

# Workforce Shortage Disconnect



# NNPHI Climate & Crisis Preparedness Staff

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# Existing Workforce Shortage

Vs.

# Incoming Next Generation Workforce



# Current Workforce Shortage in Public Health

"Nearly **half of all employees** in state and local public health agencies in the U.S. left their jobs between 2017 and 2021, and if such workforce contractions continue, **more than 100,000 public health staff could leave** their jobs by 2025"

"Resigning was particularly common among **younger staff**: 75% of employees **ages 35 or younger** or with shorter tenures left their jobs"

<https://www.hsph.harvard.edu/news/hsph-in-the-news/u-s-governmental-public-health-workforce-shrank-by-half-in-five-years-study-finds/>



# Incoming Next Generation Workforce

As of 2020, more than **18,000 undergraduate public health degrees** were awarded each year

More than **16,000 graduate degrees** in public health are awarded annually

<https://aspph.org/undergraduate-public-health-degrees-rise-in-popularity-but-employment-in-government-workforce-lags/#:~:text=As%20of%202020%2C%20more%20than,in%20the%20past%2020%20years.>

Leider, J. P., Sellers, K., Bogaert, K., Castrucci, B. C., & Erwin, P. C. (2020). Master's-Level Education in the Governmental Public Health Workforce. *Public health reports (Washington, D.C. : 1974)*, 135(5), 650–657. <https://doi.org/10.1177/0033354920943519>



# First Destination Outcomes for 2015-2018 Undergraduate Students

**Bachelor's degree graduates** were employed at:

- For-profit organizations (38% overall, with 30% of all undergraduates finding employment in for-profit corporations outside consulting, health information technology, and insurance)
- Health care organizations (27%)
- Nonprofit organizations (12%)
- Government agencies (10%)
- Academic institutions (10%)

Not employed but seeking employment was **highest** for bachelor's degree program graduates at 6% in 2015 and 9% in 2018. (4% for Masters and 2% for Doctoral)



# First Destination Outcomes Graduate Students

**Master's degree graduates** secured employment:

- Healthcare organizations (29%)
- For-profit organizations (21%)
- Government agencies (19%)
- Academic institutions (18%)

Employment preferences were highest for not-for-profit organizations followed by governmental public health agencies.

<sup>5</sup> Plepys, C. M., Krasna, H., Leider, J. P., Burke, E. M., Blakely, C. H., & Magaña, L. (2021). First-Destination Outcomes for 2015-2018 Public Health Graduates: Focus on Employment. *American journal of public health*, 111(3), 475–484. <https://doi.org/10.2105/AJPH.2020.306038>

<sup>6</sup> Yeager, V. A., Beitsch, L. M., Johnson, S. M., & Halverson, P. K. (2021). Public Health Graduates and Employment in Governmental Public Health: Factors That Facilitate and Deter Working in This Setting. *Journal of public health management and practice : JPHMP*, 27(1), 4–11. <https://doi.org/10.1097/PHH.0000000000001052>



# The Disconnect

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## Causes

- Hiring processes
- Misalignment between academic preparation and job market expectations
- Lack of entry level positions designed to bridge the gap

## Consequences

- Graduates unable to enter the workforce
  - Change in career path
- Prolonged job vacancies and unmet public health needs
- Impact future public health professionals and public





# Public Health LEADS



# Public Health LEADS

Data Definitions

Full Career (entry, mid and senior level)  
Public Health Professional Listening  
Sessions

