

# The future public health system in California: Workforce Development

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# Key foundational services for California's future public health system

## Health & equity aspiration

Programs	Behavioral Health	Communicable Disease Control	Chronic Disease and Injury Prevention	Environ-mental Public Health	Maternal, Child, and Family Health	Access to and Linkage with Clinical Care
Foundational governmental public health services	 <b>Workforce development, recruitment, and training:</b> Capacity and ability to recruit, retain, and develop a diverse workforce					
	 <b>IT, data science, and informatics:</b> Ability to track, derive insights, and take action based on community health data					
	 <b>Emergency preparedness and response:</b> Capacity to respond to emergencies of all kinds, from natural disasters to infectious disease outbreaks to bioterrorism					
	 <b>Public education, engagement, and behavior change:</b> Ability to effectively communicate to diverse public audiences with timely, science-based information					
	 <b>Community Partnership:</b> Ability to harness, work with, and lead community stakeholders and to create multisector collaborations to address public health and health equity issues					
	 <b>Community Health Improvement:</b> Ability to scale public health from health promotion to a comprehensive population strategy that emphasizes life course approaches, equity and prevention					
Foundational principle	<b>Performance management:</b> Ensuring equity, efficiency, and effectiveness					

# Key trends facing the future public health workforce in California



## Demand for new skills and capabilities

Increasing need for strategic skills and integrative approaches to engage across sectors (e.g., health economics, predictive analytics, strategic communications)

Disruptive technologies and demographic forces impacting the supply of talent with necessary skills and capabilities



## Changing workforce expectations

Accelerated movement towards remote and hybrid working models

Significant portion of the US workforce reporting a desire to work remotely, or in hybrid settings



## Increasing competition for talent

Talent shortages in critical roles with high barriers to entry, resulting in greater competition for skilled workers (e.g., laboratorians, epidemiologists, etc.)

Retirement of baby-boomers creating a need for younger workers to fill the workforce gap<sup>2</sup>



## Post-COVID attrition and retirement

COVID-19 related exodus of public health leadership and staff<sup>3</sup>

Large share of health department staff on the cusp of either leaving the profession or retiring<sup>4</sup>

Large share of public health hires as temporary positions, leaving gaps in long-term workforce needs<sup>4</sup>



## Increasing diversity in the labor force

Racial and ethnic minorities are projected to have an increased presence in the U.S. labor force in coming decades<sup>5</sup>

Increasing diversity of workforce may require new models of recruitment and career development to adapt to shifting labor force

1. PwC's US Remote Work Survey, "It's time to reimagine where and how work will get done, PwC's US Remote Work Survey"
2. Bureau of Labor Statistics, "Gauging the labor force effects of retiring baby-boomers"
3. The Associated Press and KHN, "Pandemic Backlash Jeopardizes Public Health Powers, Leaders"
4. National Academy of Medicine, "Public Health COVID-19 Impact Assessment"
5. Bureau of Labor Statistics, "A Look At The Future Of The U.S. Labor Force to 2060"
6. California Budget & Policy Center, How California's Workforce Is Changing and Why State Policy Has to Change With It

Sources: PwC, Bureau of Labor Statistics, deBeaumont Foundation, Pew Trust, Journal of Public Health Management and Practice, National Academy of Medicine

# Aspirations for California's future public health workforce

California's future state and local public health workforce will...



Attract a **high-performing** talent pool that **reflects the diversity** of the golden state at all levels of the organization

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Create **opportunities to grow the pipeline and develop** its current and future people into leaders

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Promote **creativity, flexibility, and innovation** to ensure an **inclusive working environment and culture**

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**Have a robust and agile hiring and talent model,** to ensure the workforce adapts to meet **changing public health needs of the community**

# Potential investment opportunity areas to meet workforce aspirations

## Two elements of workforce investment needs:

### ① Labor cost

Support the expansion of the workforce – both locally and at the state level – to create sufficient capacity and expertise to meet the new demands on the system, including (not exhaustive):

