

## Research Article

## What do Physicians do with their Public Health Degrees?

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### Abstract

**Introduction:** The reasons physicians decide to pursue formal training in Public Health (PH) are varied and often uniquely personal. The Institute of Medicine has emphasized the importance of training medical providers in PH. Few studies have examined the impact of obtaining a public health degree on physician careers. The purpose of this investigation is to identify reasons physicians pursue a PH degree.

**Methods:** This qualitative key informant interview study (2016-2017) included individuals from Society of Teachers of Family Medicine (STFM) group on Public Health and the Association of State and Territorial Health Officials (ASTHO) with a medical degree and a PH degree.

**Results:** After interviewing 15 individuals (participation rate 42%), we analyzed the data to identify patterns in behaviors and attitudes. We found that positive mentors are very influential. A prominent reason of attaining a PH degree was to expanded perspective on health care.

**Conclusion:** Overall, a PH degree can have a powerfully positive impact on a physician's career, influencing the character and caliber of the care delivered. This investigation can help individuals considering, or advising those who might consider the pursuit of PH education.

### Background

Many physicians attain graduate Public Health (PH) degrees along the path of their vocational journey. Reasons to pursue PH training are unique; however, those who achieve a PH degree on some level acknowledge the words of Hippocrates: "protecting and developing health ... even above ... restoring it when it is impaired" [1]. In 1920, Winslow extended the definition of PH to include "promoting physical health and efficiency through organized community efforts... education ... and the ... social machinery which will ensure ... a standard of living adequate for the maintenance of health" [2]. From 2002-2012 the Institute of Medicine published 3 reports emphasizing the importance of training health professionals in PH, suggesting that medical students have PH training at the MPH level [3-5].

Few studies have examined the impact of obtaining a PH degree on physician careers. Medical graduates with an MPH are more likely than those without to have completed a primary care residency, work in academia or the government, practice PH, conduct PH research, receive NIH funding, and publish/present research [6]. Members of the Utah Academy of Family Physicians (UAFP) with a graduate PH degree are more likely to work as salaried physicians in an academic

setting, and, compared to their colleagues, spent less time in clinical care but more time on graduate-level education, research, public policy and administration [7].

This investigation describes how a degree in PH influences physicians' professional roles. It identifies reasons for physicians pursue a PH degree; type of PH degrees obtained; PH degree emphasis; time spent in clinic; professional role; and the impact of the PH degree on physicians professional roles.

### Methods

#### Participants and data collection

To recruit participants for this qualitative key-informant interview study, we utilized convenience sampling. Contact information of eligible participants - individuals with a medical (MD, DO, MBBS) and PH degree (MPH, MSPH, MPHe, MPA, MPP, DrPH, PhD in PH) was obtained through two national organizations, the Society of

Characteristic	No (%)
<b>Sex</b>	
Female	8 (53%)
Male	7 (47%)
<b>Age (years)</b>	
Mean 47.7 years (STD 10.8 years) Range	
32-67 years	
Median 50.0 years	
30 - 39	4 (27%)
40 - 49	3 (20%)
50 - 59	6 (40%)
60 and over	2 (13%)
<b>Degree</b>	
MD: Doctor of Medicine	15 (100%)
<b>Public Health Degree</b>	
MPH	11 (73%)
MPH in Tropical Medicine	1 (7%)
MPH in Healthcare Prevention	1 (7%)
MPH in Multidisciplinary Studies	2 (13%)
<b>Received MPH Degree</b>	
Before MD Degree	
Same time as MD Degree After MD Degree	
• Mean 8.7 years (STD 5.4 years)	4 (27%)
• Range 4-20 years	2 (13%)
• Median 5.0 years	9 (60%)
<b>Employment</b>	
Full time	14 (93%)
Part time	1 (7%)
<b>Work Place (country)</b>	
USA	14 (93%)
Lebanon	1 (7%)

Table 1: Demographic characteristics of participants.