Public Health Workforce Job  
Scan

CEPH and non-CEPH  
Program Environmental Scan

Train the Trainer Environmental  
Scan

Steering Committee

Mapping of existing PH  
programs

Skills needed in Data Science  
and/or Leadership



# Breakdown



Academic Programs - undergraduate & graduate



Job Postings - workforce requirements



Workforce skills - training opportunities



# Academic Programs

UNDERGRAD & GRADUATE



# PH Program Environmental Scan

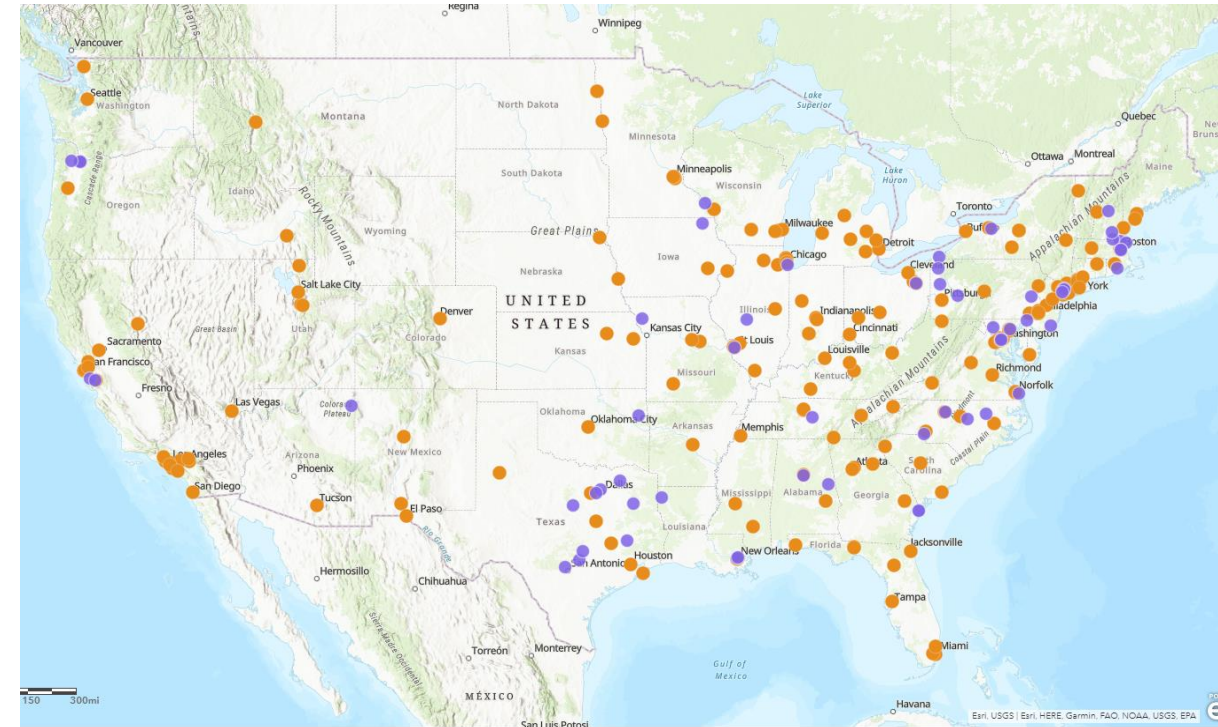
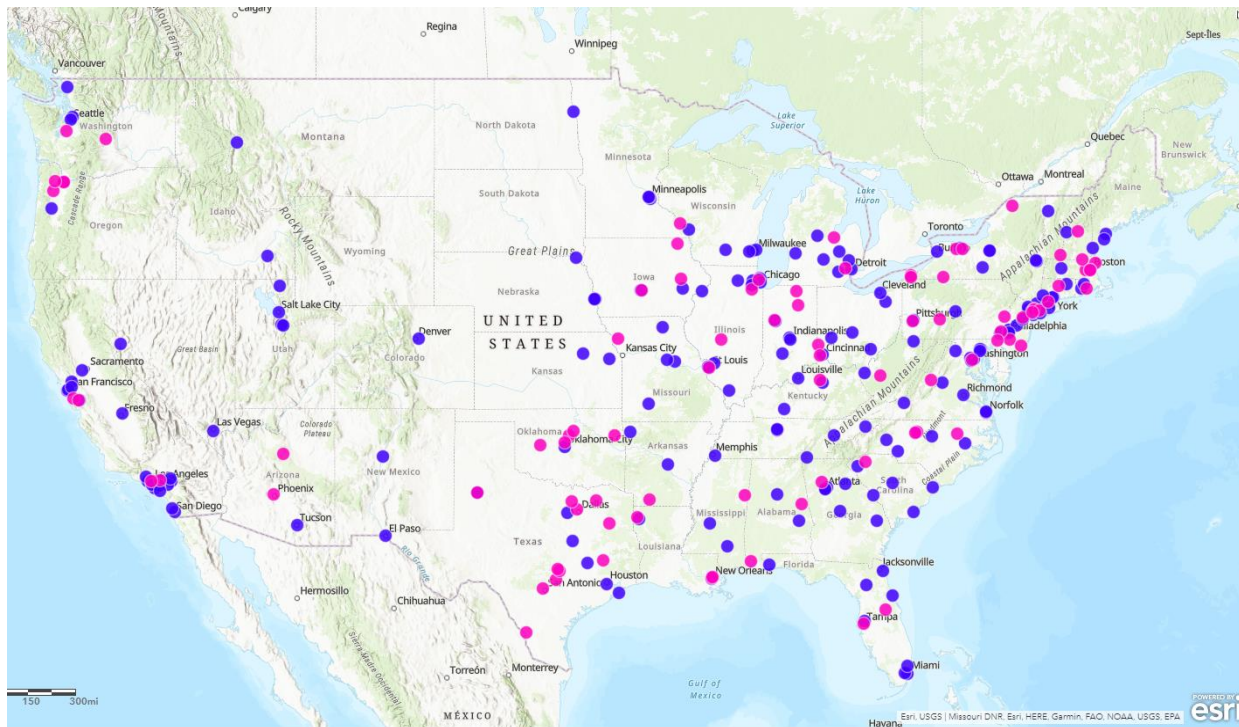
- Scan on CEPH and non-CEPH programs
- Database:
  - Undergraduate & Graduate Programs
  - HBCU, Tribal Colleges, and other Minority Serving Institutions
  - Data science and leadership offerings
  - Type of Public Health Degree offered
  - Distanced vs In-person learning
  - Concentrations
  - State funded/Private
  - Placement requirements (Internships, Capstone, etc.)



