

Building the Future of Public Health Workforce: Comprehensive Internship Program at Hawai'i Public Health Institute

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Abstract

The United States public health workforce is facing a critical shortage, with a significant exodus of professionals from state and local health departments. This column discusses the importance of internship programs in developing a sustainable pipeline for new generations of public health professionals. The Hawai'i Public Health Institute's internship program is examined as an example to provide insights for organizations seeking to establish or enhance their internship programs. From 2020 to 2023, HIPHI received 258 applications and accepted 119 interns, with an acceptance rate of 46%. Interns were mostly bachelor's level students (69%), followed by master's level students (24%). Most interns (66%) were public health majors, with others from related fields. The program offered diverse placements across various public health areas and provided training opportunities including orientation, webinars, and field excursions. Recommendations for workforce development include fostering stakeholder collaboration, supporting practicum host sites and job supervisors, sharing information and best practices, and promoting leadership development. A holistic strategy involving stakeholder collaboration, leadership development, evaluation, and ongoing workforce assessment is essential for developing a robust public health workforce capable of promoting health, preventing disease, reducing mortality, and responding effectively to future crises. Program evaluation is a necessary next step to understand how best to assist interns and early career professionals during their practicums.

Abbreviations

HIPHI = Hawai'i Public Health Institute

Introduction

The United States public health workforce faces a critical juncture, with a significant exodus of professionals from state and local health departments. The 2021 Public Health Workforce Interests and Needs Survey (PH WINS) revealed that 49% of employees in local and state health departments have left their positions,¹ with 1 in 3 considering leaving their organization.² The 2021 PH WINS results show that the workforce crisis is particularly acute among younger professionals and those with shorter tenures, with employees aged 35 and younger and individuals with less than 5 years of experience more likely to leave their positions in 2021.²

The reasons for this exodus are multifaceted and complex. The prolonged stress of the global COVID-19 pandemic has taken a significant toll on public health professionals.³ Additionally, public health workers have faced unprecedented levels of hostility and criticism from segments of the public, eroding job satisfaction and morale.²

Furthermore, the public health sector has experienced a series of successive crisis events beyond the pandemic, such as natural disasters and emerging health threats, which have further strained the workforce.⁴ The Maui wildfires of 2023, for instance, required rapid response and long-term recovery efforts from public health professionals, adding to the cumulative stress on the workforce post-pandemic.

Another contributing factor to the workforce crisis is the downsizing of job positions and funding opportunities that were initially expanded during the pandemic. As emergency funding has decreased and budgets have tightened, many public health departments have been forced to reduce staff or eliminate positions, leading to job insecurity and further attrition.⁴

These challenges underscore the urgent need to develop a sustainable pipeline for new generations of public health professionals. Without concerted efforts to recruit, train, and retain talented individuals in the field, the public health infrastructure in the United States risks further erosion, potentially compromising the nation's ability to respond effectively to future health crises, prevent illness, and reduce mortality.

Internship programs play a crucial role in this effort by providing opportunities for students and early-career professionals to gain practical experience and develop essential skills.⁵ Experiential learning helps interns adapt to dynamic professional environments and develop the practical skills necessary for success in public health careers.⁶ Internships offer a unique opportunity for aspiring public health professionals to apply theoretical knowledge in real-world settings, develop professional networks, and gain insights into the diverse career paths available within public health.⁵

This column aims to share insights from the Hawai'i Public Health Institute's (HIPHI) internship program, detailing how the organization has worked to build a learning experience for students and early-career professionals in the public health field. Internship is a broad term that includes practicums and applied learning opportunities that can last from a few weeks up to a year. HIPHI's program is examined to contribute to the broader conversation on public health workforce development and offer valuable insights for other organizations seeking to establish or enhance their internship programs.

HIPHI's Internship Program

Founded in 1996 as the Coalition for a Tobacco-Free Hawai'i, HIPHI has been at the forefront of efforts to improve public health in Hawai'i through strategies that address health equity and cross-sector collaboration. Initially focused on tobacco and vape prevention, HIPHI expanded its scope to encompass various health areas such as nutrition, physical activity, oral health, food and agriculture, and COVID-19. This diversity of focus areas provides interns with exposure to a wide range of public health issues and approaches during orientation and training sessions.

During the COVID-19 pandemic, HIPHI significantly scaled up its internship program, leveraging increased program funding and staffing to create more opportunities for students and early-career professionals. The number of applications and interns increased when comparing the number before the pandemic (2019) and during the pandemic (2020). The total number of applications received increased from 4 applications in 2019 to 50 applications in 2020, and the total number of interns rose from 4 interns in 2019 to 15 interns in 2020. This expansion was a natural response to the increased interest in public health careers among students and professionals from various backgrounds during the pandemic.

