

CAPHLD

Report and Presentation 2024

CCLHO SPRING MEETING



CALIFORNIA ASSOCIATION OF PUBLIC HEALTH LABORATORY DIRECTORS

A California Nonprofit Benefit Corporation, 501(c)(3)

MISSION: To improve and protect public health through the promotion and advancement of public health laboratory practice.

THEN & NOW

CAPHLD History

1911: California regulation for PHLs in cities >50,000

CAPHLD founded in 1949

First CAPHLD Annual Institute in 1950

**CALIFORNIA ASSOCIATION OF
PUBLIC HEALTH LABORATORY
DIRECTORS**

1950 - 1990



PRESENTED TO
**SONOMA COUNTY
PUBLIC HEALTH DEPARTMENT
LABORATORY**

CAPHLD
MAY 1992





CAPHLD's MISSION:

**TO IMPROVE AND PROTECT PUBLIC
HEALTH THROUGH THE PROMOTION
AND ADVANCEMENT OF PUBLIC HEALTH
LABORATORY PRACTICE**

CAPHLD's Purpose

Cohesive body to foster high-level lab practice

Respond to changes demanded of PHLs

Advise CCLHO on needs, standards, and direction of PHLs

Work with State Division of Laboratories in developing laboratory
legislation & regulation

CAPHLD ANNUAL INSTITUTE 1997



Highlights of Early Achievements

1950 First Annual Institute Meeting

1951 Adopted CAPHLD constitution and bylaws

1952 Defined levels of service for state and local laboratories

1956 Developed standardized report forms and records

1963 Developed training guide for junior microbiologists

Highlights of Early Achievements

Before CLIA 1992, CAPHLD improved & standardized lab practices:

Developed manuals for

- Safety
- Preventive Maintenance
- Quality Control
- Training

CAPHLD COMMITTEES 2024

Legislative

PHL Sustainability

Whole Genome Sequencing (WGS)

Program, Site Selection, and Vendor
(Annual & Spring meetings)

LabAspire

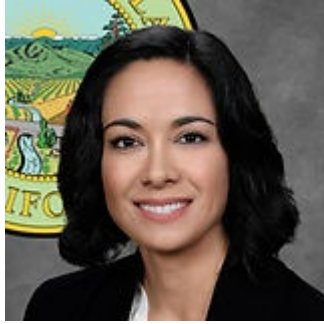
PHM Training

CLTAC

ELTAC & ELAP

APHL

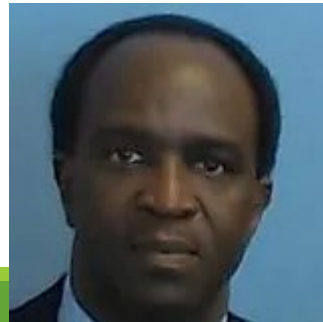
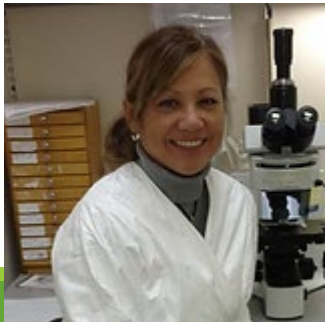
2024 CAPHLD EXECUTIVE COUNCIL AND OFFICERS



Dr. Rachel Rees, President
Dr. Denise Lopez, President Elect
Dr. Lydia Mikhail, Secretary Treasurer



Dr. Brandon Bonin, Representative At Large, North
Dr. Glen Miller, Representative At Large, South
Dr. Harmeet Kaur, Auditor



Dr. Donna Ferguson, Historian
Dr. Jeremy Corrigan, Comptroller
Jennie Vongvith Recording Secretary
Dr. Godfred Masinde, Immediate Past President

CAPHLD Network Laboratories 2024

Alameda County

Butte County

Contra Costa County

Fresno County

Humboldt County

Imperial County

Kern County

Kings County

Long Beach City

Los Angeles County

Madera County

Monterey County

Napa-Solano-Yolo-Marin-Mendocino
Counties

Orange County

Riverside County

Sacramento County

San Bernardino County

San Diego County

San Francisco City and County

- San Joaquin County
- San Luis Obispo County
- San Mateo County
- Santa Barbara County
- Santa Clara County
- Shasta County
- Sonoma County
- Tulare County
- Ventura County
- **CDPH State Labs**