# Data Science and Leadership programs across the country

## 437 Public Health Programs

Environmental scan data mapped: Undergraduate & Graduate Programs



# Workforce Skills

TRAINING OPPORTUNITIES



# Data definitions

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## Data Science

- Data intake
- Data storage
- Data analytics
- Data communication

## Data literacy

- Data quality assessment
- Data logic
- Data communication

## Data-informed Leadership

- Data governance
- Data operations
- Strategic thinking
- Data communication
- Leadership modeling





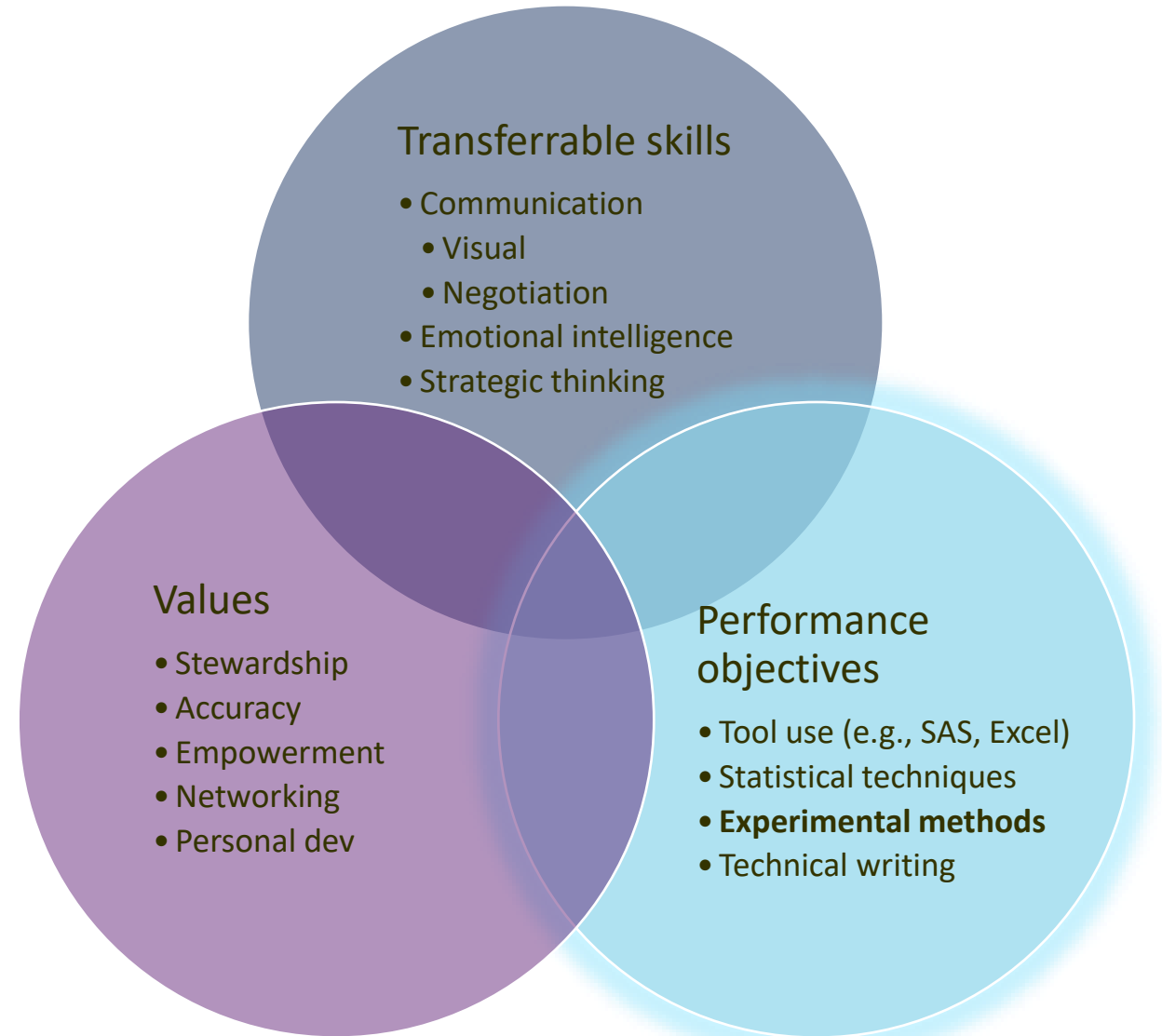
# Data Science

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Collecting, manipulating, and visualizing information.

What evidence is there?