Intern Characteristics

HIPHI implemented a unified system for gathering and processing applications and internship paperwork in 2020. These included an online application form, structured interviews with candidates, orientation, and agreement form for new interns. This system has allowed for more efficient management of the internship program and better tracking of applicant and intern data, which is crucial for program evaluation and improvement. The following information pertains to applications and intern characteristics from January 2020 to December 2023.

Applicants

HIPHI received 258 individual applications, of which 119 individuals became interns, resulting in an acceptance rate of 46%. Applicants were predominantly bachelor's level students (62%), master's level students (30%), and associates or doctoral level students (8%). About 62% of applicants were from public health programs and 38% from other disciplines, indicating that the program also appeals to those who may be considering a transition into public health and broadening the talent pool for the sector.

Interns

Between 2020 and 2023, 69% of interns were in bachelor's level programs, while 24% were in master's programs. Interns completed practicum hours based on their university's program requirements, with bachelor's level interns typically completing 80 to 150 hours (53%) and master's level students completed between 150 and 250 hours (78%). Two-thirds of interns identified as public health majors

(66%) and from one-third from related fields (34%) such as biology, kinesiology, political science, community health, nutrition and dietetics, and nursing.

Interns were placed across various programs within HIPHI, reflecting the organization's diverse areas of focus: food and agriculture (32% of interns); tobacco and vape prevention (27%); physical activity and nutrition (14%); policy and advocacy (8%); oral health (7%), and drug and alcohol prevention (4%). The remaining 8% of interns were placed with other programs such as COVID-19 response and *Kūpuna* coalitions serving older adults. Interns were exposed to a range of public health issues and intervention strategies. Diverse placements such as these can help interns identify areas of particular interest and inform their future career choices within the broad field of public health.

Interns indicated 1 or 2 competency areas they wanted to learn or practice in their application form, including policy and development skills (37 interns), community skills (33), analytical and assessment skills (22), communications (6), financial skills (5), and some chose not to answer (16). This information helps HIPHI staff to understand the intern's training needs and serves as a basis for offering projects that best match the competency areas that interns wish to practice or learn during their internship. [Table 1](#) describes typical activities for each competency area.

Close to three-quarters of interns (73%) completed internships for credit towards graduation, highlighting the important role that such programs play in complementing academic curricula and meeting degree requirements. This integration of practical experience with academic learning is crucial for developing well-rounded public health professionals who are prepared for the challenges of the field. The remainder (27%) were gaining experiences and networking within the public health field, during holidays and post-graduation. One of the benefits of developing work experience for interns is to gain references for future employment and adding a portfolio of work products to their resume. The beneficial relationship is mutual – interns also contribute to the valuable work for the organization, while providing supervision opportunities for staff.

A notable characteristic of HIPHI's internship program is its strong local focus. Approximately 87% of interns had connections to Hawai'i. For instance they attended universities in the state of Hawai'i (79%), lived in Hawai'i and attended online programs (5%), or returned to Hawai'i to complete their internship (16%). This local emphasis is particularly important in the context of Hawai'i, where cultural competence and understanding of local health issues are crucial for effective public health practice. By providing opportunities for local students and residents, HIPHI is contributing to the development of a public health workforce that is connected to and invested in the communities it serves.

Training Opportunities

HIPHI provides diverse training opportunities to help interns build a solid foundation in public health practice. These opportunities are designed to complement academic

Table 1. Types of Internship Projects for Each Competency Area

Competency Area	Description of Competency	Examples of HIPHI Internship Projects
Policy and development skills	Program and policy planning, implementation, monitoring, and evaluation.	<ul style="list-style-type: none"> • Compiling studies and information about buffer zone laws in the US and creating a brief summary of findings for lawmakers and coalition members. • Creating program monitoring tools for a statewide meal distribution program.
Community skills	Relationship building, collaborating with partners, community engagement, and advocacy work.	<ul style="list-style-type: none"> • Presenting information to middle and high school students teen vaping epidemic. • Tabling at community events and speaking to community members to increase awareness about healthy eating and active living. • Attending coalition meetings and developing a list of projects to support coalition goals.
Analytical and assessment skills	Data collection, analysis, assessment, evidence-based decision making, and ethical use of data.	<ul style="list-style-type: none"> • Assisting team with data collection and analysis during a community needs assessment and environmental scans. • Analyzing data on nutritional content and client demographics for a food distribution program for children and families.
Communications skills	Written and oral communications, disseminating information, influencing behavior, and facilitating meeting.	<ul style="list-style-type: none"> • Creating materials with appropriate messaging and design around healthy eating, physical activity, and oral health. • Promoting a food assistance program benefit by creating a brochure on how to use the program to purchase more fruits and vegetables.
Financial skills	Understanding funding mechanism and developing a program budget.	<ul style="list-style-type: none"> • Searching and compiling list of potential funders for a community garden coalition. • Providing recommendation on program sustainability by exploring funding sources.

learning with practical skills and real-world exposure to public health work. The training components include orientation, webinars, and opportunity to attend field excursions.

