerging

Equity

Climate

1. Recreational Water Illnesses
2. What to Know, New Version Model Aquatic Health Code (MACH)
3. Strategies, Tactics and Implementation of the MAHC
4. What to Know, New Version Model Aquatic Health Code (MACH)
5. Workshop on Addressing the Environmental Health Impacts of Climate Change on Private Drinking Water Systems and Private Wells

1. Impacts of Polyfluoroalkyl Substances (PFAS) On Environmental Public Health
2. Using Data & Informatics in Environmental Public Health

1. Impacts of Climate Change on Environmental Public Health
2. More Than Just Weather: How Climate Change is Impacting Multiple Areas of Environmental Health
3. Integrating Climate Justice into Environmental Public Health Programs
4. Addressing the Impact of Climate Change Using NEHA’s CHAMP Program

Spring Webinars Meet Education Needs

Delivered just when you need them!
We Strengthen Retail Food Safety

Keys to Optimal Retail Food Safety

Improved Public Health through safe retail food

Environmental Health
Workforce Insight

Credentials, Investments, Capacity Building

Connectivity, Collaboration, Conformance, Research, Data, Thought Leadership

We are retail food safety

NEHA represents 7,000 members, 6,000 credential holders, and professionals in every state, DC and US territories. We provide 250+ food safety resources and courses and a directory of 150 food safety instructors. We publish the Journal of Environmental Health.
The Main Thing

• Foodnet
• NORS
• Epi-Ready
• NEARS
• EHS-Net

New Era of Smarter Food Safety
We Engage National Influencers

- April 5, 2023
- Retail Food
- Centrality of NEHA
- Centrality of EH Profession
- Support Funding
REHS/RS Credential Delivers Excellence on Day 1

✓ Surveillance
✓ Inspections
✓ Investigations
✓ Compliance Review
✓ Community Outreach
✓ Emergency Planning
Our Program Investments in Massachusetts
Our Financial Investments in Massachusetts

$465,183.75
Our Membership in Massachusetts

238
Our Revenue in Massachusetts

$19,300

Massachusetts ROI $24.50:$1
FY22 Annual Report

- Online
- Summary of Activities
- Sources of Investment
Raise the Voice of Your Workforce in New Orleans

Annual Educational Conference & Exhibition (AEC)
July 31 – August 3
Learn from Our Keynote Speakers

Communities and Climate Through the Lens of Environmental Health Practice
Maureen Lichtveld, MD, MPH
Dean, School of Public Health
Professor, Environmental and Occupational Health
Jonas Salk Chair in Population Health

Leadership: Getting the Difficult Job Done
Lt. General Russel L. Honoré, USA (Ret.)
Commander of Joint Task Force Katrina, Leadership, Safety & Global Preparedness Authority and Leader of U.S. Capitol Complex Security Review

Frank Yiannas
Food Safety Executive
Prior Deputy Commissioner Food Policy & Response, FDA
Science Exists in a Social Context

Data does not change minds – relationships do

- Principle of Reciprocation - Generosity
- Principle of Commitment – Writing
- Principle of Social Proof – Early adopters/positive deviants
- Principle of Scarcity – Short Supply
- Principle of Authority – Act like a Minister of Health
- Principle of Commitment and Consistency - people loathe uncertainty
- Principle of Unity – we’re all Americans

Source: Robert Cialdini, Ph.D
Conclusions

• Let the main thing be the main thing
• EH is profoundly local
• EH is a contact sport
• EH is PH
• Each of us is important
This is (y)our time.