Bolstering a National Population Health Workforce

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Division of Scientific Education and Professional Development (DSEPD)
Center for Surveillance, Epidemiology, and Laboratory Services (CSELS)
Centers for Disease Control and Prevention

A Population Health Workforce to Meet 21st Century Challenges and Opportunities:
A Virtual Workshop
Feb 28, 2022

Disclaimer

- No financial disclosures

- *The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.*

Population Health vs. Public Health

- **Population Health**
  - "….an approach [that] focuses on **interrelated conditions** and **factors that influence the health of populations over the life course**, identifies systematic variations in their patterns of occurrence, and applies the resulting knowledge to develop and implement policies and actions to improve the health and well-being of those populations." (Kindig and Stoddart, AJPH 2003)
  - Focus on the aggregate or population as apposed to the individual (Diez Roux, AJPH 2016)
  - The goal of population health is to improve the health of groups and reduce health inequities between populations.

Population Health vs. Public Health

- **Public Health**
  - Public health can be defined as what “we as a society do collectively to assure the conditions in which people can be healthy” (Institute of Medicine, 1988).
  - Greater focus on government and does not recognize the role of the health care system (Diez Roux, AJPH 2016)

Public Health

Clinic

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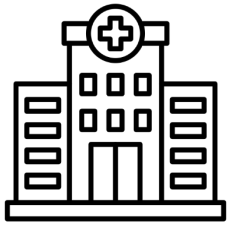

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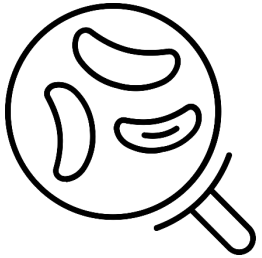

Laboratory

Population Health

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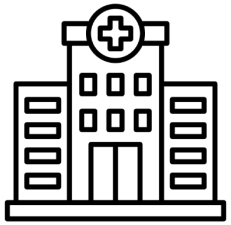

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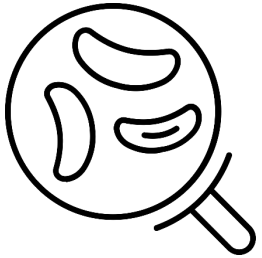

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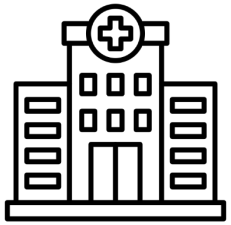

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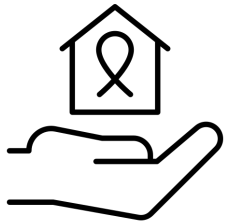

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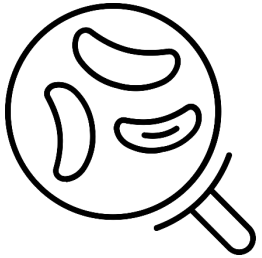

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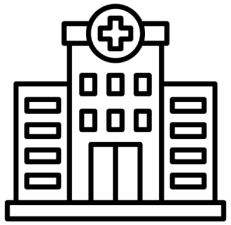

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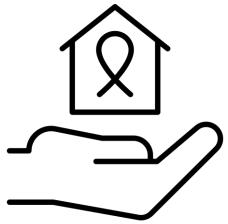

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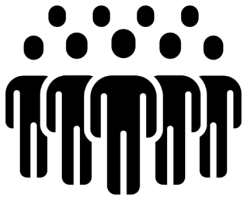

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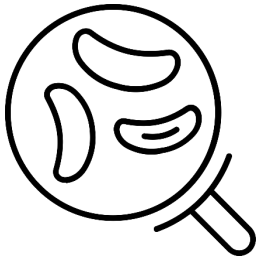

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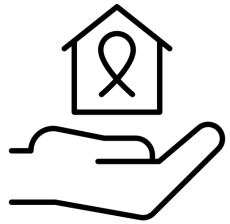

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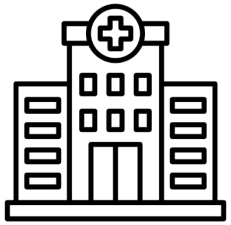

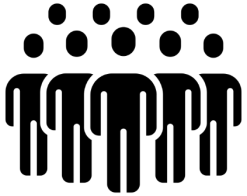

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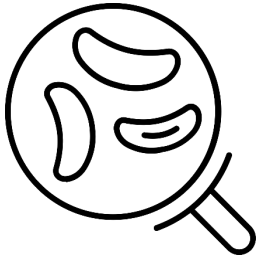

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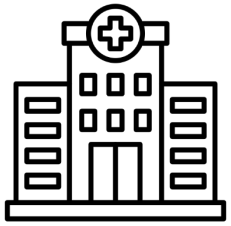

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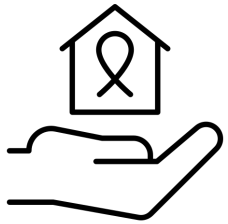

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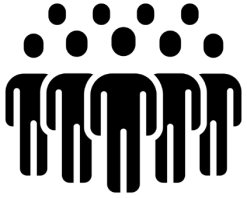

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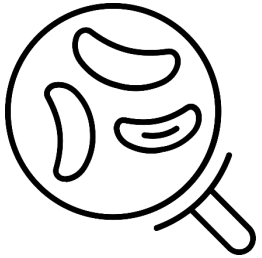