Public Health Laboratory Network

California PHL network

1 Tier 1 LRN-B Advanced Lab

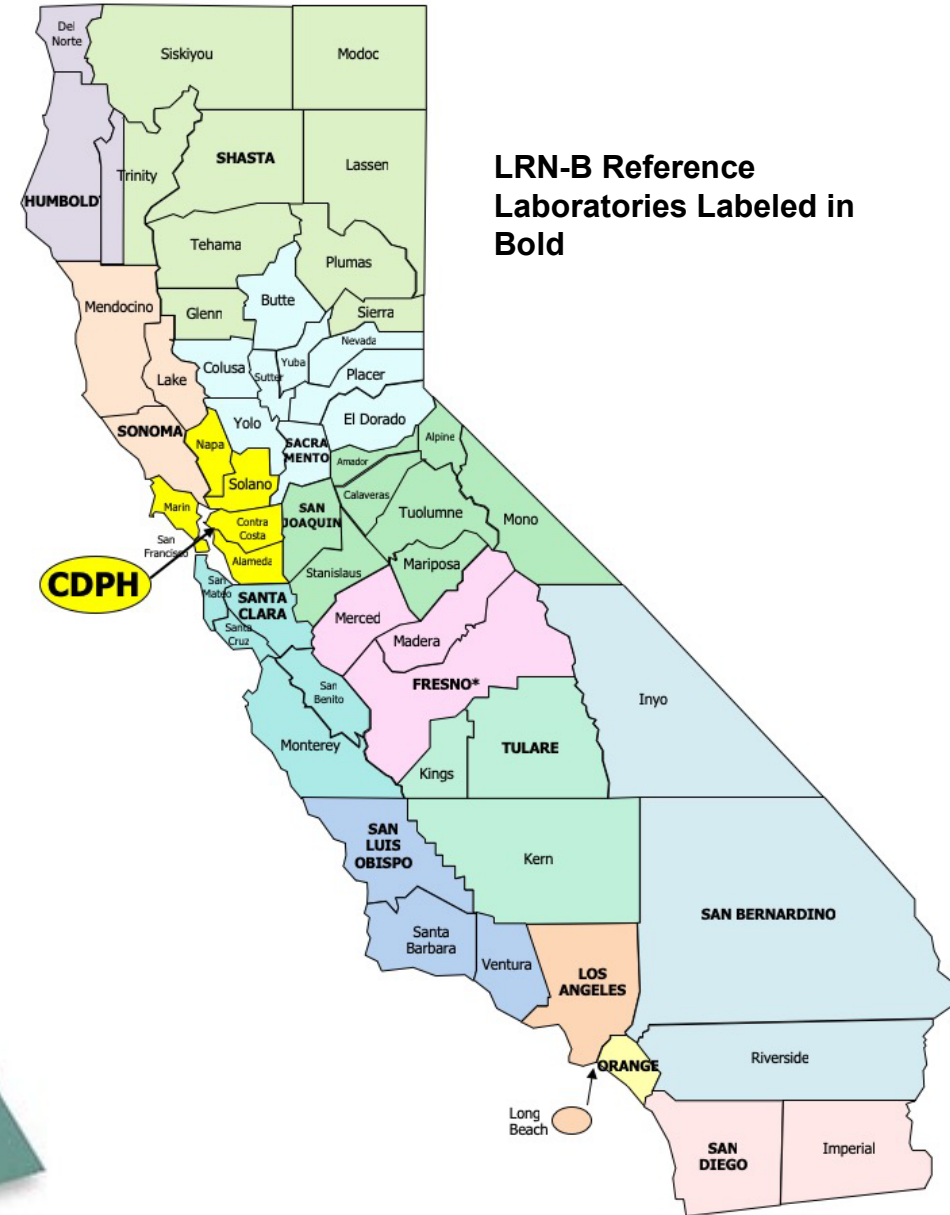
13 LRN-B Reference PHLs

15 LRN-B Sentinel PHLs

24/7/365 response

LHJ & PHL response

CDPH Duty Officers



Core Functions of a Public Health Laboratory

1. Disease Prevention, Control, and Surveillance
2. Integrated Data Management
3. Reference and Specialized Testing
4. Environmental Health and Protection
5. Food Safety
6. Laboratory Improvement and Regulation
7. Policy Development
8. Public Health Preparedness and Response
9. Public Health Related Research
10. Training and Education
11. Partnerships and Communication

Role of Public Health Laboratories

	Public Health Laboratory	Clinical Laboratory
Focus of testing	<ul style="list-style-type: none">▪ Low test volumes▪ Individual patient surveillance/ clearance testing▪ Population level surveillance▪ Emerging pathogen testing▪ Bioterrorism testing▪ Individual patient diagnostic testing▪ Environmental testing (water, food, etc.)	<ul style="list-style-type: none">▪ High test volumes▪ Individual patient diagnostic and antimicrobial susceptibility testing

PHLs perform **non-revenue generating** laboratory testing essential to public safety, requiring specialized skills, equipment, and data management capabilities

CENTER FOR DISEASE CONTROL AND PREVENTION

CDPH Center for Laboratory Sciences (CLS)

Enhances Surge Capacity



DHS Programs

- Communicable Disease Control
- Environmental Health
- Animal Control
- Adult System of Care
- Children System of Care

**Surveillance Networks
(Influenza, Norovirus, West Nile virus, Rabies, Measles, Zika, COVID)**

Wastewater surveillance

Hospital and Commercial Labs

**LRN Reference Testing/Trainings
For local clinical labs**

**Reference/surge
laboratory
for other
Counties**

Coroner

Private/Commercial Clients

- Shellfish growers
- Tick test for Lyme

PHL Daily Activities

STI testing

- GC/CT, Syphilis, HIV

Bacteriology – enteric identification & characterization

- Salmonella, Shigella, E. coli O157
- Legionella, Pertussis

Mycobacteriology

Mycology

- Coccidioides culture & PCR

Tick testing for Lyme Disease

VPD

- Measles
- Mumps

Biothreat agents

- White powders (Anthrax, Ricin)
- Smallpox
- Brucella, Francisella (clinical isolates)

