

How Can the University of Hawai'i Meet Needs for Public Health Education? Results of a Students' Needs Assessment.

Jana Lindsey, BSN**
 Kathryn L. Braun, DrPH†
 Nandar Aung, MBA*
 Jaime A. Campos, BA*
 Lehua Choy, MPH,*
 Jane Chung, BA*
 Sharon F. Dellinger, BSN,*
 Lauren Gentry, BA*
 Jinlan Li, MPH*
 Sara Mayet, MB,BS*
 Kristen Mitchell-Box, MSPH, REHS,*
 Joan Pan, BA*

*Member of the PH 649 (Needs Assessment and Program Planning) class, Department of Public Health Sciences, University of Hawai'i, Honolulu, Hawai'i. †Department of Public Health Sciences, John A. Burns School of Medicine, University of Hawai'i and 'Imi Hale Native Hawaiian Cancer Network, Papa Ola Lokahi, Honolulu, Hawai'i. **Corresponding author; Jana Lindsey, Shriners Hospitals for Children, Honolulu, 1310 Punahou Street, Honolulu, Hawai'i, (808) 220-0754. jlindsey@shrinenet.org

Abstract

Introduction: A strong public health workforce is necessary to maintain the health and well-being of any community. Currently, the ability of the public health workforce to meet demand is being challenged in Hawai'i and the Pacific. This is due, in part, to the downsizing of the public health program at the University of Hawai'i (UH) in the year 2000. Knowing the current perceptions of the community in regards to public health and identifying ways to attract more students to public health are essential in reversing this trend. Materials and Methods: Students from a class on needs assessment and program planning at the UH Department of Public Health Sciences assessed public health education needs. The class first conducted a literature review, focus groups, and interviews to inform the development of an on-line survey. The survey was sent to 200 individuals, including current public health students, faculty, workers, employers, and alumni. Results: Of the 200 individuals invited to participate in the on-line survey, 128 (64%) responded. Almost half of the respondents were >50 years of age, and another 19% were between ages 41 and 50. Of the 118 who responded to this question, 85 had degrees in public health (80% from UH), and 62% had worked in public health for at least 10 years. However, only 50% of the total respondents knew that UH Masters of Public Health (MPH) and the Masters of Science (MS) programs were accredited. Forty percent or more of public health workers noted continuing education needs in 1) policy development and program planning skills, 2) analytical skills, 3) leadership and systems thinking skills, and 4) financial planning and management skills. Fully 43 of the respondents would consider applying to a DrPH program at UH, and 27 public health workers without an MPH would consider pursuing one. However, potential students noted lack of time and timing of classes as barriers to attending school. Specific ideas for attracting students to public health were provided. Respondents also called for a greater commitment to public health from top leadership at UH and in Hawai'i. Discussion: Findings confirm a need for a strong public health education program in Hawai'i and a lack of awareness about the MPH and MS programs at UH. Expanding options and opportunities for public health education will require better marketing and a cohesive commitment to public health education at UH. (PHD 2007 Vol 14 No 1 Pages 57 - 65)

Introduction

Public health and safety are traditionally taken for granted, and the importance of public health goes unnoticed until there is a problem. "Because of public health's emphasis on prevention, it is virtually invisible when it is most successful in performing its duties and

achieving its goals."^{a1} Aside from the "invisible" public health issues, in this decade, the world has witnessed more obvious public health threats ranging from natural disasters, infectious disease outbreaks, and bioterrorist events to community epidemics of diabetes, obesity, and drug abuse. With the variety of threats that face us, every community needs a diversified and well-trained public health workforce.

Residents of Hawai'i experience the longest life expectancies in the U.S. However, not all residents

realize the same level of health.^b For example, Native Hawaiians and other Pacific Islanders have lower life expectancies than other ethnic groups in Hawai'i. Native Hawaiians and Filipinos have higher rates of cancer mortality, and Japanese, Filipinos, and Pacific Islanders have a higher prevalence of diabetes than other groups. Smoking prevalence is highest in Native Hawaiians, and obesity (including childhood obesity) is a growing concern for almost every ethnic group. Drug abuse and homelessness are increasing. Hawai'i needs to guard against morbidity from infectious diseases, including leprosy, leptospirosis, and dengue fever. The state is also at risk of environmental disasters, especially earthquakes, tsunamis, flooding, and landslides. All of these issues require the attention of trained public health workers.