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Teachers of Family Medicine (STFM) group on Public Health and the Association of State and Territorial Health Officials (ASTHO). After obtaining IRB approval (IRB# a MD (Doctor of Medicine), DO (Doctor of Osteopathic Medicine), MBBS (Bachelor of Medicine and Surgery), MPH (Master of Public Health), MSPH (Master of Science in Public Health), MPHe (Master of Public Health Education), MPA (Master of Public Administration), MPP (Master of Public Policy), DrPH (Doctor in Public Health), PhD (Doctor of Philosophy) in PH (Public Health) 00079373), a onetime recruitment e-mail was sent to all initial name-list, including 12 and 24 members of ASTHO and STFM, respectively, followed by a phone call. If there was no response after the first call, we attempted to call once more. Final participants agreed to participate in a semi-structured one-on-one telephone interview. Our participants included 5 members of ASTHO and 10 members of STFM. The telephone interviews were conducted in the spring of 2016 and 2017. Those excluded from the study declined the interview or did not

respond. Those who declined did not give a reason or cited insufficient time to participate. Participants did not receive any form of incentive, and by answering the questions in the interview, participants consented to participate.

### Measures/tools

Interview guide was developed based on previous published literature. Interviews consisted of 6 demographic questions and 8-10 standardized questions (Table 2). All interviews were digitally recorded and transcribed. Participants were assured of confidentiality, use of data solely for research purposes, and destruction of the recordings after study conclusion.

### Analysis

We developed an abstraction sheet and analyzed the data for themes, and identified patterns in participant behaviors and attitudes.

Topic		Response Themes	Representative Statements
<b>Early exposure to PH and its impact on participants' interest in PH</b>  <b>Question:</b> Think about your early exposures to public health. How did those exposures affect your interest in public health?	<input type="checkbox"/> <input type="checkbox"/>	<u>Exposures</u> - Medical school (mentors, elective courses, guest lecturers, peers) - Disadvantaged communities (volunteer work, parents with PH activity abroad) - Community organizations - Department of Health  <u>Impacts</u> - Desire to assess health on a broader level - Approaching health problems through a public health point of view - Understanding the need for prevention and primary care in the US and across the world - Pursuing medicine - Pursuing epidemiology	<p>“My primary exposures have been through family medicine, and even as far back as medical school, I worked with the World Health Organization. Travel with WHO to Thailand... So the combination of seeing the need for prevention and family medicine primary care in the US and also the need globally.”</p> <p>“first time I was really exposed to public health was during a fourth year medical school elective ... did a rural medicine rotation combined with working in community organizations and working with the department of health ... seeing how the health department addressed health issues compared to how we were addressing them individually in the doctors’ offices.”</p> <p>“...lived overseas growing up in a very underdeveloped country, the contrast between living situation there and living situation here just really highlighted the importance of public health.”</p> <p>“There was a bias against public health that I think had an influence as well at that time [80s].”</p>
<b>Who influenced participants pursuing a PH degree and how</b>  <b>Question:</b> Think back to who influenced you to pursue an advanced degree in public health. Describe how that person or those people impacted your decision to pursue public health training.	<input type="checkbox"/> <input type="checkbox"/>	<u>Who</u> Patients, personal decision, relatives with PH degree, mentors, guest lectures or peers at medical school, community organizations, health department, research corporations, medical school activities and fairs, scholarship obligation, dual degrees  <u>How</u> Participating in large-scale interventions, doing family medicine, getting research training, getting advanced leadership training in quality improvement, understanding need for improving healthcare as a population-based care, public health as part of a physician career, a fellowship option	<p>“seeing individuals who were repeatedly getting recurrent gonorrhea or doing risky behaviors like smoking, diet, exercise, and nutrition problems resulting in diabetes in the population and ... I know nothing about how to change those risk factors. I know they need to be changed but I don’t know what to do, they didn’t teach me that in clinical medicine. So with that in mind, it kind of set the stage for an interest in public health....”</p> <p>“guest lectures who talked about public health topics and they were covering stuff that we weren’t getting in our classes that I knew was so important from my upbringing”</p> <p>“I wasn’t really influenced by anyone..... a personal decision I made. I had an option of doing a fellowship, and with my fellowship one of the options was to pursue a degree in public health within my fellowship, and I opted for that.”</p>
<b>Other possible options for participants in addition to or instead of PH</b>  <b>Question:</b> What options did you consider in addition to or instead of an advanced degree in public health?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>  <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	No other option Tropical medicine Other public health related degrees, such as public health policy and social work PhD as an entry to research Master degree in education Internship in pediatrics	<p>“I ended up getting my MPH through a preventive medicine residency. And probably what I was thinking of as alternatives were doing a health policy fellowship or something along those lines.”</p> <p>“What I did in parallel, actually, other options – I was doing advanced training in faculty development. The other option I wanted to go to was a master’s in education because I’m also an academician...”</p>