Internship orientation is a 1-hour session covering HIPHI's mission, vision, values, program areas, policies, and procedures. This orientation ensures that interns have a comprehensive understanding of the organization and its role in Hawai'i's public health landscape. It also sets clear expectations for the internship experience and introduces interns to HIPHI's organizational culture.

Between 2021 and 2022, HIPHI staff facilitated webinars on crucial topics such as the policy process, grant writing/nonprofit management, youth engagement, and coalition building. These sessions, lasting 1 to 2 hours each, were led by HIPHI staff who not only presented on the topics but also shared insights from their own career paths in public health. This approach provides interns with both practical knowledge and valuable career guidance. Interns also have an opportunity to attend free monthly webinars through the Public Health Training Hui and quarterly Perspectives on Community Health field trips. Perspectives trips were on hiatus during the pandemic and began again in 2023. These webinars and excursions offer opportunities to observe and participate in community-based health interventions, providing a real-world context for the concepts and skills learned in academic settings.

Interns learn not only about specific health issues but also about the broader skills necessary for effective public

health practice, such as policy and advocacy, community engagement, and program management. This holistic approach to training helps to produce well-rounded professionals who are prepared to address complex public health challenges from multiple angles.

Recommendations for Workforce Development and Conclusion

The diminishing public health workforce necessitates creating a robust pipeline for new professionals. Drawing from HIPHI's internship program and broader trends, we propose the following recommendations:

1. Foster stakeholder collaboration: Foster regular conversations among public health stakeholders to address funding and resources for training, mentoring, and supervising early career professionals and interns.
2. Support practicum host site and job supervisors: Provide resources to maximize intern experiences and improve organizations' capacity to host and mentor interns. Provide support to supervisors on how to recruit, retain, mentor, and supervise professionals in the younger age range and/or who have less work experience.
3. Share information: Conduct program evaluations and workforce assessments and share information with stakeholders for further discussion on how to best support interns to be ready for employment in the

public health field. Share best practices and data on workforce development issues in the state of Hawai'i.

4. Promote leadership development: Incorporate leadership training for interns in Hawai'i and promote programs such as AmeriCorps⁷ and Public Health Associates Program⁸ (CDC) as entryways to public health professions.
5. Include interns in relevant meetings to provide their perspectives around workforce development issues.

These recommendations aim to create a comprehensive approach to workforce development, addressing both immediate needs and long-term sustainability. Fostering collaboration, employer/ supervisor support, and addressing systemic challenges, can build a resilient and skilled public health workforce.

HIPHI's internship program collected very limited evaluation response from interns between 2020 to 2023 (27% response rate). HIPHI plans to conduct program evaluation and assessment of internship alumni in the near future. Such information could be helpful when shared with other sites to understand how best to support interns as they transition to professional work.

A holistic strategy involving stakeholder collaboration, leadership development, evaluation, and ongoing workforce assessment is essential. Developing a robust public health workforce is a national imperative requiring sustained commitment from all stakeholders. Only through concerted efforts to ensure that communities have the infrastructure and expertise to promote health, prevent disease, and respond effectively to future crises.

References

1. de Beaumont Foundation. PH WINS 2021: Key Findings Dashboard. Accessed June 17, 2024. <https://debeaumont.org/phwins/2021-findings/>
2. Leider JP, Castrucci BC, Robins M, et al. The exodus of state and local public health employees: Separations started before and continue throughout COVID-19. *Health Affairs*. 2023;42(3):338-348. doi:10.1377/hlthaff.2022.01251
3. Chokshi DA. building the future of public health around people. *J Public Health Manag Pract*. 2023;29(Supplement 1):S7-S8. doi:10.1097/phh.0000000000001667
4. Shaff J, Ray M, Bleus T. Operationalizing PH WINS 2021: Pathways to resilience for public health. *J Public Health Manag Pract*. 2023;29(Supplement 1):S9-S11. doi:10.1097/phh.0000000000001668
5. Hayes D. Insights in public health: Strengthening the epidemiology workforce through mentorship: practicum and fellowship experiences in the Family Health Services Division at the Hawai'i Department of Health. *Hawaii J Med Public Health*. 2014;73(3):94-97.
6. Koh HK, Nowinski JM, Piotrowski JJ. (4) A 2020 vision for educating the next generation of public health leaders. *Am J Prev Med*. 2011;40(2):199-202. doi:10.1016/j.amepre.2010.09.018
7. AmeriCorps – Bringing out the best of America. Accessed July 19, 2024. <https://americorps.gov/>
8. Centers for Disease Control and Prevention. About the Public Health Associate Program (PHAP).

Hawai'i Journal of Health & Social Welfare General Recommendations on Data Presentation and Statistical Reporting (Biostatistical Guideline for HJH&SW)

[Adapted from Annals of Internal Medicine & American Journal of Public Health]

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