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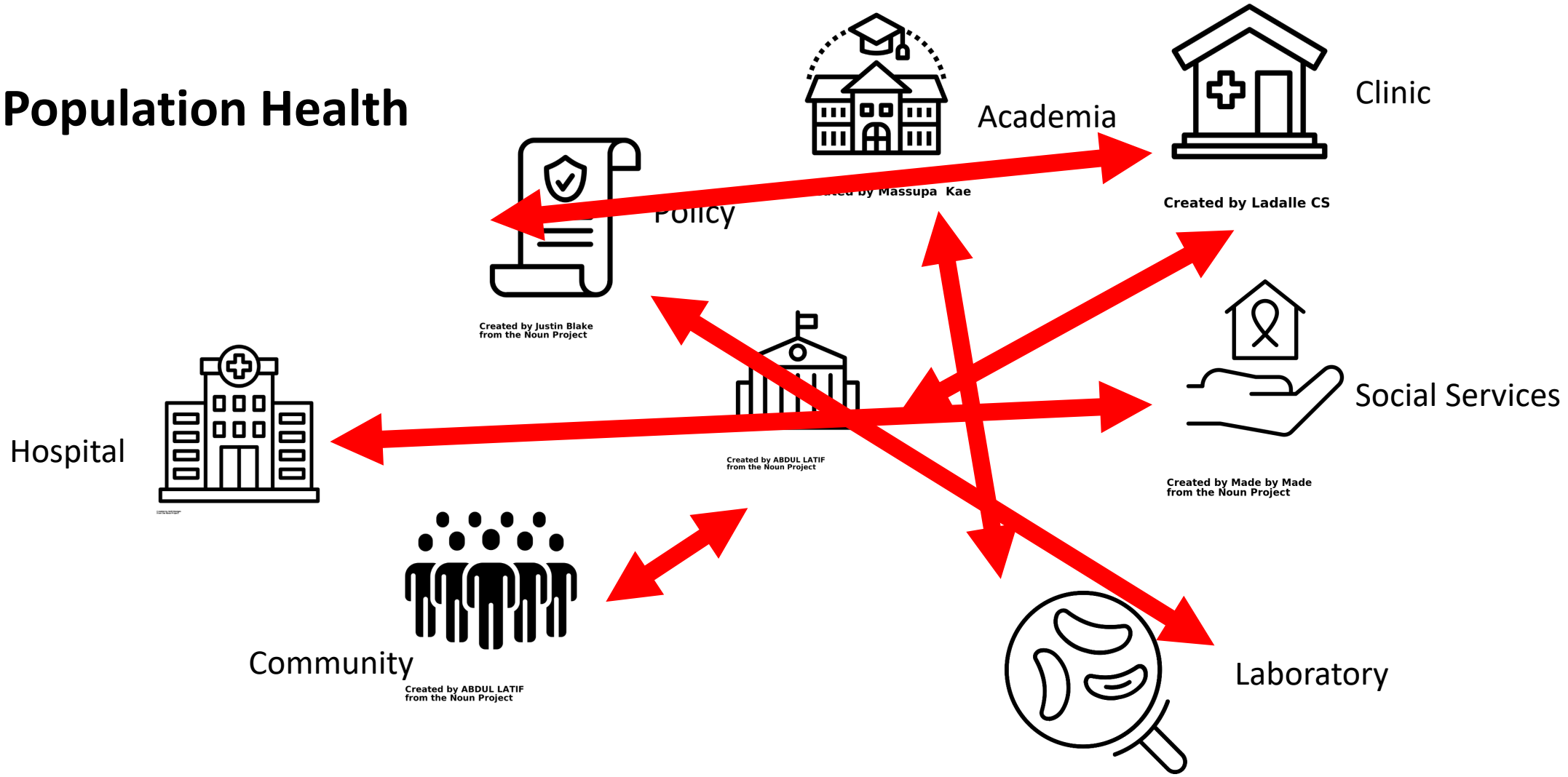

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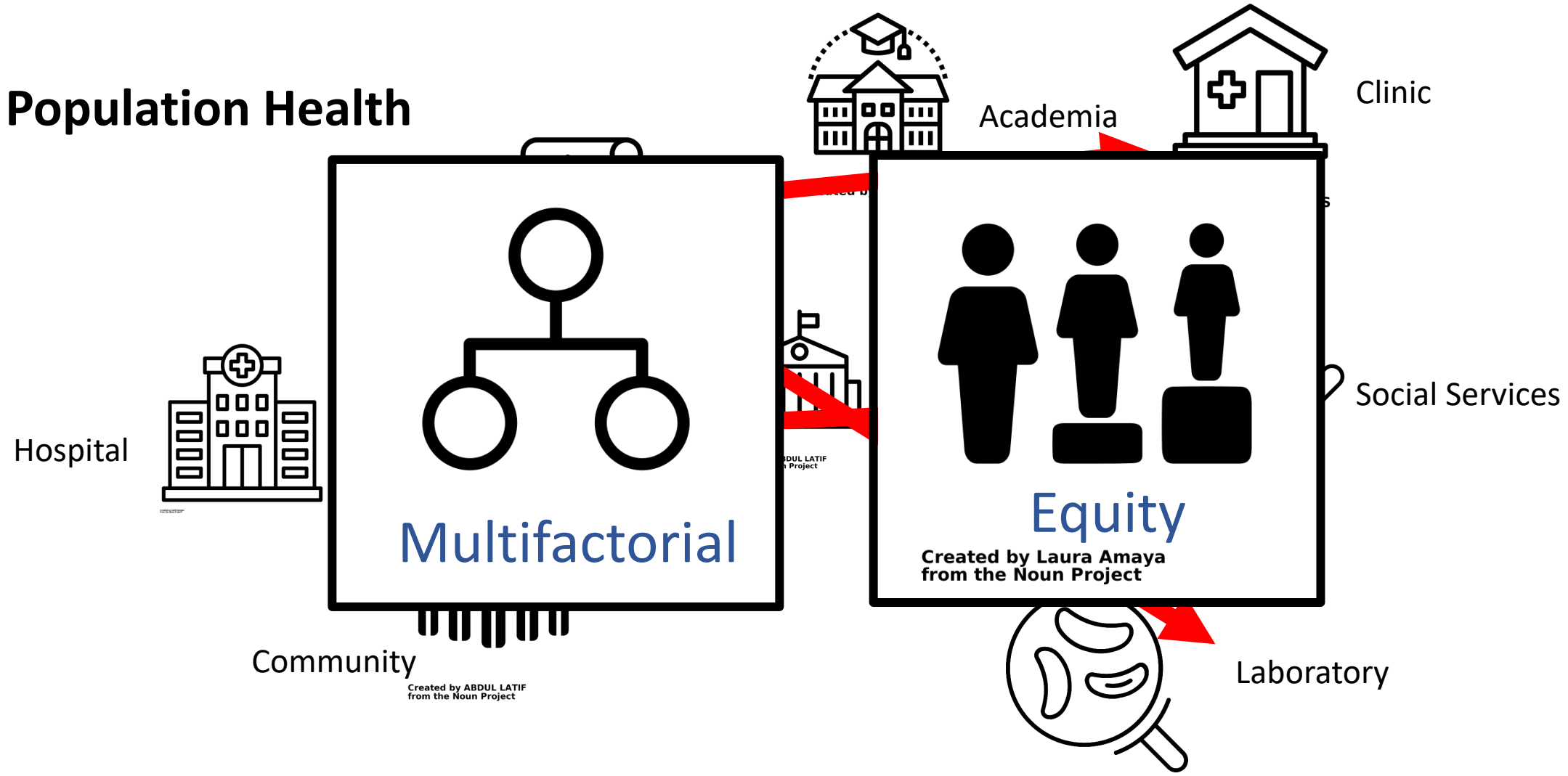
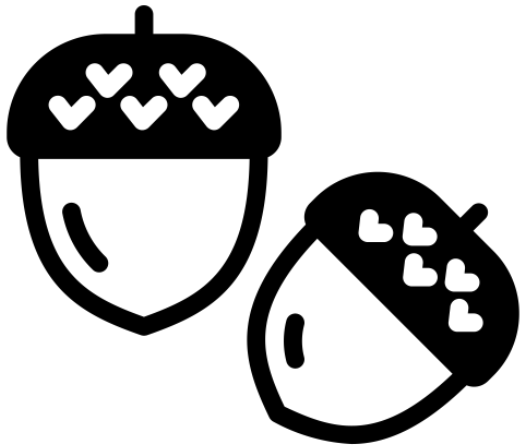
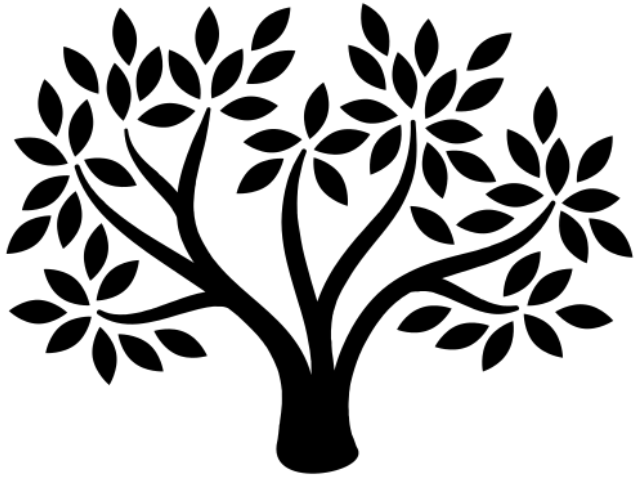