The Pacific ocean covers one-third of the earth's surface and includes thousands of islands and atolls scattered across five time zones. Each island-state has a unique culture and language, but most share a history of colonization and have experienced rapid cultural upheaval from subsistence to wage economies in the past 50 years.^c Most jurisdictions are burdened with health conditions found in developing countries (e.g., malnutrition, filariasis, and dengue fever), and diseases associated with developed countries (e.g., diabetes, heart disease and cancer).^d

More indigenous Pacific Islanders need to be trained to address these public health issues.

Unfortunately, educational institutions are not keeping up with the demand for maintaining and improving the public health workforce. A 2006 study by the American Public Health Association identified that "the average age of state public health workers is about 47 years," and that "(U.S.) states could lose up to 45% of their experienced public health workforce through retirement by the end of 2006."^e The public health workforce in Hawai'i is aging as well, with many planning to retire in the next 10 years. In the Pacific Basin jurisdictions "health professionals are so profoundly difficult to come by, that organizations in the Pacific Basin must draw from a variety of health education systems in Fiji, Southeast Asia, as well as the United States."^f According to the U.S. Health Resources and Services Administration; "To assure a competent public health workforce in the 21st century, it is essential (that) training be built around public health core competencies. This training is particularly

important for public health employees who have not had any formal training in public health."^g

The ability to meet the public health workforce demands of Hawai'i and the Pacific region has been challenged by the downsizing of the public health program at the University of Hawai'i (UH) in the year 2000. At that time, the UH School of Public Health was the only public health school in the Pacific Basin region, graduating about 100 students each year. Hawai'i, well known for its cultural and ethnic diversity, provided a unique environment for public health students. With an average annual enrollment of 300 students, the School of Public Health was an exciting training ground for individuals from Hawai'i, the Pacific, the continental U.S., Asia, and Africa. Students pursuing a Masters in Public Health (MPH) could major in one of nine content

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areas: biostatistics, community health development, environmental and occupational health, epidemiology, gerontology, health administration and planning, health education, international health, and maternal and child health. The School of Public Health also sponsored two doctoral programs, including a PhD in Public Health Science and a DrPH. The UH School of Public Health was the closest U.S. public health school to the U.S. Affiliated Pacific Islands (USAPI) including American Samoa,

the Commonwealth of the Northern Mariana Islands, Guam, the Federated States of Micronesia, the Republic of the Marshall Islands, and the Republic of Palau. Many individuals currently in public health leadership positions in the USAPI received their public health degrees from the UH School of Public Health.

Due to catastrophic losses in faculty, funding, and support from UH administration and concerns about low research productivity, the Council for Education in Public Health (CEPH) did not reaccredit the School of Public Health in 2000. The program was downsized to a Department of Public Health Sciences and managerially relocated to the John A. Burn's School of Medicine at UH. Remaining faculty reworked the curriculum and significantly increased research and publishing activities and, in April 2002, the DPHS was accredited by the CEPH as a program (rather than a school) of public health. Currently, the Department offers accredited MPH and Masters of Science (MS) degrees in two specialty areas; epidemiology and social and behavior science (health education). Federal grant funding also supports a 16-credit Public Health Certificate in maternal and child

health (MCH) leadership. Currently, the Department graduates about 15 students a year. Meanwhile, other educational programs have been developed to fill the void in the Pacific, including the Fiji School of Public Health, the Area Health Education Centers, and the Pacific Association for Clinical Training.^{h,i}

In a beginning effort to expand public health training at UH, students in the Department's fall 2006 class on needs assessment and program planning agreed to examine this issue. The purpose of the needs assessment was to collect data to answer three questions:

- What should UH Public Health education look like to meet Hawai'i needs?
- What are the continuing education needs of public health workers?
- How can we attract more students to public health?

Materials and Methods

The 11 students in the UH public health class on needs assessment and program planning (PH 649) designed and implemented this project. The initial task was to review pertinent literature from respected sources, including the U.S. Institute of Medicine, the U.S. Department of Health and Human Services, and the Council for Public Health Education (CEPH). Students took responsibility for summarizing the key points from these documents and sharing them with each other. Concurrently, the class invited Dr. Jay Maddock (Department Chair), Nancy Kilonsky (Assistant Dean), and Dr. Paulette Williams (President of the Public Health Alumni Association) for an informal discussion on the history of public health education at UH and their impressions of public health in Hawai'i. At the same time, the class instructor (KLB) sent an e-mail to people in public health, recruiting them for participation in focus groups, interviews, and an on-line survey. Those who received this e-mail were encouraged to forward the invitation to others, thus increasing the reach of recruitment. The list of 200 consenting individuals included public health students, current and former faculty, people who attended the April 2006 Revitalization of Public Health Celebration, members of the Hawai'i Public Health Association, and other professional contacts.