PHL Daily activities

Surveillance activities

SARS-CoV-2

PulseNet

Respiratory diseases

- Influenza subtyping and lineage typing
- Norovirus genogrouping
- Enterovirus surveillance

Waste water

Regulatory compliance

Environmental testing

- Ocean & River recreational waters
- Drinking water
- Storm water
- Rabies
- Shellfish
- HF183 (human marker) testing on stormwater/urban runoff

Emergency Preparation

Zhang J. et al. Understanding the Role of SARS-CoV-2 ORF3a in Viral Pathogenesis and COVID-19. *Frontiers in Microbiology* 13 (2022), DOI: 10.3389/fmicb.2022.854567



Cal. labs SARS-CoV-2 submissions to GISAID

<u>3/06</u>	<u>submitting lab</u>	<u>2/07</u>	<u>1/10</u>	<u>12/13</u>
335,180	CDC	334,977	334,503	333,950
262,375	California Department of Public Health	261,595	259,188	257,527
133,308	Helix	130,871	126,416	124,523
67,083	Andersen lab at Scripps Research	65,004	63,441	63,441
29,059	Los Angeles County Public Health Laboratories	28,520	27,858	27,542
18,154	Santa Clara County Public Health Laboratory	18,154	17,802	17,802
15,284	Fulgent Genetics	15,284	15,284	15,284
13,140	Chan-Zuckerberg Biohub	13,140	13,140	13,140
9,377	Curative Labs	9,377	9,377	9,377
4,895	Sonoma County Public Health Lab	4,895	4,895	4,895
4,207	Orange County Public Health Laboratory	4,207	4,155	4,155
3,823	Contra Costa Public Health Laboratory	3,774	3,774	3,750
3,071	Tulare County Public Health Laboratory	2,998	2,998	2,998
2,739	Monterey County Public Health Lab	2,701	2,577	2,577
2,573	San Diego County Public Health Lab	2,573	2,573	2,573
2,162	County of San Luis Obispo Public Health Laboratory	2,131	2,131	2,107
1,641	San Francisco Public Health Laboratory	1,612	1,571	1,466
1,505	Napa-Solano-Yolo-Marin-Mendocino County Public Health Laboratory	1,493	1,493	1,464
1,015	Sacramento County Public Health Laboratory	1,015	982	982
750	Alameda County Public Health Department	750	750	750
651	San Joaquin County Public Health Lab	651	651	650
230	San Bernardino County Public Health Laboratory	230	207	207
124	Humboldt County Public Health Laboratory	124	124	124
21	San Mateo County Public Health Lab	21	21	21

945K total submissions from California

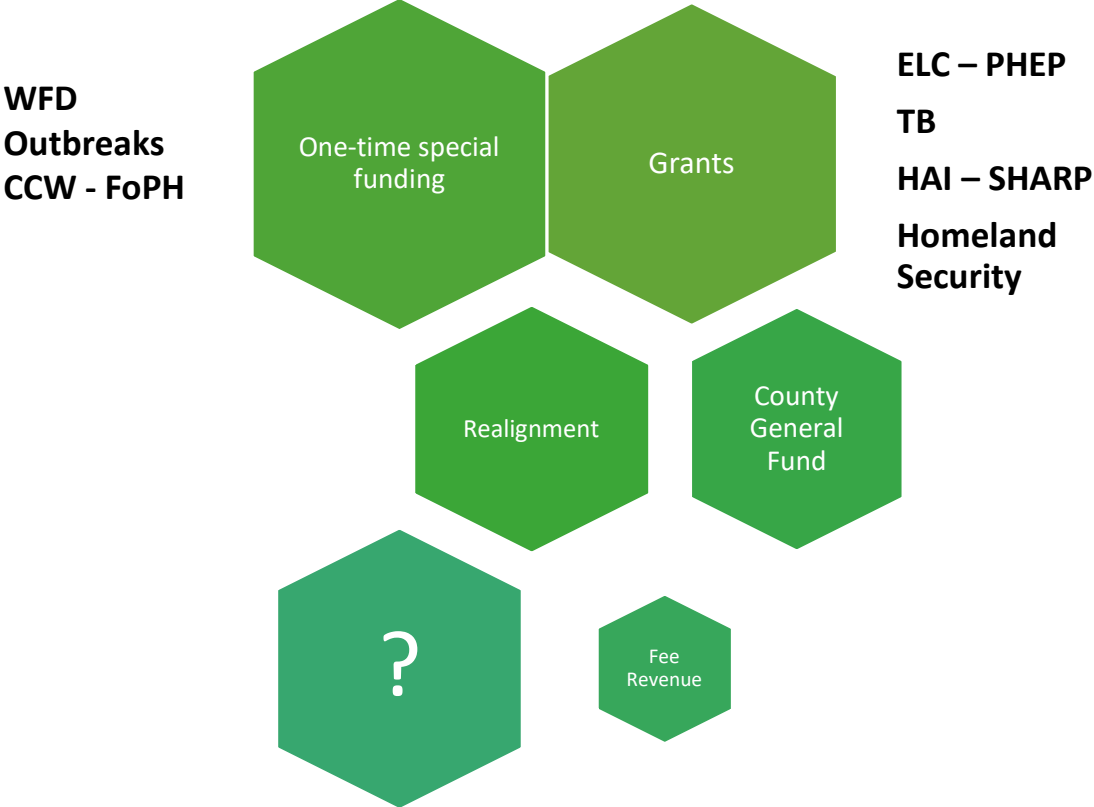
uploads from NSYMM, SF, SLO,
Monterey, Tulare, CoCo, LA

NSYMM goes over 1500!