- People connected to accessing info
- Processes to access, analyze, and visualize info
- Products enabling data collection, manipulation, visualization



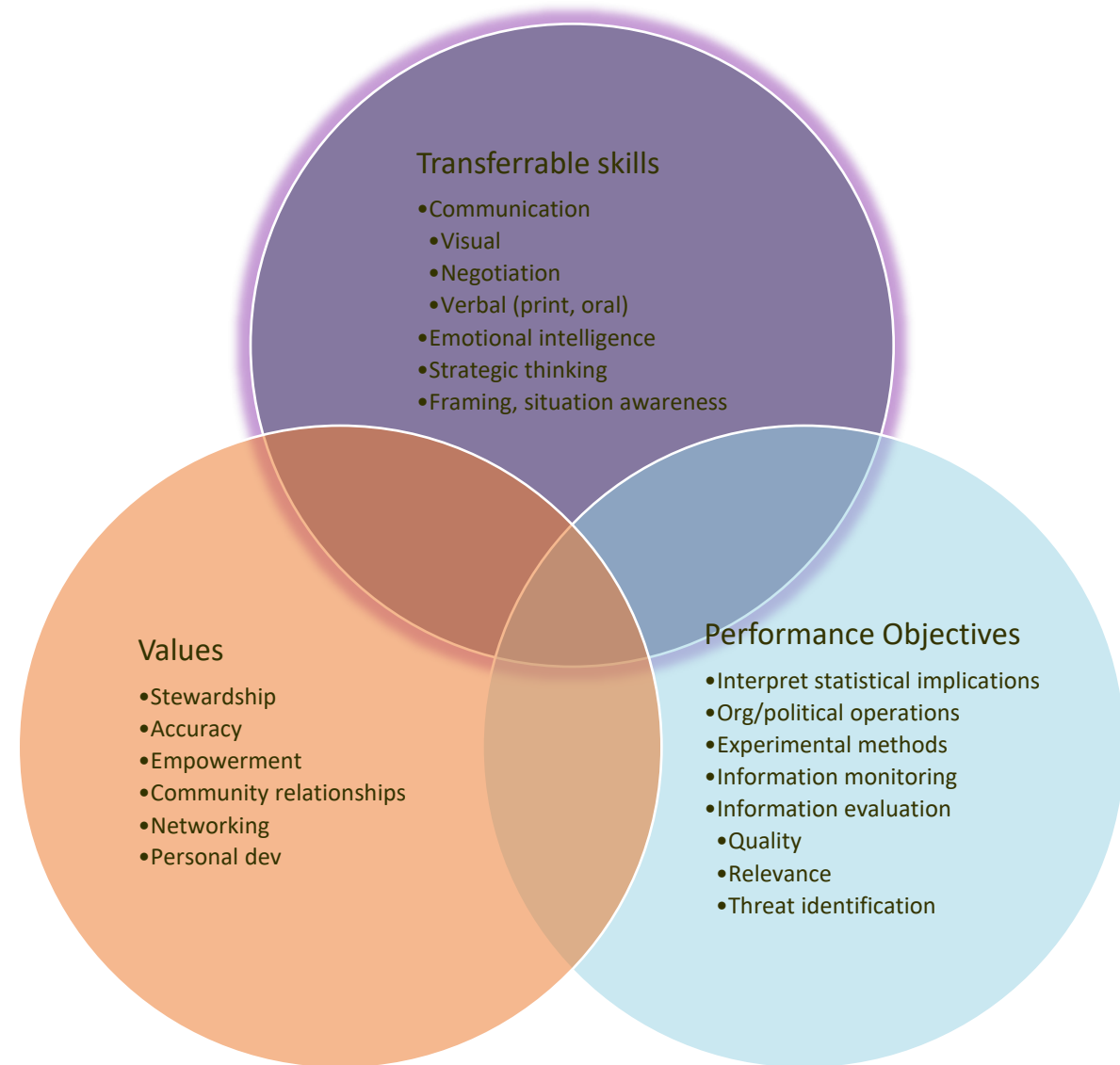
# Data Literacy

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Interpreting and evaluating information across contexts.

What does this evidence mean or suggest?

- People who are impacted by the information
- Processes to evaluate/disseminate information
- Products used to update, communicate, and process information