To gather qualitative data, the 11 students worked in three groups, each focusing on a different target audience; current public health students at UH, public health employers/workers, and UH public health faculty. UH public health alumni were represented in both the public health employer/worker group and the faculty group.

Based on information about public health gleaned from the literature and from Ms. Kilonsky, and Drs. Maddock and Williams, each student group prepared a qualitative interview schedule for use in a focus group and one-on-one interviews with its target audience. Questions for the student group explored why they chose UH, their perceptions of the program's quality, and how well they thought the program was preparing them for a career in public health. Faculty members were asked to discuss their perceptions of the program and the advantages and disadvantages of being a program rather than a school of public health. Employers and workers were asked about their needs for future public health workers and their own continuing education needs.

Interview and focus group training was provided in class through which students pre-tested their interview schedules and refined interview skills. Each group conducted one focus group session following their interview schedule, one with eight current public health students, one with five current faculty members of the UH Department of Public Health Sciences, and one with four individuals in managerial positions at the Hawai'i Department of Health. Each student also used the interview schedule to interview at least two individuals in their target group (students, faculty members, and public health employers/workers), for a total of 34 interviews. Each group summarized the focus group and interviews it conducted.

Still, responses were received from 128 of the 200 individuals, yielding a 64% response rate

Information obtained from the focus groups and interviews was reviewed and discussed by the class to identify common themes, issues, and response options that should be included in the on-line survey. The survey instrument went through several drafts and revisions, was pre-tested with six members of the target audience, and revised again. It was formatted into an on-line survey program called SurveyMonkey.^j The survey was piloted in this format to identify any glitches and then modified to increase ease of understanding and flow of questions. The final on-line survey contained seven general questions, ten demographic questions, and three open-ended questions. Respondents were asked to classify themselves as a public health student, faculty member, alumni, worker, and/or employer. Additional survey questions were separated into sections corresponding to this self-classification. For example, if the respondent was both a public health worker and alumni, SurveyMonkey prompted them to answer additional questions relevant to public health workers and alumni. The project and on-line survey tool were reviewed and approved by the UH Committee for Human Studies.

An invitation to participate in the on-line needs assessment survey was sent by e-mail to the 200 individuals who had agreed to participate in the needs assessment. Due to time limitations imposed by the semester's calendar, the data collection period was limited to two weeks in November 2006. At least 15 individuals were off-island during this time and were unable to participate. Still, responses were received from 128 of the 200 individuals, yielding a 64% response rate.

tables, produced a PowerPoint presentation, and prepared an abstract summarizing the project's methods, findings, and recommendations. Because the students met only once a week in class, most work had to be accomplished by e-mail and outside meetings, including the planning, coordination, and data sharing.

Results

Many of the 128 respondents classified themselves in more than one category. Thus, the sample included 83 (65%) public health workers, 78 (61%) alumni, 30 (24%) public health employers, 15 (12%) current students and 16 (13%) faculty members (Table 1).

Table 1. Characteristics of the Survey Respondents

Item	Number responding	Number	Percent
Types of respondents (check all that apply)	128		
• Current student		15	11.8%*
• Faculty		16	12.6%*
• Alumni		78	61.4%*
• Public Health worker		83	65.4%*
• Public Health employer		30	23.6%*
Gender	118		
• Female		92	78.0%
• Male		26	22.0%
Age group	118		
• 18-25		6	5.1%
• 26-30		12	10.2%
• 31-40		24	20.3%
• 41-50		23	19.5%
• >50		53	44.9%
Years working in Public Health	113		
• <1		6	5.3%
• 1-3		12	10.6%
• 4-9		25	22.1%
• 10-19		33	29.2%
• 20-29		23	20.4%
• 30 or more		14	12.4%
Has degree in Public Health	118		
• Total yes		74	63.0%
Which Public Health degree do you have?	74		
• MPH		67	90.5%
• MS or MSPH		7	9.5%
• DrPH		3	4.1%
• PhD		6	8.1%
University where Public Health degree earned	85		
• UH		68	80%
• Other		17	20%

* Respondents could choose more than one option.

Of the 118 respondents who provided information about age, 53 (45%) were age 51 or older and another 23 (20%) were between ages 41 and 50 (Table 1). This finding is consistent with national data and local observations about the aging of the public health workforce. Of the

SurveyMonkey provides a summary of data to the subscriber. Additionally, the dataset can be downloaded into Excel. From these sources, students created data

113 respondents who have been working in public health, 70 (62%) had been working in the field for at least 10 years (including 12% who have worked more than 30 years and 20% who have worked 20-29 years).