The best time to plant a tree was 20 years ago.
The second best time is now. – Chinese Proverb

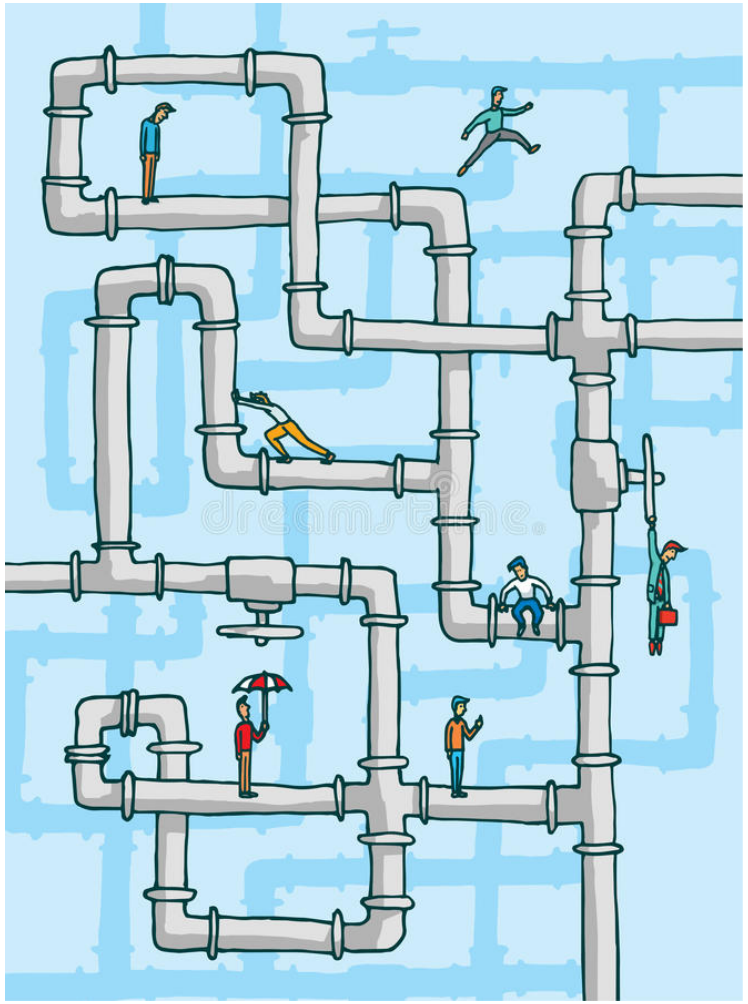




Icons from The Noun Project

Workforce Pipelines

- **High School**
  - Awareness and interest in population health
- **Undergrad**
  - Awareness and interest in population health
  - Coursework and internships
  - Grants and Fellowships
- **Graduate and Professional Schools**
  - Formal training programs
  - Grants and Fellowships
- **Graduates**
  - Promotions and career ladders
  - Compensation
  - Student loan repayment