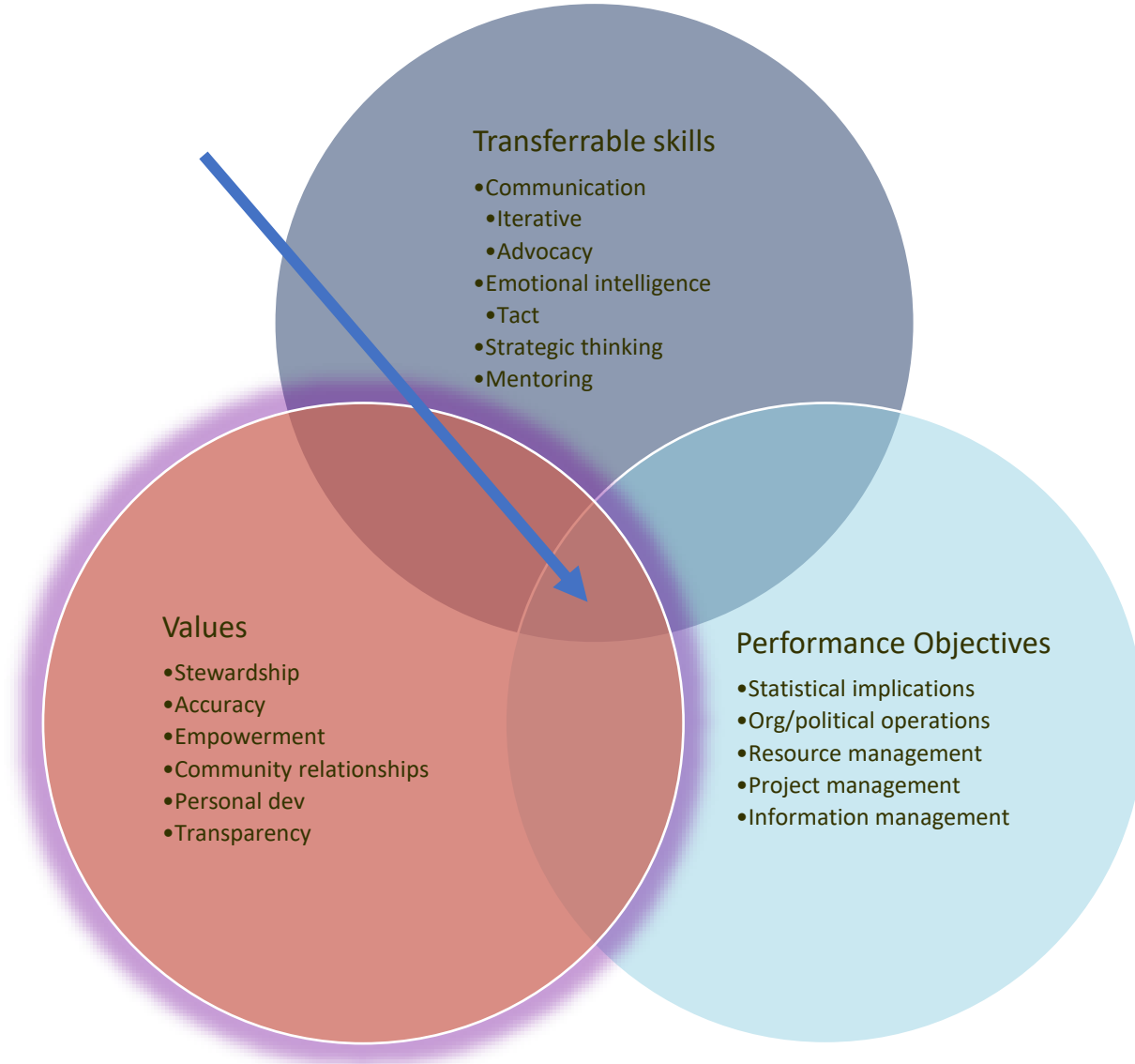


# Data-informed Leadership

Using information to advance PH objectives and support PH workforce.

What should we do, given the evidence?

- People impacted by evidence-based decisions; people guided/mentored in PH
- Processes by which information is moved, shared, evaluated
- Products used to communicate information, advance PH objectives, and support PH workforce



# Listening Session Data

## TRAINING THAT WOULD HELP BE MORE EFFECTIVE AND CONFIDENT IN YOUR CURRENT JOB



Figure 4: Recruitment Survey Respondents' Trainings that Would Help Them be More Effective and Confident in Current Job



# Workforce Training

## Recommendations: Socio-ecological model

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- Individual Level
  - Coping with rejection
  - Communicating data
- Interpersonal/  
Organizational Level
  - Recruitment
  - Competency checklists
  - Career pathways
  - Skill-building in low-risk environments
  - Centralized public health data teams
- Systems Level
  - Federated architecture & accomplishing shared objectives
  - Addressing the impacts of politics on data science
  - Collaboration & cross sector partnerships
  - Improving training infrastructure
  - Financial support

# Job Postings

WORKFORCE REQUIREMENTS



# Job Posting Scan

We conducted a scan of 16 active public health positions across the country

- Positions ranged from city, county, and state health departments
- Required experience in:
  - Strategic Thinking
  - Effective Communication
  - Data Analysis
  - Statistical Modeling
  - Data Visualization
  - Policy Knowledge
  - Project Management
  - Adaptability
  - Problem-Solving



## WHY PARTICIPATE?

You are a valued member of the Public Health Workforce.

Within the past 2 years you have recent experience in academic programs in public health, public health data science, or leadership.

You want to contribute to a National Network of Public Health Institutes (NNPHI) and CDC Public Health LEADS project to inform and transform curricula and training of the public health workforce.

You want to contribute your voice to improving the diversity of the public health workforce.