Tulare goes over 3000!

(Slide by John Bell, CDPH 03062024)

PHL Funding Sources



Public health Lab funding

Early 2000's – Anthrax, white powders

WNV

- 2008 recession-furloughs

2009 H1N1 Avian flu

2014 Ebola

2016 Zika

2020 COVID-19

2022 MPXV

2024 Avian influenza

Goal: Long-term dedicated PHL funding released from the context of pathogen related cyclical funding

Lab Sustainability – COVID Funding

- Lab equipment for high-throughput diagnostics, sequencing and bioinformatics
- Data modernization
 - LIMS, ETOR
 - PHL electronic networking (Primary-PHL integration 2022-2026)
- Personnel
 - Temporary (lab techs, microbiologists, bioinformatics specialists)
- Construction

Lab Sustainability – AMD construction funding

\$18,453,310 awarded to 12 local health jurisdictions for their public health laboratories

As of February 2024, 35% of funds have been expended

All 12 projects are estimated to be completed before grant period ends in 2026:

- 2 are complete (San Mateo Co, Monterey Co)
- 1 projected to be complete in 2024 (Orange Co)
- 5 projected to be complete in 2025 (Tulare Co, San Diego Co, San Joaquin Co, Madera Co, Kings Co)
- 4 projected to be complete in 2026 (San Luis Obispo Co, Contra Costa Co, Sonoma Co, Humboldt Co)

AMD Construction Funding

Common Challenges Cited

- Outdated infrastructure
- Design complexity
- Links to and/or dependencies upon other projects
- Contract approvals
- Weather
- **Budget gaps**
- Purchase of property
- Permitting/certifications
- Staff shortages
- Contractor delays

Lab Sustainability - Workforce

California Can't Wait - Future of Public Health

- One time 3-year limit funding: specific to laboratories
- Long term HERO secure, not lab specific

Expansion of PHM Training LabAspire programs

\$6.5M one-time
(over 3 years)

California Microbiologist Training

Dedicate one-time funding to increase the number of Public Health Microbiologist Trainees in California, a requirement that must be fulfilled to become a California Certified Public Health Microbiologists (PHM's). PHMs are professional laboratorians that specialize in detecting, isolating, and identifying the microorganisms that are associated with infectious and communicable diseases. In a public health laboratory, PHM's perform analyses on specimens from humans, as well as from water supplies, food and the environment. They also provide laboratory support for the surveillance, control and prevention of communicable diseases and other health hazards in the community.

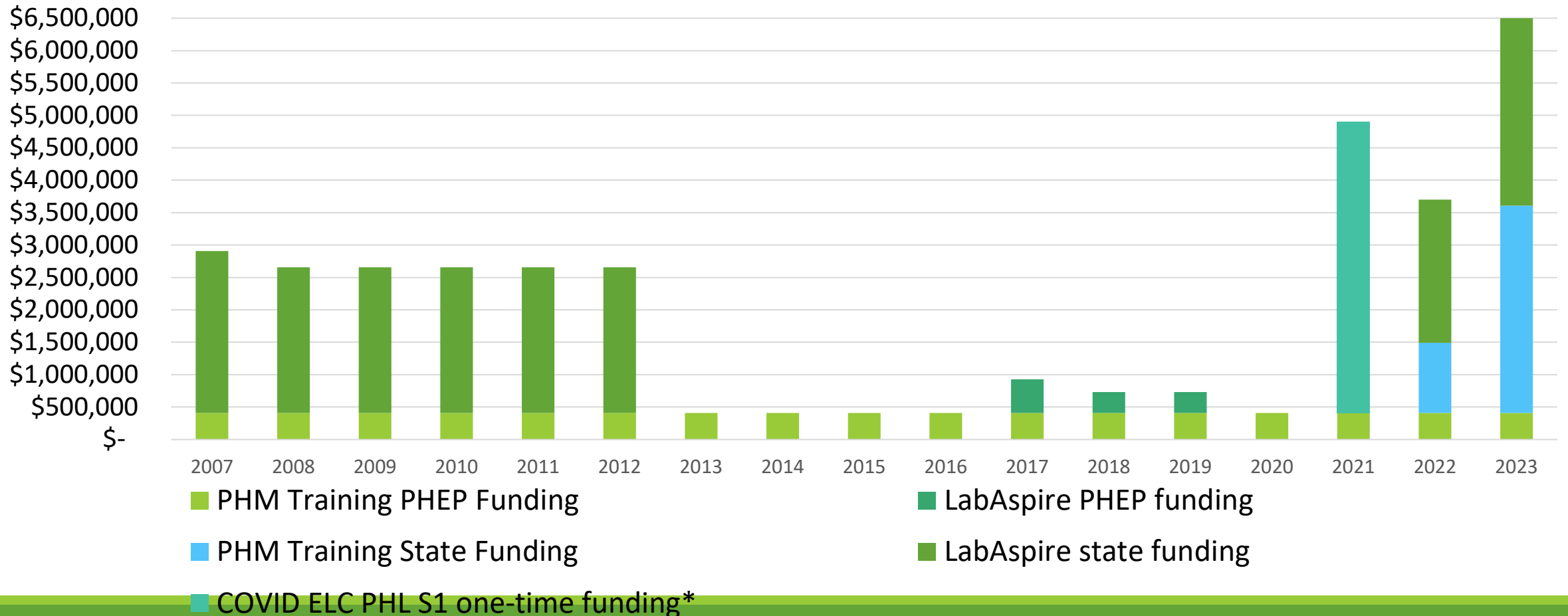
Estimate: 30 trainees per year for 3 years.