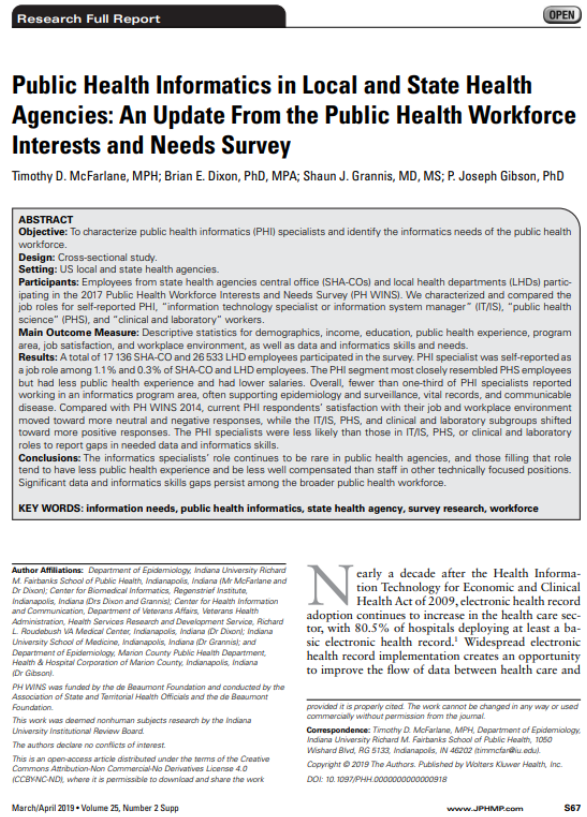
What Population Health Gaps Exist?

State and City Health Departments Lack Informatics Capacity

TABLE 1
Self-Reported Job Roles Among State Health Agencies, Big City Health Departments, and Other Mid- to Large-Sized Local Health Departments

	Health Department Setting					
	State Health Agency—Centralized Office (n = 17 136)		Big City Health Department (n = 7489)		Other Health Department (n = 19 070)	
Job Role[a]	n	Weighted % (95% CI)[b]	n	Weighted % (95% CI)[b]	n	Weighted % (95% CI)[b]
Public health informatics specialist	187	1.1 (0.9-1.2)	35	0.5 (0.2-0.7)	57	0.2 (0.1-0.3)
Information technology specialist or information system manager	615	3.4 (3.1-3.7)	97	1.3 (0.5-2.2)	241	0.9 (0.6-1.1)
Public health science	6419	36.6 (35.7-37.5)	2456	32.8 (29.0-36.5)	4741	28.7 (23.7-33.8)
Clinical and laboratory	2658	15.6 (15.0-16.2	1780	23.58 (21.1-26.0)	5687	28.2 (26.0-30.3)

Abbreviation: CI, confidence interval.
[a] Self-reported job role.
[b] Weighted percentages do not sum to 100% because of omission of other job roles (eg, administrative, social sciences). Job role not reported among 460 (2.7%) state health agency-centralized office, 445 (3.7%) Big City Health Department, and 681 (3.6%) other local health department respondents.



Research Full Report OPEN

Public Health Informatics in Local and State Health Agencies: An Update From the Public Health Workforce Interests and Needs Survey

Timothy D. McFarlane, MPH; Brian E. Dixon, PhD, MPA; Shaun J. Grannis, MD, MS; P. Joseph Gibson, PhD

ABSTRACT
Objective: To characterize public health informatics (PHI) specialists and identify the informatics needs of the public health workforce.
Design: Cross-sectional study.
Setting: US local and state health agencies.
Participants: Employees from state health agencies central office (SHA-COs) and local health departments (LHDs) participating in the 2017 Public Health Workforce Interests and Needs Survey (PH WINS). We characterized and compared the job roles for self-reported PHI, "information technology specialist or information system manager" (IT/IS), "public health science" (PHS), and "clinical and laboratory" workers.
Main Outcome Measure: Descriptive statistics for demographics, income, education, public health experience, program area, job satisfaction, and workplace environment, as well as data and informatics skills and needs.
Results: A total of 17 136 SHA-CO and 26 533 LHD employees participated in the survey. PHI specialist was self-reported as a job role among 1.1% and 0.3% of SHA-CO and LHD employees. The PHI segment most closely resembled PHS employees but had less public health experience and had lower salaries. Overall, fewer than one-third of PHI specialists reported working in an informatics program area, often supporting epidemiology and surveillance, vital records, and communicable disease. Compared with PH WINS 2014, current PHI respondents' satisfaction with their job and workplace environment moved toward more neutral and negative responses, while the IT/IS, PHS, and clinical and laboratory subgroups shifted toward more positive responses. The PHI specialists were less likely than those in IT/IS, PHS, or clinical and laboratory roles to report gaps in needed data and informatics skills.
Conclusions: The informatics specialists' role continues to be rare in public health agencies, and those filling that role tend to have less public health experience and be less well compensated than staff in other technically focused positions. Significant data and informatics skills gaps persist among the broader public health workforce.

KEY WORDS: information needs, public health informatics, state health agency, survey research, workforce

Author Affiliations: *Department of Epidemiology, Indiana University Richard M. Fairbanks School of Public Health, Indianapolis, Indiana (Mr McFarlane and Dr Dixon); Center for Biomedical Informatics, Regenstrief Institute, Indianapolis, Indiana (Drs Dixon and Grannis); Center for Health Information and Communication, Department of Veterans Affairs, Veterans Health Administration, Health Services Research and Development Service, Richard L. Roudebush VA Medical Center, Indianapolis, Indiana (Dr Dixon); Indiana University School of Medicine, Indianapolis, Indiana (Dr Grannis); and Department of Epidemiology, Marion County Public Health Department, Health & Hospital Corporation of Marion County, Indianapolis, Indiana (Dr Gibson).*

PH WINS was funded by the de Beaumont Foundation and conducted by the Association of State and Territorial Health Officials and the de Beaumont Foundation.

This work was deemed nonhuman subjects research by the Indiana University Institutional Review Board.

The authors declare no conflicts of interest.