You want to contribute your knowledge to helping understand the facilitators and barriers to recruitment and retention, gaps in academic curricula compared to skills needed on the job, gaps in data science, leadership capacity, accessibility, training and education in the new public health workforce.

RECENT PUBLIC  
HEALTH  
GRADUATES  
HELP US  
BUILD THE  
PUBLIC HEALTH  
WORKFORCE  
OF TOMORROW!

# Listening Sessions

WE WANT  
TO HEAR  
FROM YOU!

## WHO CAN PARTICIPATE?



Adults 18 years or older with access to the internet and a device with video conferencing capability.

Newly graduated students in public health, public health data science, or leadership who are within their first 6 months to 2 years of employment or who want to work in public health but have not found employment yet.

If you are interested in participating, you will first complete a brief survey to determine your eligibility for inclusion in a 1.5 hour virtual sharing, learning and listening session.

The **NNPHI** and **CDC'S** Public Health LEADS have partnered with Health Communications Consultants, Inc. to conduct virtual sharing, learning and listening sessions.

Sessions will take place on October 24, 25, or 26 and will focus on recruitment and retention facilitators and barriers, gaps in academic curricula compared with skills needed on the job, gaps in data science and leadership capacity, accessibility, training and education.

## INTERESTED?

Please fill out the brief eligibility survey at this [Survey Link](#).



## QUESTIONS ABOUT THE STUDY

Please contact the Principal Investigator:

Sarah D. Matthews, PhD at [Sarah.Matthews@healthcommunicationsconsultants.com](mailto:Sarah.Matthews@healthcommunicationsconsultants.com)



This project is supported by the Centers for Disease Control and Prevention of the U.S. Department of Health and Human Services (HHS) as part of a financial assistance award (NU390E000016-01-00, titled Strengthening Environmental Health - Building Capacity for a More Diverse and Representative Workforce) totaling \$386,000 with 100 percent funded by CDC/HHS. The contents are those of the author(s) and do not necessarily represent the official views of, nor an endorsement by, CDC/HHS or the U.S. Government.



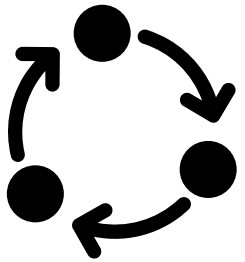
Health Communications Consultants  
Knowledge, Innovation, & Equity

- Recruitment October
- Sessions October
- Analysis November
- Report December
- Audience: Newly graduated students in data science and leadership who are within their first 6 months to 2 years of employment or who want to work in public health but have not found employment yet





# Methods



- 3 data collection tools: recruitment survey, listening sessions, post listening session survey
- Descriptive analysis
- Sociological thematic coding
  - Emerging themes inform the development of conceptual model

# Listening Session Data

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Twenty-nine (29) respondents had an affirmative response to the screening questions “Are you a newly graduated student in data science and leadership who is within their first 6 months to 2 years of employment?” **Thirteen (13) of the 29 respondents selected “I would like to be working in the public health field but have not gained employment yet.”**



