

Assuring the “Public” in “Public Health”: Developing Workforce Capacity, Diversity, and Connectedness at the Department of Public Health Sciences

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Abstract

Public Health serves a critical role in ensuring and maintaining population health by recognizing that health is influenced by individual, social, economic, environmental, structural, and political factors. Despite the core role that public health plays in communities, the field’s workforce faces shortages which were already dire pre-pandemic. The Department of Public Health Sciences (DPHS) at the University of Hawai‘i at Mānoa (UHM) provides bachelor, masters, and doctoral degrees and serves as an essential training ground for the public health workforce in Hawai‘i. The purpose of this paper is to describe some of the ways DPHS is meeting the ever-growing demand for qualified health professionals, in local and global government and community health departments and organizations. Since the first graduating class in 1967, more than 7000 individuals have earned accredited degrees through DPHS, including over 500 diverse undergraduate and graduate alumni since Fall 2015. The quality of DPHS’ program and instruction are consistently highly rated by students and alumni. The curriculum is continually enhanced through innovative programs, and actively engages students in advancing public health practice and gaining applied research skills through all steps of scholarship including publications. DPHS is proud to be part of the movement towards building and revitalizing the public health workforce through teaching, research, and service and continues to strive to foster practitioners who will represent and serve local communities, engage in meaningful research and service, and bridge connections across disciplines and geographies.

Abbreviations

BAPH = bachelor of arts in public health
DE = distance education
DPHS = Department of Public Health Sciences
HDOH = Hawai‘i State Department of Health
HHDW = Hawai‘i Health Data Warehouse
HHET = Healthy Hawai‘i Evaluation Team
IOM = Institute of Medicine
MPH = master of public health
MS = master of science
NHIH = Native Hawaiian and Indigenous Health
OPHS = Office of Public Health Studies
PhD = doctor of philosophy
UHM = University of Hawai‘i at Mānoa

Introduction

The importance of public health, and for well-trained public health professionals, has never been greater.¹ While the pandemic highlighted some of public health’s key functions, the field’s workforce shortages were already dire pre-pandemic.¹ In the absence of workforce development initiatives, it is estimated that as much as half of the governmental public health workforce will be lost to separations and retirements by 2025.² Of particular importance is for the field of public health to reflect the public and community, in terms of priorities and approaches, and most especially in the diversity of its workforce.^{3,4}

Public health is not alone in the pursuit of health equity, being a natural ally and collaborator with social work, nursing, medicine, and other fields. The discipline’s uniqueness stems from its approaches to investigation and action, community engagement, prevention/wellness, and population health. Public health is comprehensive, recognizing that health is influenced by individual, social, economic, environmental, structural, and political factors,⁵⁻⁷ and that preventive action must include primary prevention (intervening before illness/events occur, promoting wellness), secondary prevention (identifying and addressing illness/events early), and tertiary prevention (managing illness/events after they occur). The purpose of this paper is to describe some of the ways the Department of Public Health Sciences (DPHS – recently renamed from the Office of Public Health Studies) at the University of Hawai‘i at Mānoa (UHM) is addressing workforce needs in Hawai‘i, the Pacific, and beyond.

History

Public health training started at UHM in 1962, and was accredited as a School of Public Health from 1965 to 2000.⁸ In 2000, the unit became a department and moved under the John A. Burns School of Medicine. In 2016, DPHS faculty, staff, and stakeholders voted to be reorganized under the Myron B. Thompson School of Social Work, with a shared vision for health equity and social justice.⁹ In 2021, the Myron B. Thompson School of Social Work was renamed the Thompson School of Social Work and Public Health (Thompson School), housing DPHS, the Department of Social Work, and the Center on Aging.¹⁰ DPHS has continuously maintained accreditation under the Council on Education for Public Health (CEPH) throughout these

transitions, and the current accreditation period runs through 2030.

As the major institution of higher learning in Hawai'i, UHM has a responsibility to train a robust health workforce and meet the dynamic education needs of local communities. Accordingly, DPHS' mission is to advance and protect the health and well-being of the peoples of Hawai'i, the Pacific, Asia, and Indigenous communities. This mission is pursued through teaching, discovery, innovation, community engagement, inclusion, and leadership. The pride of DPHS continues to be the students and trainees, and meeting the ever-growing demand for qualified health professionals, in government and community-based health services, locally and globally. The focus on students is complemented by the centrality of community in all activities, aligning with the vision of DPHS' founders to link university instruction and research with Hawai'i's health services.⁸ At the same time, DPHS monitors and accounts for the workforce's changing needs, including those that became more prominent during the pandemic.