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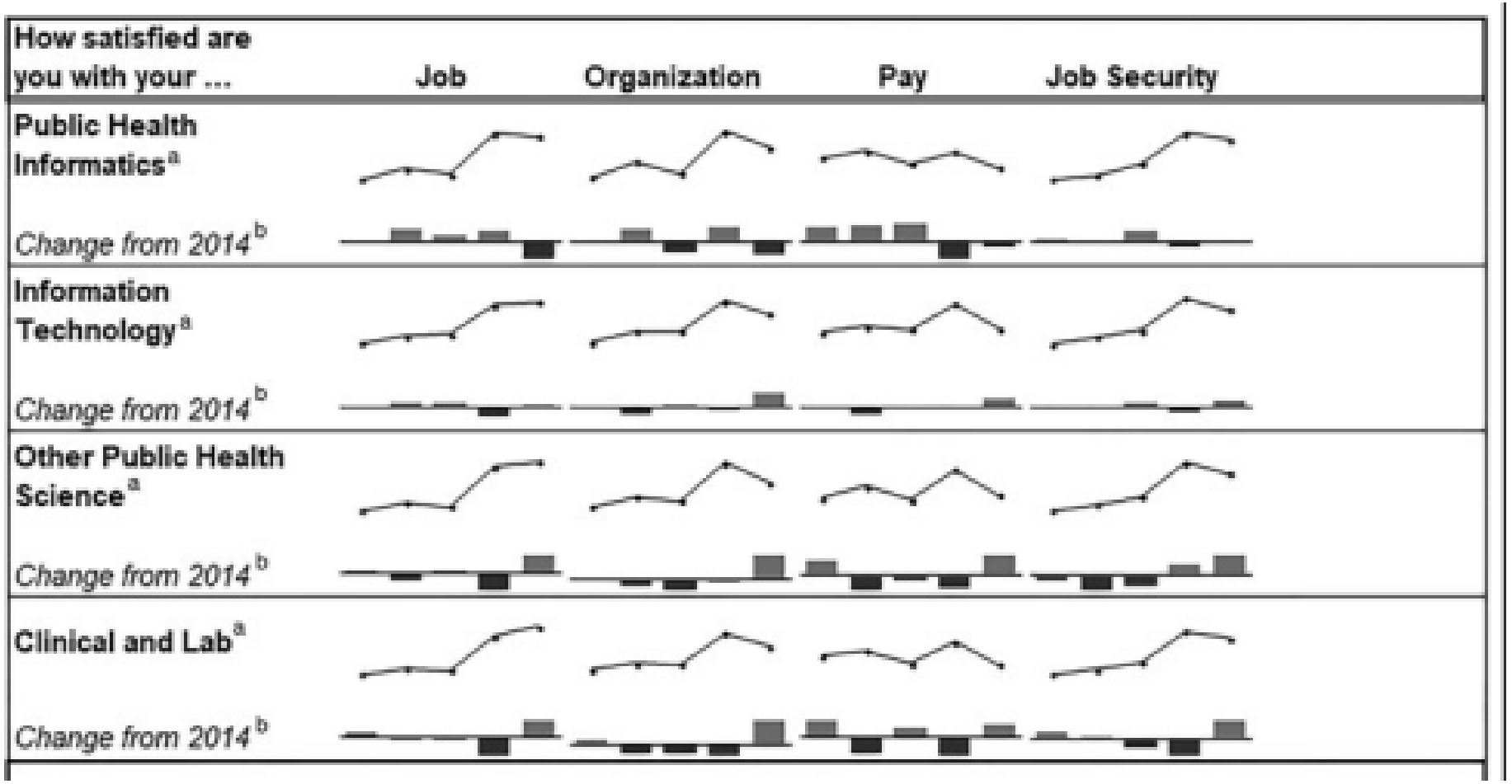
Nearly a decade after the Health Information Technology for Economic and Clinical Health Act of 2009, electronic health record adoption continues to increase in the health care sector, with 80.5% of hospitals deploying at least a basic electronic health record.[1] Widespread electronic health record implementation creates an opportunity to improve the flow of data between health care and

Correspondence: *Timothy D. McFarlane, MPH, Department of Epidemiology, Indiana University Richard M. Fairbanks School of Public Health, 1050 Wishard Blvd, RG 5133, Indianapolis, IN 46202 (timmcfar@iu.edu).*

DOI: 10.1097/PHH.0000000000000918

McFarlane TD et al., J Pub Health Manag Practice, 2019

Waning Satisfaction Across Work Domains



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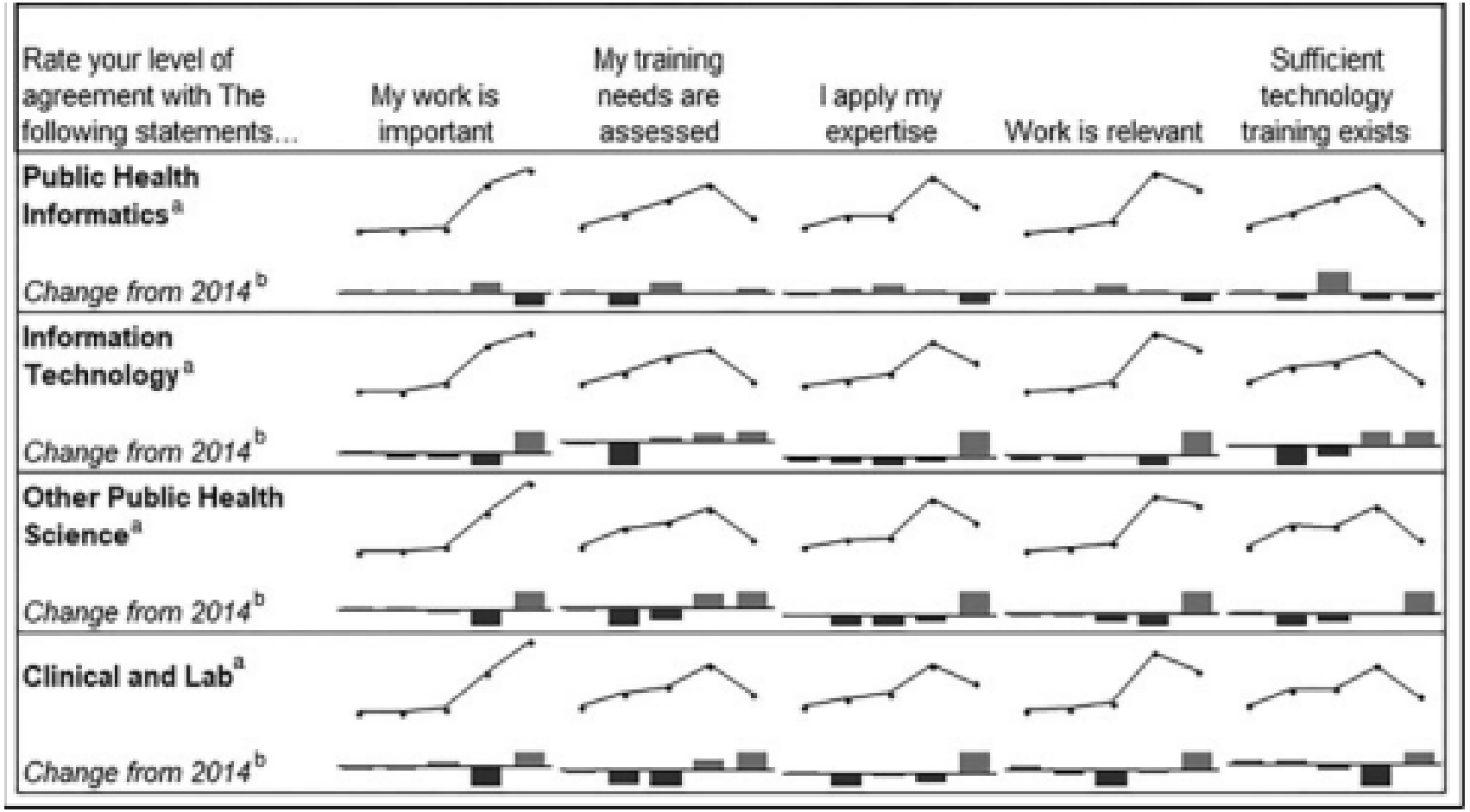
Training and Access to Technology Are Critical for Existing Population Health Workforce



