

Partnerships Form the Basis of an Articulated Public Health Laboratory Workforce Development Program

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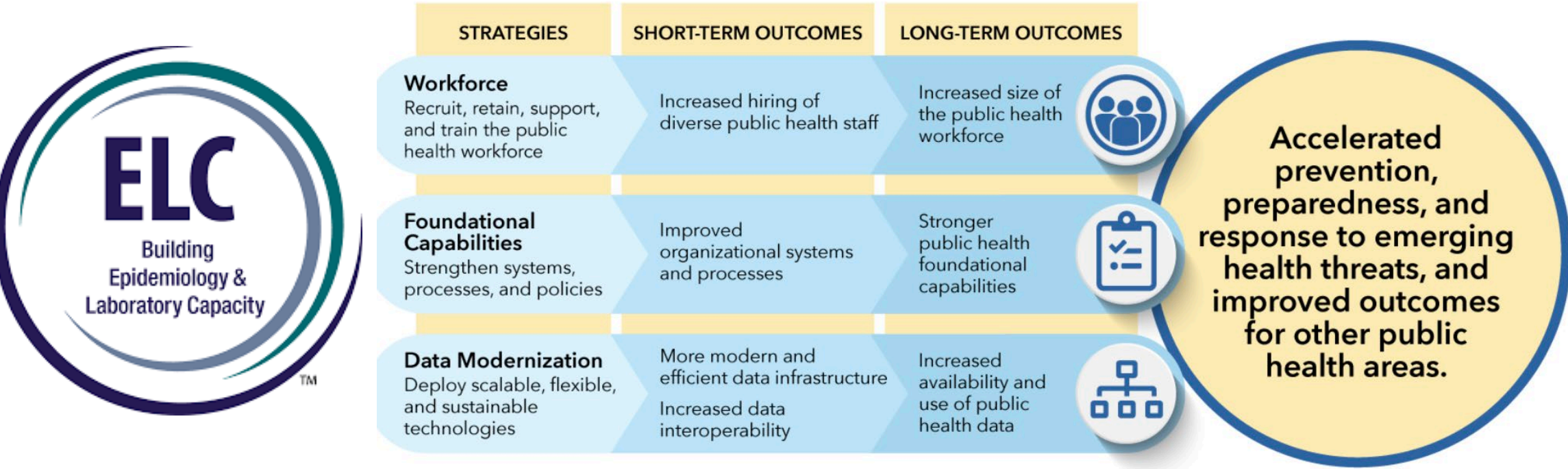
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Overview

Rapid scientific and technological growth is spurring the need to accelerate workforce development to maintain national security, promote economic growth, improve quality of life, and assure diversity, equity and inclusion in the workforce. The New Jersey Public Health and Environmental Laboratories (PHEL) was awarded CDC Public Health Infrastructure NOA# 6 NE11OE000055-01-02 and CDC ELC Enhancing Expanded COVID funding 6 NU50CK000525-02-04 to develop an articulated public health laboratory workforce development program. The program includes:

- Recruiting staff with Advanced Skills
- Developing staff through Enhanced Training
- Internship and Fellowship Programs
- Providing S.T.E.M. Experiences



Recruit Staff with Advanced Skills

Goal: Hire an Advanced Informatics Team

Recruitment Strategy:

- Hire fellows into TEMP positions (COVID funding)
- Place APHL job posting for Program Manager
- Interns sent vacancy notices to all colleges on the East Coast offering graduate degrees in informatics, bioinformatics, and molecular biology
- Attend Rutgers iJOBS events
 - <https://grad.rutgers.edu/professional-development/biomedical-career-development>
- Reach out to New Jersey Institute of Technology (NJIT) for talent

Results:

- Hired 4 ELC COVID Fellows – one through the Rutgers iJOBS program, two via regular job posting methods, and one via word of mouth
- Hired Advanced Informatics Program Manager through APHL posting
- Hired one ELC COVID fellow for bioinformatics
- NJIT was found to be a great source for fellows, however, visa status issues were encountered which could not be overcome.



Enhance PHEL Staff Training

For All PHEL Staff, Fellows and Interns:

- **Purchased** a PHEL domain within the NJ Civil Service Commission (CSC) Learning Management System (LMS)
- **Hired** two Outreach staff
- **Developed Courses**
 - *Basics of Quality Assurance (13 modules)*
 - *New Laboratory Professionals business course (6 modules)*
 - *Data Modernization Awareness (6 modules)*
 - *Monthly in-house CE lectures given by staff to staff*
 - *Weekly in-house newsletter*
 - *Packaging and Shipping (under development)*
- **Purchased** CSC All Access business courses
- **Syndicating** with CDC One Lab Learning Management System

For PHEL Program Managers:

- **Purchased** a Laboratory Management certification course
- **Purchased** an ASM Library

For PHEL Advanced Informatics Team:

- **Purchased** online courses through MIT xPRO and Johns Hopkins
- **Purchased** membership with AMIA (webinars included)
- **Developed** in-house Artificial Intelligence (AI) lectures

We understand the nature of data modernization is not yet clearly defined; however, we are working with our academic partners, our internal Subject Matter Experts and our professional association to develop a curriculum for all scientific and administrative staff to promote learning and enable a level of comfort and ease with using available tools for organizational and public health improvement.

Internship Program

- Since 2013, PHEL has hosted over 100 internships
- 12-15 Interns hosted per year, across academic semesters
- Internships are project-based
- Online applications
 - <https://www.nj.gov/health/phel/student-outreach>
- PAID through ELC Supplemental funds or FOR CREDIT
- >50% interns are from Rutgers and TCNJ
- PLEN Women's Leadership Program - Douglass
- Onboarding/offboarding procedures for administration
- Mentor Guide for mentors



Fellowship Program

Since 2021, NJ PHEL has hosted 25 fellows in Molecular testing laboratories, Informatics, Environmental Chemistry, and Newborn Screening: 6 ELC-funded, 2 CDC-PHAP funded, 16 APHL-funded, and 1 CDC Laboratory Leadership Immersive Fellowship.

Fellows:

- Lead the way in assay development
- Participate in the Biomonitoring public outreach program
- Learn about all aspects of laboratory testing and regulatory compliance
- Practice presentation skills and publish
- Primarily come from East Coast colleges

Fellowship “Graduates”:

- Full-time employment at PHEL (3)
- Post-doctoral ASM CPEP program (1)
- Medical school (1)
- Research positions at universities (3)
- Private sector laboratory employment (1)
- Public health laboratory position in another state (1)



S.T.E.M. Program

- Mercer County STEM Council, composed of Boys and Girls Club, Rutgers, The College of New Jersey, MillHill Center for families and children, Bristol Myers Squibb, and Johnson and Johnson.
- The Council mission is to provide STEM experiences for underserved students.
- PHEL will be joining the Council and providing on-site summer experience for interested high school students.



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