Table 2. Interest in Further Education

Item	Number responding	Number	Percent
Knows that UH MPH and MS programs are accredited by CEPH	126		
• Yes		63	50.0%
• No		63	50.0%
Those without MPH who would consider pursuing one			
• Yes	42	27	64.3%
• At UH	31	19	61.3%
Those who would consider applying to the DrPH at UH	112	43	39.0%
Obstacles faced by Public Health workers who want to return to school	65		
• Lack of time		51	78.5%
• Class times/schedule		47	72.3%
• Financial support		41	63.1%
• Parking		21	32.3%
• Other		17	26.2%

Table 3. Continuing Education Needs

Item	Number responding	Number	Percent
Continuing Education needs for employees	69		
• Policy development and program planning skills		39	56.5%
• Analytical skills		38	55.1%
• Leadership and systems thinking skills		37	54.6%
• Financial planning and management skills		33	47.8%
• Collaboration and coalition-building skills		26	37.7%
• Communication and advocacy skills		20	29.0%
• Basic public health knowledge (concepts, theory, functions, history, ethics)		18	26.1%
• Cultural competency skills		14	20.3%
• Other		11	15.9%

Among the respondents, 85 indicated that they had a degree in public health, and 68 (80%) of them obtained their degree from UH (Table 1).

Surprisingly, only 50% of the total respondents knew that UH Masters of Public Health (MPH) and the Masters of Science (MS) programs were accredited (Table 2).

When public health workers without a degree in public health were asked if they would consider pursuing an

MPH, 64% (27 of the 42 respondents) answered "yes." When asked if they would pursue this degree at UH, 61% (19 of the 31 respondents) answered "yes." Nearly 40% (43 out of the 112 respondents) would consider applying to the DrPH program at UH. However, 65 potential students identified a number of obstacles to pursuing an MPH or DrPH, including lack of time (79%), inconvenient class times (72%), lack of financial support (63%), and difficulties parking at UH (32%) (Table 2).

Table 4. Ways to Market and Strengthen the UH Public Health Program

Item	Number responding	Number	Percent
What are the advantages of becoming a School	124		
• Greater diversity in classes, more professors, more choices		99	79.8%
• More visibility		68	54.8%
• Increased funding		60	48.4%
• Independence from the School of Medicine		55	44.4%
• Increased prestige		51	41.1%
• Other		22	17.7%
• None		0	0.0%
Strategies to attract students to Public Health at UH	126		
• Show clear need for public health, what it does, and how effective it is		83	65.9%
• Improve visibility of program in Hawaii		78	61.9%
• Offer an introductory course in public health at the undergrad level		76	60.3%
• Offer collaborative degrees or certificates		72	57.1%
• Offer online/distance learning opportunities		65	51.6%
• Market the program in the Pacific Basin		60	47.6%
• Market the program nationally		58	46.0%
• Offer more evening and weekend classes		57	45.2%
• Educate UH undergrad advisors about public health as a career option		53	42.1%
• Market the program to people working in public health		47	37.3%
• Establish a Community Advisory Board for the program		46	36.5%
•			
Strategies to strengthen Public Health education at UH	125		
• Improve ties with the communities locally and in the Pacific		91	72.8%
• Secure a commitment to public health from the Chancellor on down		74	59.2%
• Collaborate with other departments at UH in offering degrees		61	48.8%
• Gain independence from the School of Medicine		48	38.4%
• Increase opportunities for practitioners to lecture and serve as adjunct faculty		45	36.0%

Respondents were asked to indicate areas in which continuing education was needed. In all, 69 participants provided information, including 63 public health workers and 6 public health employers. Together, these 69 participants wanted more continuing education in these skill areas: 1) policy development and program planning (57%); 2) analytical skills (55%); 3) leadership and systems thinking skills (55%); 4) financial planning and management skills (48%); and 5) collaboration and coalition-building (38%) (Table 3). Fewer respondents identified continuing education needs in communication and advocacy skills (29%), basic public health knowledge (26%), and cultural competency (20%).

From a list of several reasons, survey participants were asked to select up to three in response to this question: "What are the advantages of becoming a school of public health?" (response options were developed from themes that emerged in the focus groups and interviews). The lead advantage chosen by the 124 who responded to this question was greater diversity in classes, more professors, and more choices (selected by 80% of respondents). Other advantages included increased visibility for public health education (55%), increased funding for public health education (48%), independence from the School of Medicine (44%), and increased prestige (41%) (Table 4).