<p><b>What participants hoped to gain from a PH degree</b></p> <p><b>Question:</b> <i>What did you hope to gain from an advanced degree in public health?</i></p>	<ul style="list-style-type: none"> <li>• A broader perspective</li> <li>• Gaining research skills</li> <li>• Policy work</li> <li>• Impacting health system</li> <li>• Expanding career options</li> <li>• Gaining credentials</li> <li>• Enhancing leadership skills</li> <li>• International work</li> </ul>	<p>“being more expert in research, and analyzing data”                  “impacting health at different levels” “wanted specific training in epidemiology....., and some of the facets of public health that aren’t covered in medical school”                  “expand my skills, around science, around our community, and around the healthcare delivery redesign”</p>
<p><b>How far participants expectations have been met</b></p> <p><b>Question:</b> <i>How have your experiences matched up with your expectations?</i></p>	<ul style="list-style-type: none"> <li>• All met</li> <li>• Far exceeded</li> <li>• Matched up</li> <li>• A little bit more</li> <li>• A major transition</li> <li>• A lot broader</li> <li>• A lot more interesting</li> <li>• Exactly</li> <li>• More complex</li> <li>• More skills</li> </ul>	<p>“a little bit more – gain population perspective, understand communities, social determinants of health, and hoping to incorporate public health more into my day to day career”                  “Far exceeded ... It took me a long way. In ways that I wouldn’t have imagined when I started. And really accelerating over time.” “initially not very well, it’s difficult to meld clinical care and public health..... things have worked out pretty well in the long run.....”</p>
<p><b>Pros associated with a PH degree</b></p> <p><b>Question:</b> <i>At this point in your career, what pros do you associate with your attainment of an advanced degree in public health?</i></p>	<ul style="list-style-type: none"> <li>• Job opportunities and career development                         <ul style="list-style-type: none"> <li><input type="checkbox"/> clinic</li> <li><input type="checkbox"/> research</li> <li><input type="checkbox"/> administrative</li> <li><input type="checkbox"/> education</li> <li><input type="checkbox"/> department of health and local or international community-based organizations</li> </ul> </li> <li>• Greater networking and collaboration</li> <li>• Expanded skill and knowledge associated with public health degree</li> </ul>	<p>“Gave me a toolbox to be ... focused on social determinants”                  “allowed me to be more flexible with job opportunities, and sort of crafting and creating a job...”                  “I work at the medical school, and I am responsible for public health teaching in addition to a big chunk of research at our medical school”                  “I have the network of people who are in the public health field that really make me feel like my career is richer ...”                  “I’m better equipped to think about interventions, ... I’m working clinically a lot but I still like working with public policy. I am more prepared to think about the big picture, ...”                  “career advancement, ...”                  “I was fortunate, I got a full scholarship ... to get my MPH so it didn’t cost me any money”</p>
<p><b>Cons associated with a PH degree</b></p> <p><b>Question:</b> <i>At this point in your career, what cons do you associate with your attainment of an advanced degree in public health?</i></p>	<ul style="list-style-type: none"> <li>• No con</li> <li>• Time cost and loans</li> <li>• Both medical and public health degrees can be daunting, overwhelming and misunderstood</li> <li>• Difficulties associated with having a multidisciplinary</li> </ul>	<p>“they prefer hiring ...doctors with MBAs, for senior leadership positions than doctors with MPHs”</p> <p>“unless you’re doing research, people don’t really understand why a doctor has an MPH”</p> <p>”if I knew what I am going to be doing today, I probably would have chosen</p>
	<ul style="list-style-type: none"> <li>• known field by others</li> <li>• either entry level or needs to</li> <li>• matched up with something</li> </ul>	<p><b>U</b> “MPH itself is too academic ... If we were hiring somebody who had gotten an MPH, I would hope that they had a</p> <p><b>B</b> program that taught them the realities about public health and how to change health and how to improve health in a</p> <p><b>b</b> population as opposed to this sort of theory and more academic study-type information”</p>
<p><b>Influence of PH degree on clinical practice of medicine</b></p> <p><b>Question:</b> <i>How has your public health degree influenced your clinical practice of medicine?</i></p>	<ul style="list-style-type: none"> <li>• Gaining skills in research</li> <li>• Publication</li> <li>• Shifting the mission to primary prevention</li> <li>• Community based intervention</li> <li>• Care for far more patients</li> <li>• Career advancement</li> <li>• Decreased clinic care</li> </ul>	<p>“Our primary mission is primary prevention ... when you are dually trained, it gives you an opportunity to stand with feet on both sides of the fence.”                  “It really shaped the way that I cared for patients ... taking a sort of public health approach, community-based approach ... to be able to care for far more patients than if I had tried to do things in an infectious disease specialist model in my clinical training.”</p>