Teaching and Training Activities

The most direct way DPHS bolsters the public health workforce is through teaching current and future generations of public health practitioners, researchers, and administrators.¹¹ Degrees currently offered include the bachelor of arts in public health (BAPH), master of public health (MPH), master of science (MS) in public health (epidemiology focus), doctor of philosophy (PhD) in public health, and PhD in epidemiology. There are 4 specializations within the MPH program: epidemiology, health policy and management (including a distance education option), Native Hawaiian and Indigenous Health (NHIH), and social and behavioral health sciences. There is also a minor in public health for UHM undergraduate students. Since the first graduating class in 1967, more than 7000 individuals have earned accredited degrees through DPHS. Recent estimates for enrollment and graduation metrics are summarized in [Table 1](#).

Undergraduate and graduate students have consistently indicated they are "very satisfied" or "satisfied" with the quality of DPHS' programs and instruction, with 100% of undergraduate and 94% of graduate students agreeing with this metric in the Spring 2023 survey of graduating students.¹² Results from alumni surveys over the years affirm students' positive experiences during their time at DPHS. Among data collected on 224 BAPH graduates, 44% were employed and 30% were pursuing advanced education, with about half of these graduates further pursuing public health.¹³ About 83% agreed or strongly agreed that the coursework provided them with useful public health skills, and 68% replied that DPHS did a good or excellent job in preparing them for their current positions. Looking at graduate students, the majority receive financial or research support through scholarships and graduate research assistantships, with 91% receiving support in 2022-2023.¹² Among a survey of 110 graduate student alumni, 64% described their current status as employed in a new position

Table 1. University of Hawai'i at Mānoa, Department of Public Health Sciences, Enrollment and Graduation Metrics, Fall 2014–Spring 2025.

Level of Study	Current Enrollment Estimate (2024-2025 academic year)	Graduates - Last 10 Years (fall 2014 to spring 2024)
Bachelor's level (BAPH)	164	483
Master's level (MPH or MS)	74	248
Doctoral level (PhD epidemiology or PhD/DrPH public health)*	38	53
Totals	276	784

*In 2018, the DrPH was changed to the PhD in Public Health

(60% within Hawai'i), and most started their positions within 3 months after graduation. Looking specifically at PhD in Public Health graduates, about 55% are working in academia with the rest in international or local government, health care facilities, or research centers.¹⁴ Every PhD respondent felt the program prepared them for their current position to some degree.

Examples of Teaching Initiatives

To assure that teaching/training remains aligned with the DPHS mission, core educational programs and strategies are actively reviewed and evolved.¹⁵ Many courses provide experiential learning opportunities to emphasize applied learning, with 67% of courses involving community-based public health practitioners. Three programs added in the past 12 years include the BAPH program, the world's only NHIH MPH, and a distance education MPH.

Bachelor of Arts in Public Health (BAPH). Public health training has historically been relegated to the graduate level, with students first pursuing undergraduate degrees in the natural and social sciences. However, national trends saw a rapid increase of undergraduate programs in the early 2000s, fueled by an Institute of Medicine (IOM)¹¹ recommendation that undergraduates have access to public health education, support from CEPH (the nationally recognized accrediting body for public health schools and programs),¹⁶ and crises such as 9/11 and the 2001 anthrax attacks.¹⁶ At DPHS, undergraduate courses were launched in 2014, with the first students graduating in 2015. The BAPH degree builds students' foundational skills/knowledge earlier, thus preparing students to enter the public health workforce more quickly, and also building a pipeline into graduate public health training.^{17,18} It has also attracted more students into the field by raising awareness at the undergraduate level of public health as a career choice, particularly for students interested in health promotion and community engagement, but who often matriculate

into biological or clinical sciences due to unfamiliarity with public health.