McFarlane TD et al., J Pub Health Manag Practice, 2019

Strengthening the Workforce That Protects Public Health

Five Shared Priorities

Action Plan: Shared Priorities and Strategies Among Partners

1. Data for Decisions
2. Crosscutting Competencies
3. Quality Standards for Training
4. Training Decision Tools and Access
5. Funding Integration

For more information, visit https://www.cdc.gov/ophss/csels/dsepd/strategic-workforce-activities/ph-workforce/action-plan.html.

Building Skills for a More Strategic Public Health Workforce: A Call to Action

National Consortium for Public Health Workforce Development

de Beaumont Foundation

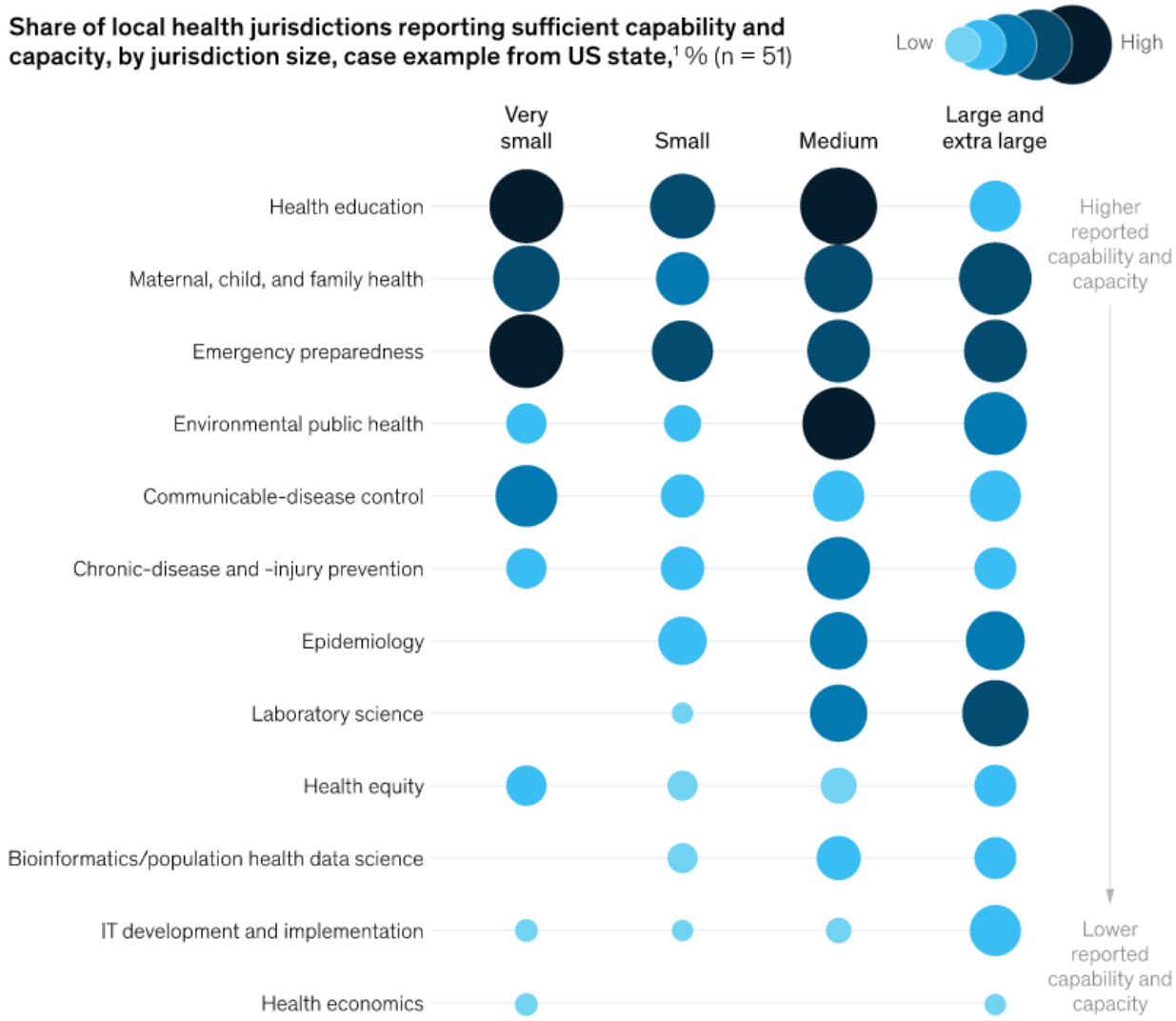
FIGURE 1.