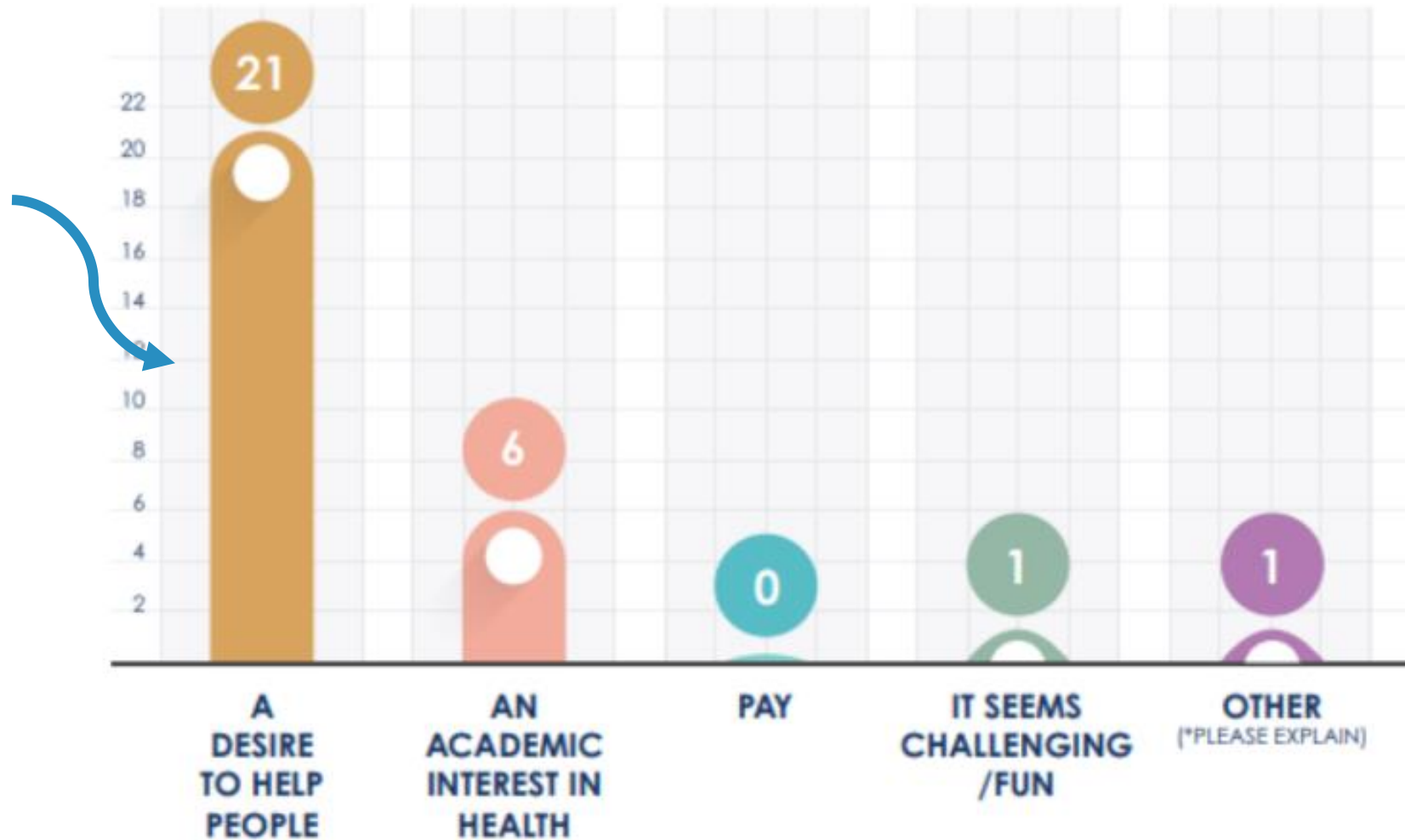
## BARRIERS FACED WHEN TRYING TO FIND A JOB IN PUBLIC HEALTH

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*Figure 3: Recruitment Survey Respondents' Barriers to Finding a Job in Public Health*

## WHICH BEST DESCRIBES YOUR MOTIVATION TO WORK IN PUBLIC HEALTH?



**N=31**

\* I WANTED A CAREER CHANGE AND I WAS LOOKING FOR BALANCE BETWEEN APPLYING SKILLS THAT I HAVE ALREADY OBTAINED WITH SOMETHING I STILL FOUND PERSONAL FULFILLMENT.

# Social Media Movement

## Top searches:

- Day in a life working in public health
- How do you find a job in public health?
- Advice for job searches
- Tailoring your resumes and experience to position needs
- What am I going to do with my degree?

"The job search will be brutal"

"People said once you get your MPH, job opportunities will be better, that was not the case"

"Took me 8 months to get my job even though I had an MPH and experience"

"I can't find a job that wants to pay me enough to live"

"Changed my career path to avoid crippling debt"



# Bridging the Gap

SOLUTIONS & RECOMMENDATIONS



# How do we get students into the workforce?

Matching academic  
and workforce needs

Entry level positions

Workforce training



# Implement person-centered recruitment & training practices

## Recommendation

- Developing roles intended for workers with little experience
- Maintain respectful, empathetic and humane recruitment practices
- Training practices for recruiters must include skills to align appropriate experience levels to the job description

## Discussion

- *What steps can we take to personalize the recruitment process?*
- *How might you streamline recruitment processes?*
- *What challenges you have faced with recruitment?*





# Access to an effective and accessible career-specific advisor or mentor

## Recommendation

- Students to be matched with advisors to guide through:
  - Academic
  - Career
  - Professional development
  - Self-care paths

## Discussion

- *How has your health department mentored recent graduates or staff?*
- *How might mentoring a public health student or recent graduate support the health department?*