Today, DPHS' BAPH program confers a myriad of employable skills upon its students including: public health practice skills (policy analysis, behavior change, epidemiology); global perspectives with emphasis on local relevance; applied practice, through 100-120 hours of service-learning or research experience; and written and oral communication.¹⁹ BAPH courses also benefit students from other majors/professions (eg, medicine, nursing, law, business), providing a solid foundation about individual, community, and global health. Many BAPH students and their accomplishments have since been featured in local media and peer-reviewed literature.¹⁹⁻²³ DPHS is currently bolstering awareness of public health among prospective students even earlier, through efforts such as collaborations with community colleges and local high schools. One example is the Community Health Scholars Summer Program which launched in 2022.²⁴ Designed for high school sophomores, juniors, and graduating seniors accepted into a UH campus, the 6-week program builds students' enthusiasm for public health, introduces college skills (eg, goal planning, team building, cultural awareness), and allows participating students to earn undergraduate college credits upon completion.

Native Hawaiian & Indigenous Health (NHIH). DPHS' NHIH Specialization launched in 2013, as a pathway within the MPH degree. While Indigenous health programs have cropped up within universities around the world, the NHIH specialization is the only MPH program focused on Native Hawaiian communities.²⁵ This focus reflects the prioritization of Native Hawaiian history, culture, and epistemology within DPHS and public health in Hawai'i, and acknowledges the importance of research and health strategies developed with and for Native Hawaiian communities.²⁶ The NHIH specialization aims to eliminate health disparities among Native and Indigenous peoples in 3 major ways: (1) putting focus on the inequities faced by these communities and contextualizing health determinants within historical and political frameworks; (2) leveraging the strengths and ways of knowing of Native and Indigenous peoples to inform health programs, policies, and strategies; and (3) building a more robust public health workforce that serves these communities, and intentionally recruiting students that come from Native and Indigenous backgrounds, with the goal of having scholars return to their home communities to develop community driven and sustainable solutions.^{25,27}

Distance Education (DE). Distance learning has become an increasingly promising method of public health training, as it enhances learning opportunities for professionals with limited access to classroom learning.²⁸ In 2022, DPHS launched its DE program for MPH students focusing on health policy and management. Though there had been previous interest in DE modalities, the pandemic increased demand for online education options from UHM.²⁹ Faculty expertise coupled with assistance from the Outreach College Instructional Design team resulted in this degree offering, which follows best practices of asynchronous online

education. MPH-DE students must meet the same degree requirements as students enrolled in the campus-based degree pathway. Students have praised the program's flexibility, interactivity (which is noteworthy, considering it is a fully asynchronous program), and its emphasis on Native/Indigenous peoples and other under-researched communities.³⁰

Research, Scholarship, and Service

Though the most visible role of academia is teaching, faculty research and service endeavors also substantially contribute to the capacity of the public health workforce.³¹ Strong faculty-conducted research, especially when partnered with and grounded in local communities, expands and elevates the knowledge base relevant to priority populations and health topics. Translational research, another hallmark of public health and strength of DPHS faculty scholarship, ensures the application of sound evidence to the design and real-world implementation of interventions, and dissemination of evidence-based interventions into widespread practice.³²

DPHS faculty, staff, and students are involved in various research projects that span a wide range of public health topics, from infectious to chronic disease, maternal/child health to gerontology, microbiology to environmental health, and health promotion/prevention to treatment and services.^{33,34} Researchers collaborate with nearly all branches of the Hawai'i State Department of Health (HDOH), and with individuals from 70+ universities and organizations nationally and internationally. Faculty have garnered extramural funding from local, national, and global sources, including foundations such as the Robert Wood Johnson Foundation, and federal agencies such as the National Institutes of Health, Centers for Disease Control and Prevention, Health Resources and Services Administration, and Substance Abuse and Mental Health Services Administration, totaling over \$20 million since 2020. The majority of faculty projects employ student research assistants, volunteers, and interns, who gain hands-on and real-time research experience. In fact, reflecting on the last 5 years, all primary instructional and research faculty have engaged at least 1 student in their research as co-authors on publications and presentations and/or through employment as a research assistant. Findings and recommendations are disseminated through community and refereed publications, training and presentations, and media outlets, with many involving students.