\$6.6M one-time
(over 3 years)

Public Health Lab Aspire

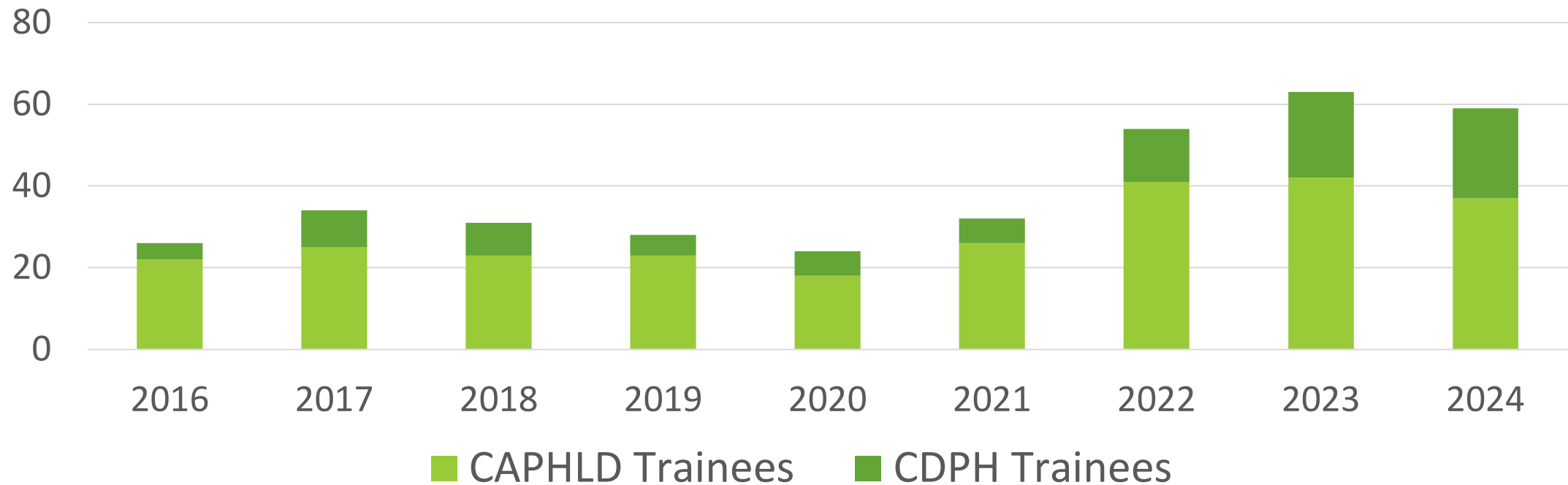
The Lab Aspire Program was established in 2006 to address the severe shortage of trained, qualified public health laboratory directors in California. The program trains and prepares qualified professionals to direct local California Public Health Laboratories. The funding would bring the program back to original levels of funding, increase participation, and grow the pipeline of public health laboratory directors.

PHM and LabAspire Training Funding 2007-2023



*Funding period extended through 2024

PHM Training 2016-2023



PHM Training Program

- PHEP stipend amounts were increased
 - Previously 12 stipends at \$30,000
 - Now 9 stipends at \$45,000
- HERO funds
 - Allows for increase in number of trainee stipends
 - Assists with purchasing of much needed supplies and equipment
 - Supports efforts to hire more qualified program staff
- WFD funds
 - Supported advanced learning platforms

PHM Training Program E-Learning Improvements

CAPHLD-sponsored password-protected website resource for trainees & trainers.

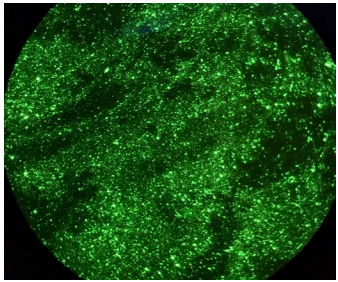
WFD funding via CDPH: initial 1-year contracts for both E-learning platform Canvas Instructure, and Proctoring Service Honorlock.