Strategic Skills for the Governmental Public Health Workforce

- SYSTEMS THINKING
- CHANGE MANAGEMENT
- PERSUASIVE COMMUNICATION
- DATA ANALYTICS
- PROBLEM SOLVING
- DIVERSITY AND INCLUSION
- RESOURCE MANAGEMENT
- POLICY ENGAGEMENT

Capability and capacity among local health jurisdictions vary greatly depending on the area of expertise.

Share of local health jurisdictions reporting sufficient capability and capacity, by jurisdiction size, case example from US state,[1] % (n = 51)



[1]Share of respondents within each size category who have responded with "Agree" or "Strongly agree" to the question: "The department/program has sufficient capacity and capabilities in each of the following areas of technical expertise."
Source: Workforce Capabilities Assessment, Aug 2021

Building the US Public Health Workforce of the Future. McKinsey & Company

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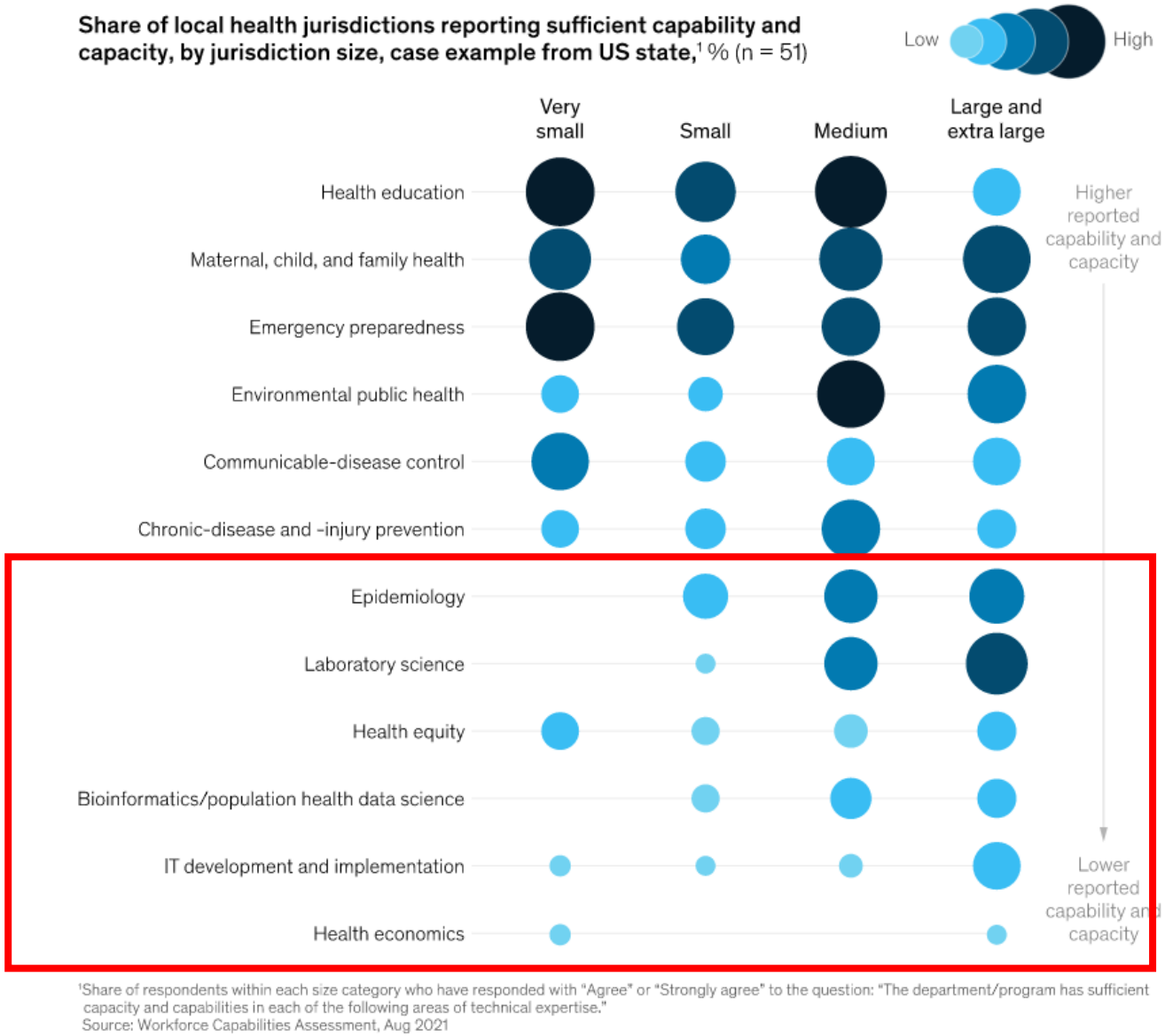