- **Communications, education, and community partnerships** to increase accessibility to public health information and reach communities effectively
- **Executive management, project management, and strategic planning**, to provide executive leadership (e.g., clinical expertise, strategy and planning), as well as project management capacity to stand up new programs
- **IT/Data** to support critical enhancements needed as California's public health system moves towards implementing sophisticated and data-enabled networks



### ② Development initiatives

Identify **key investments in workforce development** to attract, train, and support the projected future staff, including (not exhaustive):

- **Talent recruitment** function to hire in estimated workforce needs (including for specific roles)
- **Cross-cutting competencies and new skill development** to upskill and train existing workforce
- **Retention programs and organizational health initiatives** to limit attrition and retain strong talent
- **Job classification reform** to simplify hiring, support development paths, and ensure sufficient competencies

# Overview of Workforce Capabilities Survey

## Overview of survey intent

In order to develop a baseline of the current state of the California public health workforce, CDPH launched a capability survey to collect information from both CDPH and Local Health Jurisdictions (LHJs) in California. In this survey, respondents were asked to provide information on services provided, staffing levels, and workforce capabilities across each LHJ and CDPH. Using this information, the California Future of Public Health Workgroup will develop an approach to designing the public health system of the future

## Objectives of the survey

- ① **Current composition of the public health workforce:** Determine the staffing levels across each role category at both the CDPH and LHJ levels
- ② **Services provided (e.g., programs, clinical services, etc.):** Evaluate the core program areas supported by each LHJ and differences in programmatic support for varied population sizes
- ③ **Workforce capabilities and competency:** Self-reported assessment of the technical and strategic competencies across key public health domain areas (e.g., chronic disease prevention, data science and analytics)

## Results

Received 55 responses (~90%) from LHJs across size archetypes, geographies, urbanicity, etc., as of 8/12/2021<sup>1</sup>

Received 37 responses from CDPH across centers, and role categories, as of 8/12/2021<sup>2</sup>

1. Capability Survey included 51 LHJ respondents to capabilities assessment questions (responses not completed by Lake, Marin, Santa Barbara, and Sonoma LHJs)

2. 32 completed responses

Source: Workforce Capabilities Assessment, August 12, 2021

# Summary of findings: CDPH and Local Health Jurisdictions



## Overall workforce composition

California's public health workforce has a total of ~19–20K budgeted FTEs (~4K FTEs in CDPH and ~15–16K FTEs in LHJs)<sup>1</sup>

- Consistent with funding streams, over **75% of CDPH's workforce is focused on public health programmatic areas** (e.g., environmental health, infectious disease, etc.)<sup>1</sup>
- At the local level, workforce size ranges from a median of **~30 FTE per 100K population for large and very large LHJs** to **~90 for very small LHJs**<sup>2,3</sup>, potentially demonstrating the ability for larger jurisdictions to leverage economies of scale

At both the state and local level, a substantial proportion of the workforce is composed of program specialists (consistent with categorical funding streams), **with fewer staff dedicated to IT and data emergency response, and equity**<sup>4</sup>



## Current state assessment across workforce development capability domains

Information collected from both LHJs and CDPH highlighted potential challenges in workforce development, including<sup>1,5</sup>:

- **Recruiting qualified and diverse talent**, with commonly reported challenges including ability to hire in a timely manner (especially for technical positions) and provide competitive compensation packages (e.g., competitive salary)
- **Retention**, with respondents indicating and expected high turnover rates in the next ~5 years and an inability to manage employee burnout
- **Organizational health**, with respondents reporting a lack of clear paths to career advancement or adequate support from management

Reported strengths vary by jurisdiction type and size, including:

- **Tools and standards for learning and development**, with CDPH and larger LHJs reporting stronger internal training programs and opportunities, but insufficient standards for learning and development
- **Data monitoring and tracking**, with LHJs reported strengths, but CDPH reports substantial capability gaps