# Improve alignment between academic curricula and needs of non-research public health work

## Recommendation

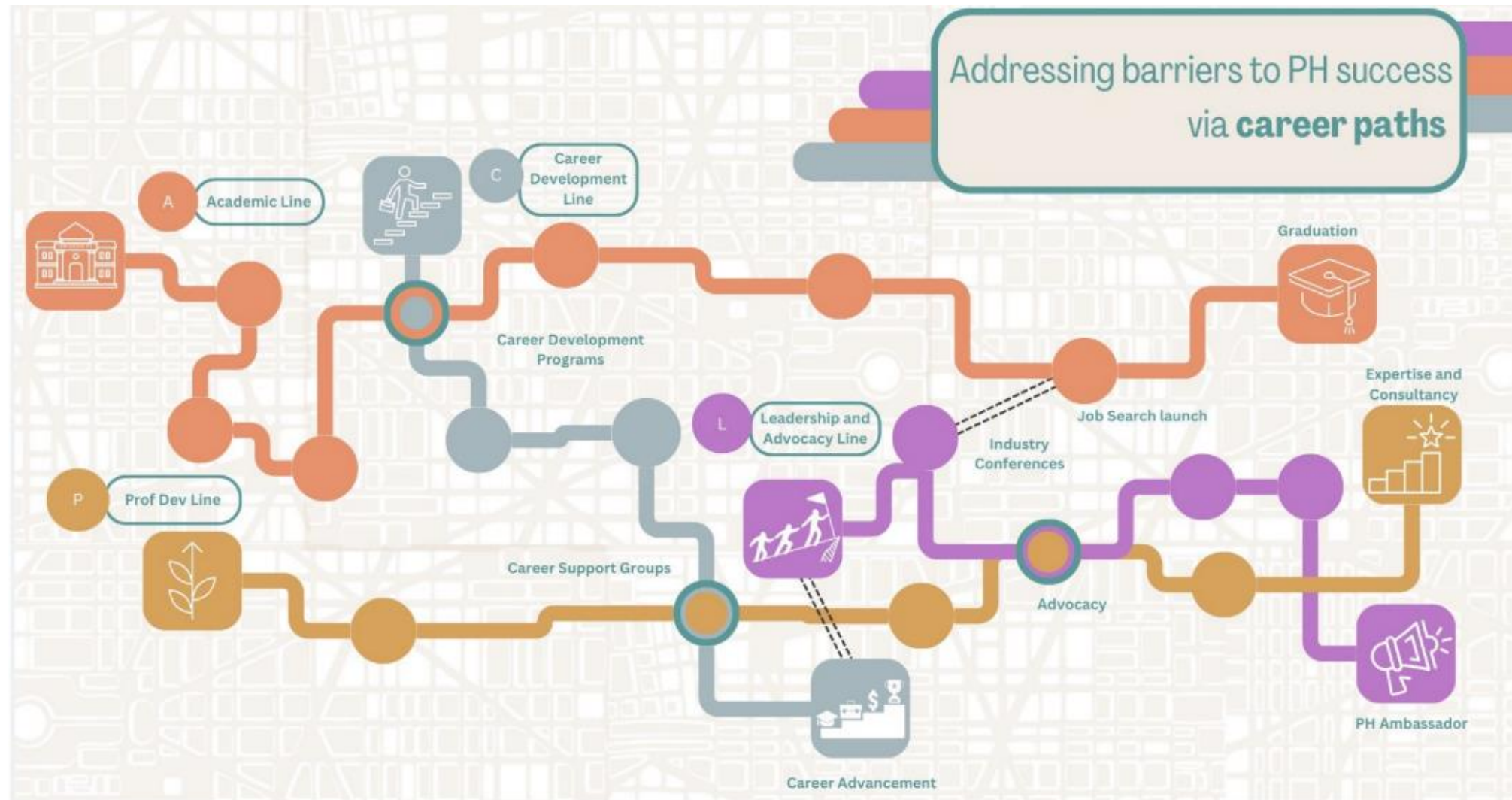
- Prioritize "boots-on-the-ground" skills over theoretical application or research-oriented skills.
- Training on how to navigate rapidly changing data science technology and technical skills that can transfer across software/programs.
- Improvements to in-school mentorship programs.
- Expand paid faculty time dedicated to activities that support students career transition.

## Discussion

- *What specific skills and competencies are most needed in non-research public health roles?*
- *What are the barriers to aligning academic curricula with the needs of non-research public health work, and how can they be overcome?*



# Develop integrated workforce development paths, bridging academia, industry and government



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## Recommendation

- Provides professionals with a better understanding of the interconnectedness of specialties and their applications in the workforce
- Helps recruiters better understand realistic experiential requirements for entry-level positions
- Supports organizations by providing insight into their roles in developing more advanced expertise throughout a professional's career

## Discussion

- *How have experiences with academia and mentorship worked at your health department?*
- *How might we facilitate a matching process that considers students' academic interests, career goals, and personal development needs?*
- *What professional development opportunities should be emphasized by advisors and mentors (e.g., conferences, certifications, workshops)?*



# Next Steps

Future of PH LEADS





Join Our Steering Committee  
to Shape Public Health Data  
Science and Leadership!

# CALL FOR APPLICATIONS

APPLY TODAY TO BE PART  
OF THIS CRUCIAL  
INITIATIVE!  
[HTTPS://BUFF.LY/4EYZBGB](https://buff.ly/4EYZBGB)

 National Network  
of Public Health Institutes



## Call for Applications: Join Our Steering Committee to Shape Public Health Data Science and Leadership!

- Develop strategic recommendations to enhance public health programs in curricular development, guidance documents, and education alignment.
- NNPHI is seeking public health academic and health department professionals with expertise in public health data science and/or leadership.
- Members will attend quarterly meetings and complete pre-assignments, with compensation for fulfilling the 12-month commitment.





National Network  
of Public Health Institutes

## Climate and Crisis Preparedness



**CHECK OUT OUR  
PORTFOLIO AND  
CURRENT PROJECTS**





**THANK YOU**



National Network  
of Public Health Institutes