Researching feasibility of becoming accredited

- ✓ potential alternate funding stream for student stipends.

The screenshot shows a website interface for the PHM Training Program. At the top, there is a navigation bar with the text "Begin your Public Health Microbiologist Training here:" and a button labeled "Unit Reading Assignments". Below this, there are three columns of content, each representing a unit of training. Each column consists of a circular image, a text label for the unit, and a "Go to Unit" button. The first column features a circular image of hands in blue gloves, labeled "Unit 1: Laboratory Safety" with a "Go to Unit 1" button. The second column features a circular image of hands clasped together, labeled "Unit 2: Support Services" with a "Go to Unit 2" button. The third column features a circular image of a stethoscope and a gavel, labeled "Unit 3: Public Health Law" with a "Go to Unit 3" button. Below these, there are three more circular images: a pink pipette tip, two people in lab coats and masks, and a green, wavy, abstract shape.

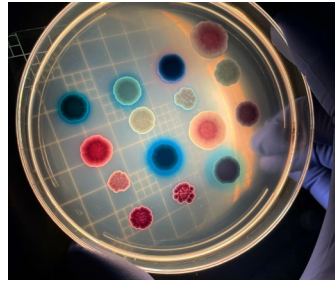
PHM Training Program Curriculum Improvements



Study Guide Discussions

Ungraded - Mandatory

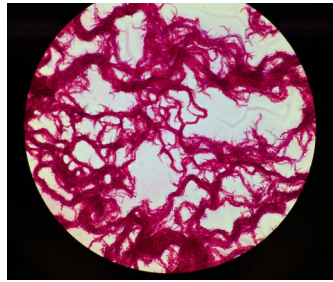
Allows for trainees to collaborate on completing study guide questions for each unit. Trainers check-in on the discussion and facilitate additional learning.



Study Guide Quizzes

Graded

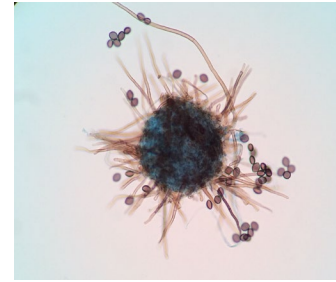
Ensures trainees completed study guide with a short unproctored quiz on topics from the guide.



Assignments

Graded

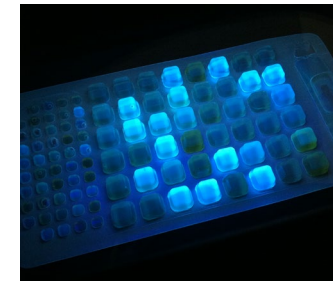
Many units now have small assignments to encourage and reinforce learning and is graded using a rubric.



Lab Manuals

N/A

Many units now have laboratory manuals to accompany wet-lab work, and to summarize information important.



Practicals

Graded

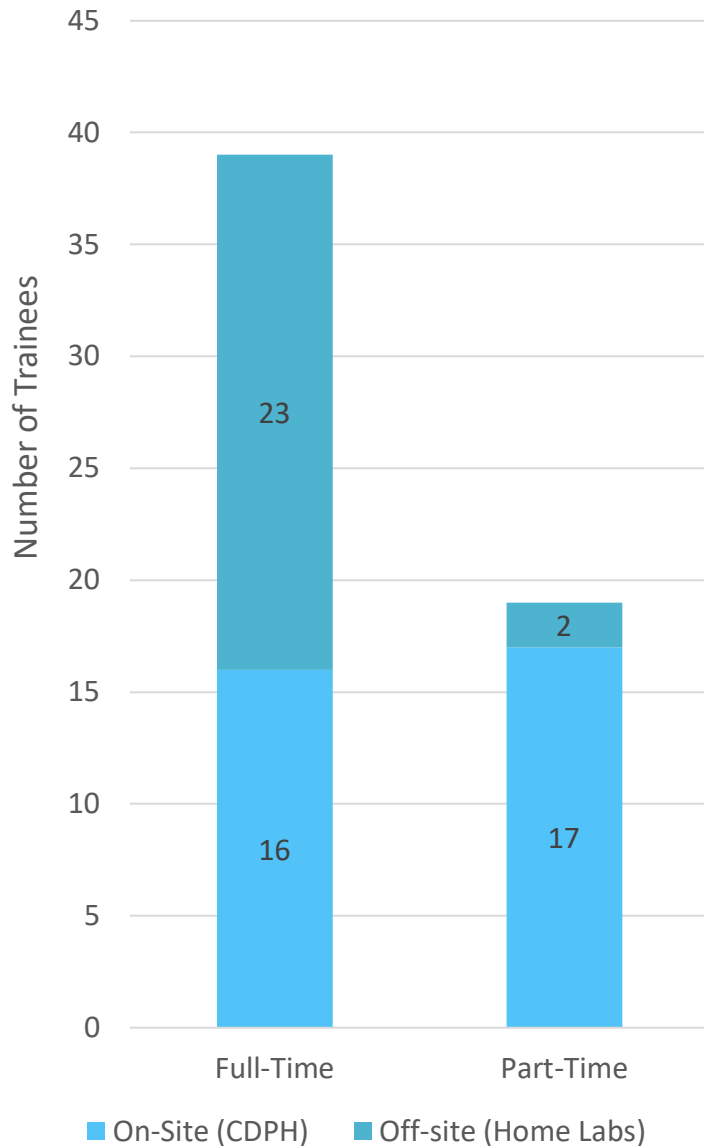
Home labs can put on lab practicals for their trainees or opt into the Canvas practicals provided.