1. 55 LHJs provided responses in the Workforce Capabilities Survey (data collected as of 8/12), representing 98% of the total CA population. Total workforce estimate based on scaling up to cover full state-wide population  
 2. Based on self-reported total budgeted FTEs by LHJ (Question 6: "How many total FTEs were budgeted for employment by your LHJ in 2019?"). Madera did not report total budgeted FTEs and therefore number included is the sum of all self-reported budgeted FTEs across a non-exhaustive set of role categories  
 3. Sized per CHEAC and HOAC archetypes where designation is based on size of population served; Very small = <50,000, Small = 50,000 – 199,999, Medium = 200,000 - 699,999, Large = 700,000 – 4,999,999, Very large > 5,000,000  
 4. Equity initiatives may be considered part of other programs and therefore not have specifically dedicated staff  
 5. Workforce Capabilities Survey (data collected 8/12) includes 55 LHJ respondents (51 completed) and 37 CDPH respondents (32 completed) across 7 programs or centers

# Deep dive: Scaling factors by role category (1 of 2)

■ Small LHJs
 ■ Medium LHJs
 ■ Large LHJs
 ■ Extra Large LHJs

	Role Category <sup>1</sup>	Approach to sizing	Additional considerations
Percentage of workforce	 <b>Executive management</b> (e.g., health director, health officer, deputies)	<span style="color: yellow;">■</span> ~8% of workforce <span style="color: green;">■</span> ~3 % of workforce <span style="color: purple;">■</span> <span style="color: black;">■</span> ~2 % of workforce	Executive management roles may include include clinical roles, especially within smaller-sized LHJs
	 <b>Central Business Functions</b> (e.g., fiscal support, grant management, legal, HR)	<span style="color: yellow;">■</span> ~12% of workforce <span style="color: green;">■</span> ~10 % of workforce <span style="color: purple;">■</span> <span style="color: black;">■</span> ~ 8 % of workforce	Office and role to scale proportionately with LHJ workforce size
	 <b>Project management and performance improvement</b> (e.g., strategic roles for quality improvement, grant management)	<span style="color: yellow;">■</span> <span style="color: green;">■</span> ~1% of workforce <span style="color: purple;">■</span> <span style="color: black;">■</span> ~ 2 % of workforce	Includes project management staff to improve grant management, accreditation, and other performance improvement needs
Per capita	 <b>Vital records</b> (e.g., management of demographic records such as births, deaths, marriage certificates)	<span style="color: yellow;">■</span> <span style="color: green;">■</span> 1 FTE per 100k population size <span style="color: purple;">■</span> <span style="color: black;">■</span> 1 FTE per 200k population size Minimum of 1 FTE and maximum of 100 FTEs per LHJ	
	 <b>Lab Personnel</b> (e.g., laboratory director, microbiologists, medical technologists, technicians)	<span style="color: yellow;">■</span> <span style="color: green;">■</span> 1 FTE per 55k population size <span style="color: purple;">■</span> <span style="color: black;">■</span> 1 FTE per 90k population size No minimum requirements, however, maximum of 100 FTEs per LHJ	Workforce may be organized in a regional model consistent with location of state public health labs
	 <b>Epidemiologists</b> (e.g., specialized roles for research and analysis of disease and injury)	<span style="color: yellow;">■</span> 1 FTE per 50k population size; minimum of 1 FTE and maximum of 1 FTE <span style="color: green;">■</span> 1 FTE per 200k population size; minimum of 1 FTE and maximum of 50 FTEs <span style="color: purple;">■</span> 1 FTE per 100k population size; minimum of 1 FTE and maximum of 50 FTEs <span style="color: black;">■</span> 1 FTE per 100k population size; minimum of 1 FTE and maximum of 100 FTEs	Potential recruitment and hiring challenges in rural jurisdictions Opportunity to offer regional/remote working models

**Benchmarks developed to assess incremental staffing needs, and not intended to inform allocation decisions. See pages 12-13 for methodology**

1. Program specialist and clinician roles not included in benchmarks given (1) categorical funding to support programmatic areas, and (2) high degree of variation in terms of clinical services provided across LHJs

Source: Workforce Capabilities Assessment, August 12, 2021, CDPH Classification Count, NACCHO data, workforce.com, Future of Public Health Working Group