Service endeavors further connect teaching and research activities to the workforce. Aside from direct benefits to partner organizations and localities, service provided by the academic community also contributes to the public health knowledge base and overall health of the community.³¹ Service and collaboration result in better teaching (eg, instructors can involve partners in course activities, service/practical skills-building may be incorporated into coursework) and research (eg, projects are enhanced when conducted by a multi-disciplinary team and engage the community). Community partners also serve as mentors for

field education opportunities, at sites which then become potential agencies for post-graduation employment. Thus, DPHS uses a multi-pronged strategy of bolstering the public health workforce, through both effective teaching, and establishing and maintaining connections and processes to efficiently move learners along training-to-employment pathways.²

DPHS faculty and staff perform a broad array of services that draw on their professional expertise and contribute to their fields and communities at local, state, national, and international levels. Examples of service activities include membership in community/agency advisory committees and boards; leadership positions in peer-reviewed journals and professional societies; provision of technical and other kinds of support to public health departments, social service agencies, schools, and neighborhoods; analysis and written and oral testimony in legislative and judicial bodies or governmental agencies; and guidance related to program announcements and requests of applications, and review of grant applications.³⁴

Examples of Innovative Research and Service Projects

The Healthy Hawai'i Evaluation Team (HHET) and Hawai'i Health Data Warehouse (HHDW). HHET is one of DPHS' flagship collaborations with the HDOH that advances evidence-based strategies to improve nutrition, physical activity, tobacco, and community clinical linkages across Hawai'i. DPHS faculty/staff/students engaged in HHET provide evaluation and research support aimed at reducing chronic disease and improving the health of communities in Hawai'i.³⁵ The long-term success of HHET can be attributed to factors such coalition-building, data-sharing for planning and decision-making, and shared values among stakeholders.³⁶ The DOH-HHET partnership has helped develop the public health workforce in Hawai'i, and many students that work with HHET move on to UH faculty or HDOH positions. HHET has also trained coalition members, grantees, and other partners on best practices in evaluation, socio-ecological models, and interventions addressing chronic disease prevention.

The HHDW project also supports the work of HDOH and many other local programs and researchers. Created in 2001, HHDW facilitates access to standardized data elements across health surveillance systems in Hawai'i.³⁷ Currently, HHDW houses population-based data from the Behavioral Risk Factor Surveillance System (BRFSS), Pregnancy Risk Assessment Monitoring System (PRAMS), Youth Tobacco Survey (YTS), Youth Risk Behavior Survey (YRBS), and Vital Statistics. HHDW also maintains a companion site, Hawai'i Health Matters (HHM), a user-friendly resource with high-level contextualized health data for over 700 indicators from more than 60 separate data sources. The HHDW team works with HDOH staff and partners to facilitate data-driven decision-making by creating indicators and trackers, coordinating record-level data requests with HDOH data owners, creating custom reports, and teaching users how to access data within the online systems.

Strategic research initiatives. To increase scholarly collaboration and strategic alignment, DPHS launched a Strategic Research Initiative in spring 2021. Four topics were identified as core areas for investment and future growth through strategic planning with faculty, staff, community partners, and students: (1) Native Hawaiian and Indigenous health; (2) ocean and human health; (3) epidemiology in the Pacific; and (4) Filipino and immigrant health. Junior faculty were paired with senior faculty members to promote mentorship and cross-disciplinary collaboration within DPHS, and all projects have also engaged graduate and undergraduate students.

Projects are underway at various phases of progress, and have engaged multiple students and community stakeholders. For example, Initiative 2 (Ocean and Human Health) held listening sessions and system-mapping workshops with various community and organizational stakeholders. The resulting maps depict how oceans and humans work together, with the goal of better understanding the relationship between humans and the environment, identifying leverage points where collective change can occur, developing new collaborative partnerships in this area, and engaging community in the work.³⁸ Initiative 4 (Filipino and immigrant health) has continued to be advanced by several Filipino researchers and practitioners from DPHS, the Thompson School, and other local agencies. Self-titled the "Pinerds," the cadre of Filipino researchers hopes to more closely collaborate to share one another's research, facilitate a collective research/practice agenda to address health disparities faced by the Filipino community, and promote programming and interventions that are rooted in and relevant for Filipino culture.³⁹ Focus on this population has also become more prominent among students who identify as Filipino, and who have dedicated themselves to advancing the health of the Filipino community. These students' interests are being cultivated through coursework within and beyond DPHS (eg, some dually majoring in Public Health and Philippine Language and Culture), as well as projects with DPHS faculty.⁴⁰