Exams

Graded

Most unit exams are now 100 points, 40-65 questions, and are proctored by Honorlock.



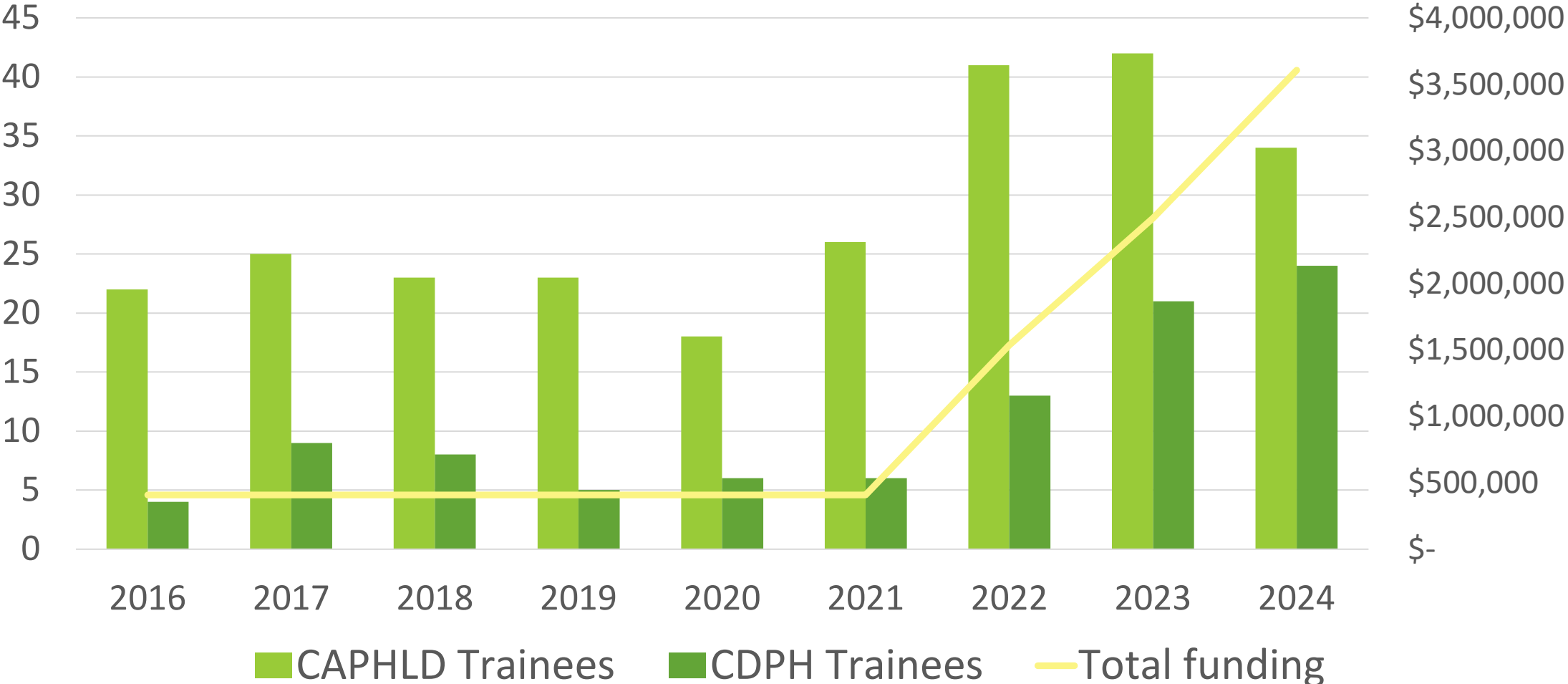
PHM Training Class of 2024

Total Trainees = 58

Includes continuations from 2023 and new trainees

County	# of Trainees
Alameda	1
Butte	1
CDPH	24
Contra Costa	1
Fresno	1
Kern	1
Monterey	1
NSYMM	1
Orange	7
Riverside	2
San Bernardino	3
San Diego	4
San Francisco	1
San Joaquin	1
San Luis Obispo	1
San Mateo	1
Shasta	1
Santa Barbara	1
Santa Clara	1
Ventura	1
Los Angeles	3

PHM Training 2016-2023 – Effect of Increased Funding



New bottleneck = requirement for 2:1 instructor – student ratio

LabAspire

CA PHLD must possess *all* of the following:

Doctoral degree

National board certification

- 2 years supervisory experience in high-complexity testing
- Administrative and technical board exam