# Deep dive: Scaling factors by role category (2 of 2)

■ Small LHJs
 ■ Medium LHJs
 ■ Large LHJs
 ■ Extra Large LHJs

Per capita	Role Category <sup>1</sup>	Approach to sizing	Additional considerations
	 <b>Emergency preparedness</b> (e.g., planning and resilience, EP coordinators, etc.)	<ul style="list-style-type: none"> <li><span style="color: yellow;">■</span> 1 FTE per 50k population size; minimum of 4 FTE and maximum of 20 FTE</li> <li><span style="color: green;">■</span> 1 FTE per ~75k population size; minimum of 4 FTE and maximum of 20 FTEs</li> <li><span style="color: purple;">■</span> 1 FTE per 200k population size; minimum of 4 FTE and maximum of 20 FTEs</li> <li><span style="color: black;">■</span> 1 FTE per 80k population size; maximum of 105 FTEs</li> </ul>	Minimum thresholds based on variety of EP roles needed within a jurisdictions; potential multi-year ramp to build capabilities within smaller jurisdictions
	 <b>Communications</b> (e.g., public information officers, communications staff)	<ul style="list-style-type: none"> <li><span style="color: yellow;">■</span> 1 FTE per 1.0M population size; minimum of 0.5 FTE and maximum of 15 FTE</li> <li><span style="color: green;">■</span> 1 FTE per 1.0M population size; minimum of 1 FTE and maximum of 15 FTEs</li> <li><span style="color: purple;">■</span> 1 FTE per 350k population size; minimum of 1 FTE and maximum of 15 FTEs</li> <li><span style="color: black;">■</span> 1 FTE per 350k population size; minimum of 1 FTE and maximum of 15 FTEs</li> </ul>	Greater FTE per capita may be needed for larger LHJs if this coincides with needs for multiple languages, cultural literacy, etc. Potential opportunities to develop centers of excellence to support small and medium LHJs
	 <b>Public health educators</b> (e.g., outward facing community liaisons)	<ul style="list-style-type: none"> <li><span style="color: yellow;">■</span> 1 FTE per 85k population size; minimum of 0.3 FTE and maximum of 150 FTEs</li> <li><span style="color: purple;">■</span> 1 FTE per 85k population size; minimum of 1 FTE per LHJ and maximum of 150 FTEs</li> <li><span style="color: black;">■</span> 1 FTE per 85k population size; minimum of 1 FTE per LHJ and maximum of 150 FTEs</li> </ul>	May be augmented by community partners, including promotores
	 <b>Community Partnerships and Community Health Improvement Coordinators</b> (e.g., partnership coordinators, climate change staff)	<ul style="list-style-type: none"> <li><span style="color: yellow;">■</span> 1 FTE per 30k population size</li> <li><span style="color: purple;">■</span> 1 FTE per 250k population size</li> <li><span style="color: black;">■</span> Minimum of 1 FTE per LHJ, and maximum of 25 FTEs</li> </ul>	Potential overlapping role responsibilities across communications, equity and emergency preparedness roles
	 <b>IT/Data</b> (e.g., informatics analyst, IT specialist)	<ul style="list-style-type: none"> <li><span style="color: yellow;">■</span> <span style="color: green;">■</span> Regional staffing model across 6 California regions, with ~1 FTE per 70k population size</li> <li><span style="color: purple;">■</span> <span style="color: black;">■</span> per 70k population size</li> </ul>	Given desire from LHJs to build greater data science capabilities, opportunity to establish minimum thresholds
	 <b>Equity</b> (e.g., dedicated equity lead within a jurisdiction)	<ul style="list-style-type: none"> <li><span style="color: yellow;">■</span> 1 FTE per 500k population size; minimum of 0.5 FTE and maximum of 2 FTEs</li> <li><span style="color: purple;">■</span> <span style="color: black;">■</span> 1 FTE per 500k population size; minimum of 1 FTE per LHJ and maximum of 2 FTEs</li> </ul>	May be overlap between equity specific roles and roles within specific programmatic areas. Consider best practice of equity lead at executive level