Service learning. The integration of service learning into public health education benefits not only the student and partnering mentor/organization, but also accelerates overall progress towards health equity and social justice.⁴¹ DPHS students participate in service learning at the undergraduate, masters, and doctoral levels, ensuring immersion with external agencies and communities before graduation. All experiences require students to be mentored by a field/research expert who is not a core advisor, supervisor, or faculty. Undergraduate students experience an integrative 3-course series, including a preparatory course in which students conduct a literature review on a topic of interest, 100-120 hours of service learning, and a capstone course to integrate didactic and service-learning experiences.⁴²

MPH students complete a 240-hour practicum to apply academic knowledge in the real world, to learn practical skills in a public health-related setting, and to develop problem-solving skills in a supervised environment. MS and PhD students complete hands-on mentored research during the course of their program, beyond just the thesis

or dissertation. These research practica target the development of students' research skills to: (1) provide research experience through participation in a supervised project prior to the thesis/dissertation; (2) involve and engage students in active research early in their studies; (3) increase students' research skills, capacity, and innovation; and (4) develop skills in writing for publication and oral dissemination.

Discussion and Future Endeavors

DPHS is proud to be part of the movement towards building and revitalizing the public health workforce through teaching, research, and service.⁴³ DPHS strives to foster practitioners who will represent and serve local communities, engage in meaningful research and service, and bridge connections across disciplines and geographies.

Diversity in the Public Health Workforce

Efforts are ongoing to build the capacity and diversity of DPHS among the trainees who will represent and serve local communities, as well as among the faculty/staff mentoring these trainees. There is clear consensus within the department that Native Hawaiians and other Indigenous Peoples, Pacific Islanders, and Filipinos are priority populations. The Hawai'i archipelago at large and rural communities are also prioritized. These efforts are codified in the DPHS Diversity Plan,⁴⁴ and are monitored annually. For example, in 2022-2023, the majority of PhD (68%), Masters (69%), and BAPH (59%) students were Hawai'i residents.¹² In addition, over half of PhD (57%), Masters (58%), and BAPH (52%) students identified as Native Hawaiian, Pacific Islander, Indigenous, and/or Filipino. With respect to enhancing the diversity of faculty, 67% of the current faculty body are from communities of color, and 90% identify as female with many holding leadership positions within the unit. The DPHS' Diversity, Equity, and Inclusion (DEI) Committee, composed of faculty and students, provides oversight for implementation of the Diversity Plan. Ongoing conversations are held about student and faculty recruitment, while collectively enhancing the faculty's capacity to integrate topics of diversity and cultural humility into their teaching, advising, and research, including bringing in ex-

perts to lead trainings and compiling a library of resources, readings, and online trainings.

DPHS also supports the university's goal to foster UH as an Indigenous-serving institution and a Native Hawaiian Place of Learning.⁴⁵ This is reflected at UH through the prioritization of Indigenous populations and services across multiple campuses and within the administration. At DPHS, an early signal of commitment to this goal was the integration of a welcoming *oli* or chant (*Welina Mānoa*) into department events and monthly faculty meetings to acknowledge the importance of and *kuleana* (responsibility, privilege, and birthright) with respect to Indigenous land. Various initiatives have spurred ongoing conversations among faculty to increase departmental knowledge about the history of Hawai'i and Native Hawaiian values and transform the spaces of public health. For instance, DPHS has engaged in UHM's Truth, Racial Healing, and Transformation (TRHT) Initiative, which aims to create leaders to break down racial hierarchies and focus on how healing may occur from the disconnects caused by racism and settler colonialism.⁴⁶ Two faculty members participated in the TRHT program during the summer of 2019 and have since facilitated discussions with DPHS faculty and staff on Hawaiian values and practices in teaching, research, and service.

Conclusion

Public health's unique approach to population health, combined with its aspirational yet critical goal of health equity and social justice, requires a robust workforce grounded in both technical skills and dedication to community. DPHS leverages its unique position as an academic unit which centers around students and community, to conduct teaching, research, and service that flexes to workforce and public needs. In fact, DPHS embraces this positionality and strives to rise to these great challenges through the advancement of community and Indigenous knowledge while pushing the boundaries of innovation. DPHS is proud to be part of the movement towards building and revitalizing the public health workforce, and continues to train practitioners who will represent and serve local communities.

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