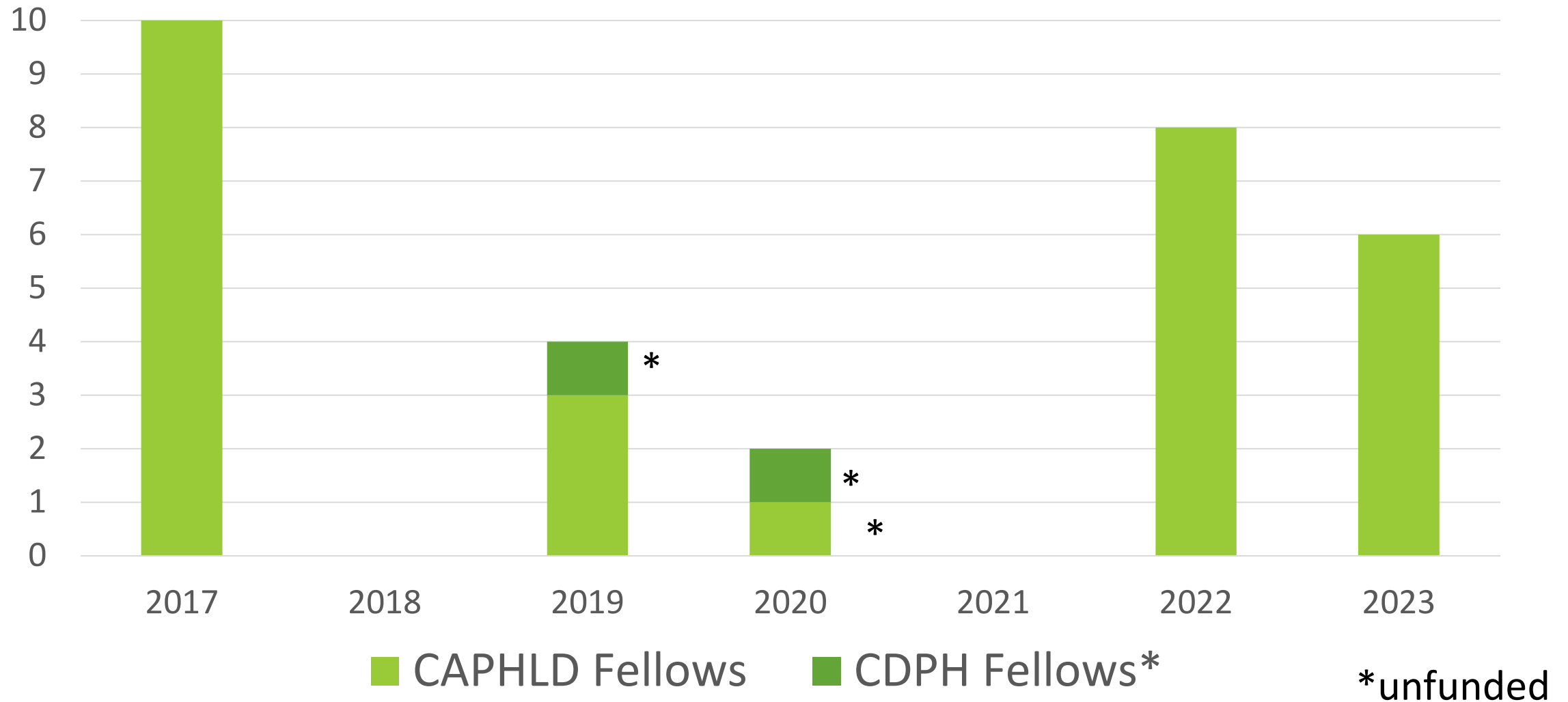
Post- baccalaureate level California PHM certificate

Four years of PHL work experience



CALIFORNIA PUBLIC HEALTH LABORATORY
DIRECTOR TRAINING PROGRAM

LabAspire Fellows 2017-2023 by starting year



LabAspire 2024 Update

2017-2023:

- 14 fully-qualified PHLDs produced in 6 years
 - 11 currently serving as California PHLDs.
- 17 fellowships are in-progress

Legislative

CLTAC (Clinical Laboratory Technical Advisory Committee) PHM Board member
CAPHLD Legislative analyst – Bruce Pomer

November 2023: Letter of Concern to FDA re: LDT (Laboratory Developed Test) rule

March 2024: Comment letter to CDC in support of removing MPXV from Select Agent list

Feb 2024: Letter of Support for CHEACC CalConnect budget initiative

Summary 2024 CAPHLD Agenda

Work with CAPHLD partners to obtain long-term, dedicated lab funding

Advocate for public health laboratories at the State & Federal level

Ensure adequate PHL workforce

CAPHLD Annual Institute Sept. 30-Oct. 2, 2024
Walnut Creek, CA

THANK YOU CAPHLD PARTNERS



CALIFORNIA DEPARTMENT
OF PUBLIC HEALTH



CALIFORNIA CONFERENCE
OF LOCAL HEALTH OFFICERS



COUNTY HEALTH EXECUTIVES
ASSOCIATION OF CALIFORNIA



CALIFORNIA ASSOCIATION
OF COMMUNICABLE DISEASE CONTROLLERS



ASSOCIATION OF
PUBLIC HEALTH LABORATORIES



CENTERS FOR DISEASE CONTROL
AND PREVENTION