The participants were given a list of 22 options to choose from and asked to indicate the top 10 strategies that would best help to attract students to the UH public health program. Of the 126 respondents to this question, the top three choices were: 1) to show clear need for public health, what it does, and how effective it is (66%); 2) to improve the visibility of the public health program in Hawai'i (62%); and 3) to offer an introductory course to public health at the undergraduate level (61%). Another question asked about ways to strengthen public health education at UH. As identified by 125 respondents, the top five strategies were: 1) to improve ties with the community locally and within the Pacific (73%); 2) to secure a commitment to public health from the UH Chancellor on down (59%); 3) to collaborate with other departments at UH in offering degrees (49%); 4) to gain independence from the School of Medicine (38%); and 5) to increase opportunities for public health practitioners to lecture and serve as adjunct faculty (36%) (Table 4).

Based on these suggestions, the class proceeded to develop two proposals related to marketing of the UH

public health program. One proposal outlined ways to increase visibility of the program on campus, including improved signage, outreach to undergraduate and graduate students in other fields, and increased contact with other UH professors and administrators. The second proposal outlined ways to meet the needs of individuals already working in public health. Strategies included working with public health worksites and their human resource directors to develop ways to enroll workers in continuing education and degree-granting public health programs.

Discussion

The needs assessment study on the public health workforce in Hawai'i conducted by the UH PH649 students verified that Hawai'i's community may be entering into an era of a public health workforce shortage. It is critical to develop and maintain a cadre of public health workers to ensure and sustain public health and safety. The Pacific Basin also needs more individuals trained in a wide range of public health issues and skills. If our local and regional public health workforces are not strengthened, we will not be able to adequately respond to current and emerging disasters and epidemics.

The sample population was constructed of individuals who responded to invitations from the professor to participate; so many public health practitioners were not included in the study

The UH is an ideal location for an expanded public health education program (and ideally a new School of Public Health) because of its location in the middle of the Pacific Basin, its access to good practicum sites, an experienced group of public health faculty with good research and community-service records, and Hawai'i's ethnically and culturally diverse environment. However, UH first needs to increase local and regional awareness of the fact that the current MPH and MS programs are accredited. It should market itself to students, counselors, and administrators on campus, as well as to public health worksites across the state and region. It may need to offer more courses through distance education, at the worksite, and in the evening to address identified scheduling and parking barriers. UH should enhance ties with the community.

There were several limitations to this study. First, the students had only 16 weeks to design, carry-out, and report on the needs assessment and to develop proposals. Because of this, data collection was restricted to two weeks in November. Students did not have a budget to travel to Hawai'i's neighbor islands or to the Pacific to interview other key informants about

their needs. The sample population was constructed of individuals who responded to invitations from the professor to participate; so many public health practitioners were not included in the study. There were difficulties in specifying skip patterns within SurveyMonkey, so some items were not responded to by as many participants as expected. This may have been exacerbated by the overlapping characterization of individuals in public health (e.g., worker and employer and student), which made it difficult for SurveyMonkey to filter out the responses for each separate group.

The potential bias of the study investigators bears examination. Admittedly, the UH public health students who designed and conducted this study had a vested interest in the program, which could have influenced them to ask questions and interpret findings in a favorable light. On the other hand, none of the students in this class were familiar with the history of the UH School of Public Health, so that their questions were unlikely to reflect judgments and opinions expected of individuals who had lived through the closure of the UH School of Public Health. Lack of awareness of this past history also limited the students' ability to anticipate and comprehend the range of emotions and opinions over the UH School of Public Health closure expressed to them. These emotions and opinions, a potential focus for another paper, are not prominently reflected in the survey results because most of the survey questions were close-ended.

It is the opinion of the authors of this paper that the Department of Public Health Sciences at UH is in a catch-22 position. To get more students, there needs to be more professors and courses to attract them. However to justify the need to increase the professors and classes, there needs to be an increase in enrollment, and it appears that the public is unaware that UH offers accredited public health degrees. Regardless of which must come first, the bottom line is that Hawai'i must strengthen its public health workforce, and the most ideal institution to support this is the UH. Increasing the visibility of and access to the public health program at the UH will help enrollment and entice individuals to pursue public health as a profession. Recommendations suggested by the students of PH649 would help strengthen public health in Hawai'i and enhance marketing efforts to potential student populations, UH administrators and advisors, the public health community, and the community at large.

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