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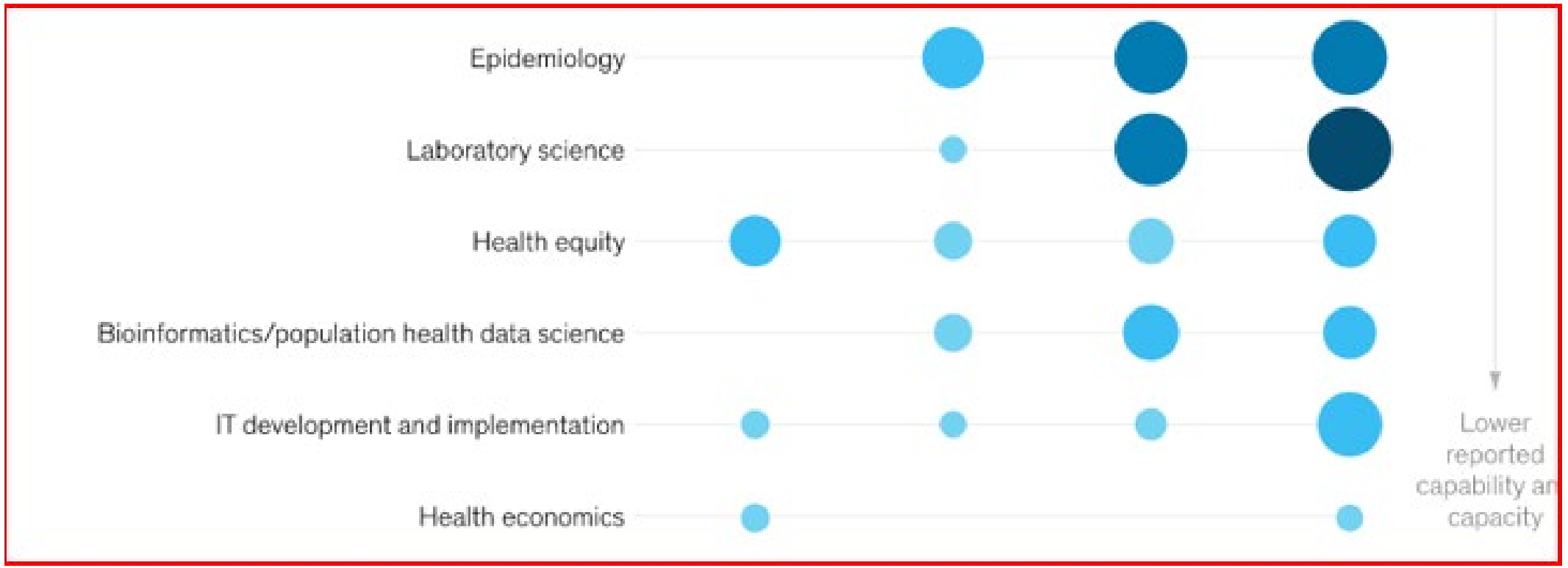

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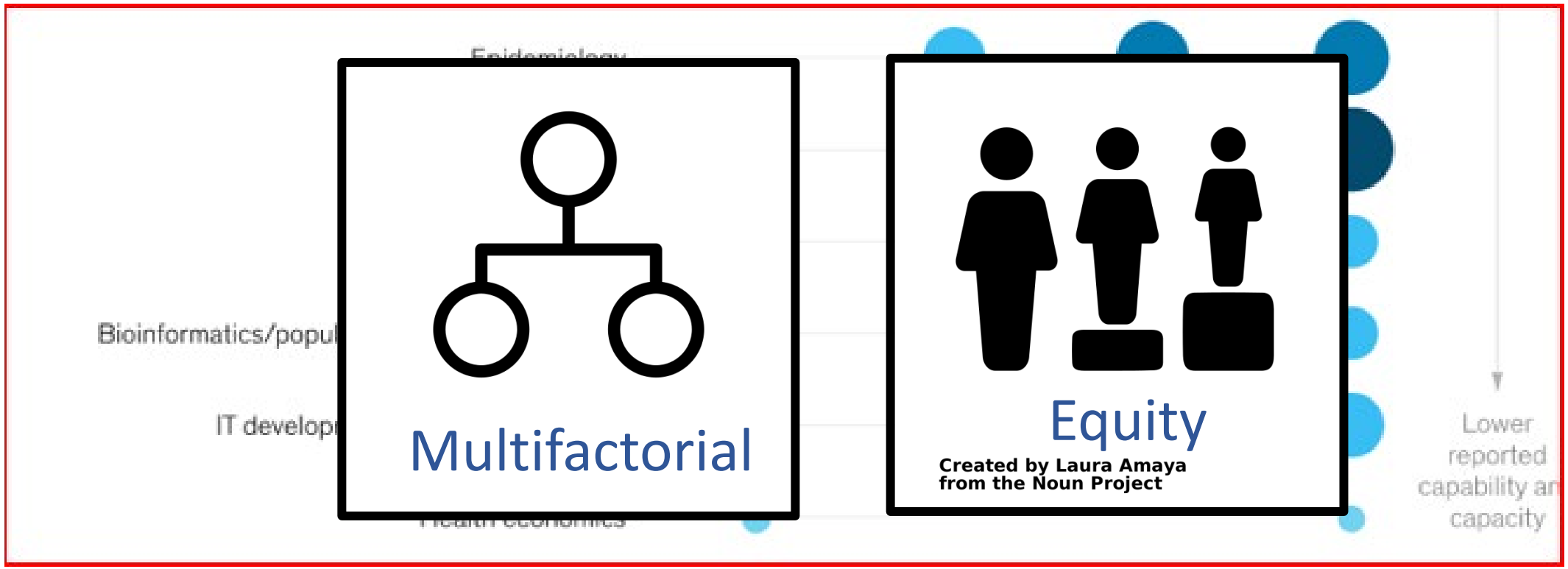
Laboratory Leadership Service

Public Health Informatics Fellowship Program

Steven M. Teutsch Prevention Effectiveness Fellowship



EIS

Laboratory Leadership Service

Public Health Informatics Fellowship Program

Steven M. Teutsch Prevention Effectiveness Fellowship

Centers for Disease Control and Prevention
CDC 24/7: Saving Lives, Protecting People™

A-Z Index

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Fellowships and Training Opportunities

Learn about the Educational Loan Repayment Program for Health Professionals

February: Open Applications

Population Health – Training In Place Program (PH-TIPP) is open now through 02/28/2022.

https://www.cdc.gov/fellowships

Short-Term Internships

Middle and High School Students

Undergraduate Students

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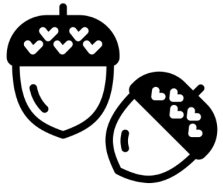
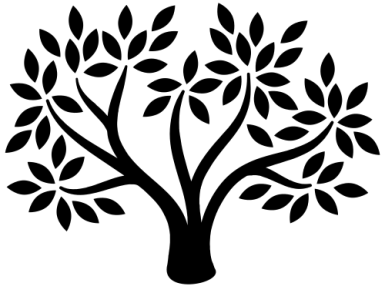
Summary





- **Population health has suffered from decades of infrastructure decline and disinvestment**
- **Action now leverages increasing abundance of resources and broader appreciation for value of population health**
- **Intervention levers at all stages of the pipeline need to be explored and tested to provide evidence-based best practices**
- **The multifactorial nature of population health and a lens of diversity, equity, inclusion and accessibility are applied throughout and not separate disciplines or components**

Icons from The Noun Project

Acknowledgements

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- **Mark Meissonier, PhD**