**Benchmarks developed to assess incremental staffing needs, and not intended to inform allocation decisions. See pages 12-13 for methodology**

1. Program specialist and clinician roles not included in benchmarks given (1) categorical funding to support programmatic areas, and (2) high degree of variation in terms of clinical services provided across LHJs

# Future of Public Health Workgroup's assumption for salary & benefits costs to fill workforce shortages

Supplemental system-wide **workforce capacity of ~1,900-2,300 FTE** across California's public health system would be needed to address key workforce shortages across programmatic and core infrastructure areas

Role category <sup>1</sup>	Role description	Percentage of incremental FTE
 Communications, education, and community partnerships	Dedicated to effectively distributing public health information, and developing a robust and sustained network of community partners	~10%
 Central functions	Human resources, fiscal, legal, and other operational functions serving as points of coordination	~25-30%
 Executive management, project management, and strategic planning	Management roles providing executive leadership (e.g., clinical expertise, strategy and planning) and capacity to stand up new programs	~10%
 IT/data	Expertise to move California's public health system towards implementing a sophisticated and data-enabled network	~10%
 Targeted technical expertise	Epidemiologists, lab scientists, and emergency preparedness staff with expertise across core public health domains (e.g., disease control)	~20-25%
 Other	Roles spanning across core public health capabilities such as records management, health equity, programmatic functions (e.g., maternal health)	~15-25%

1. Program specialist and clinician roles not included in benchmarks given (1) categorical funding to support programmatic areas, and (2) high degree of variation in terms of clinical services provided across LHJs

Source: Future of Public Health Workforce Subgroup analysis; Workforce Capabilities Assessment, NACCHO, ASTHO, workforce.com, California Community Burden of Disease

## Sources of insight

### Capabilities Assessment Survey:

- Developed baseline of current capabilities and capacity across California's public health system through survey

### Benchmark California LHJs:

- Evaluated survey results, health outcome measures, and diversity/demographic representation across jurisdictions

### Bottom-up build:

- Assessed likely needs for each role category based on regulations, as well as subject matter expertise

### External research:

- Collected insights from relevant national data (e.g., NACCHO and ASTHO reports), and other industries

### Subject matter experts:

- Syndicated findings with subject matter experts

*Cost estimates developed by the Future of Public Health Workgroup through aligning on needed capabilities, assessing the current state, identifying initiatives to fill gaps and determining range of incremental investment required*

# Potential workforce initiatives to strengthen California’s public health workforce

	From	→	To
Workforce development initiatives	 <b>Talent recruitment</b> Limited channels and slow process to source, screen, and hire needed talent		<b>1 Multi-channel, proactive, and digitally-enabled recruitment and hiring function</b>
	 <b>Retention and organizational health</b> Overly complex classification system with limited pathways for development  High employee dissatisfaction and high expected turnover		<b>2 Simplified, aligned job classification system</b> to support career progression and pay increases  <b>3 Holistic organizational culture transformation at CDPH and the individual LHJ level</b>
	 <b>Tools and standards for learning and development</b> Highly variable access to trainings, across a limited set of topic areas		<b>4 Culture of growth and learning via a well-structured, up-to-date, and highly accessible training program</b>
	 <b>Cross-cutting competencies and new skill development</b> Insufficient ability to monitor competencies of workforce, or upskill and reskill employees to meet the evolving public health demands		<b>5 Comprehensive competency-based performance management system</b> to define necessary skill sets, assess gaps, and track development along career paths
	 <b>Data-driven work-force coordination and management</b> Limited guidance and high variability in staffing levels by roles – resulting in work-force gaps at the local and state level		<b>6 Operational planning function</b> to provide clear guidance on the “right-sized” state and local workforce
Labor costs	 <b>Salary and benefits costs to fill workforce shortages</b> Governmental public health workforce shortages across key infrastructure areas		<b>7 Capacity to hire ~1,900-2,300 new FTEs</b> (10-12% increase) to bolster system-wide workforce