<p><b>Participants time spent on clinical care, research, administration, healthcare system</b></p> <p><b>Question:</b> Describe how your public health training has influenced your current medical practice in terms of time spent on clinical care, research, administration, or education? And engagement with the healthcare system?</p>	<ul style="list-style-type: none"> <li>• Education <ul style="list-style-type: none"> <li>-administrative</li> <li>-teaching <ul style="list-style-type: none"> <li>o Public health</li> <li>o Epidemiology</li> <li>o Community medicine</li> </ul> </li> </ul> </li> <li>• Research</li> <li>• Administration, mainly educational oriented</li> <li>• Clinical care</li> <li>• Work in healthcare system</li> <li>• Engagement with the healthcare system</li> <li>• Global public Health</li> </ul>	<p>“I’m the research director in my department and I probably spend about 40% of my time on that.”</p> <p>“I actually have two jobs, one of them is global public health focused, and one of them, my primary full time job, is more clinical but even then I’m also doing a lot of teaching, and also have some time for research as part of that primary faculty career.”</p> <p>“I’m also ... faculty at the college of public health, I’m a professor in the department of epidemiology, and I’m on our PhD advisory committee for our PhD in epidemiology and those are all things that I obviously would not have been part of if I hadn’t have gotten a public health degree.”</p> <p>“at the moment my work is entirely</p>
<p><b>Comments and recommendations</b></p> <p><b>Question:</b> Is there anything else you’d like to add that we haven’t talked about?</p>	<ul style="list-style-type: none"> <li>• Paths to get a PH degree</li> <li>• Extreme satisfaction with PH degree</li> <li>• More PH training as part of medical school</li> <li>• Time to attain a PH degree, after or before MD</li> </ul>	<p>“there are a lot of different ways to get a public health degree”</p> <p>“There’s just not enough time or not enough emphasis on those aspects in medical school”</p> <p>“really broad degree, the criticism ... sometimes you don’t come out of it necessarily with a highly refined skill set unless you go into it with a focus.”</p>

**Table 2:** Interview topics, response themes and the representative statements.

## Results

We attempted to contact 36 individuals; 24 from STFM and 12 from ASTHO. We interviewed 15 individuals (participation rate 42%), 5 from ASTHO and 10 from STFM. Interviews averaged 12 minutes in duration (See Table 1).

Table 2 depicts interview topics, respondent themes, and representative statements. Initial exposure to PH in medical school was common. For most, early exposure influenced an interest in PH, igniting a desire to impact health on a broader level than typical in a doctor’s office.

Mentors during medical training were very influential. Dual degree opportunities were also important, as most participants considered multiple public health training options, including degrees in PH policy, social work, or a research-focused PhD.

Gaining a broader perspective was a predominant theme, commonly expressed as “thinking about populations instead of individual patients while caring individuals,” “impacting health at different levels,” and “improving ... healthcare delivery redesign.” Expanding career options was another critical theme, with participants expressing value in opportunities for health promotion through health departments and academia, and enhanced skills development. Participants had very positive experiences obtaining their PH degree that met and exceeded their expectations, and after training, they appreciated the increased opportunities and career development associated with the advanced degree.

Common themes against having both medical and PH degrees surfaced. Obtaining and utilizing both degrees can be daunting and overwhelming. The burden of extra tuition can be disconcerting. However, all but one participant spoke positively regarding the influence of PH training on their clinical practice.

A PH degree expands perspectives and facilitates engagement within the health care system, including participating in community organizations and task forces, presenting on PH issues, integrating PH into clinical practice, assessing healthcare systems, developing policy, and networking with other stakeholders.

Further analysis indicated a significant difference between genders in the inclusion of clinical care with their career. All male participants had a combination of clinical care with the other administrative or

research responsibilities (100% male versus 37.5% female respondents). The female participants that did not combine clinical care with other responsibilities were either full time in clinics or they did not have any clinical activity (37.5% and 25%, respectively;  $p=0.0256$ , Fisher exact test).

## Conclusions

This investigation augments previous studies describing those with medical and PH degrees [6-8]. Positive mentors, especially in medical training, are very important. Expanded perspective on health care is a prominent reason for obtaining PH degree with a medical degree. Overall, a PH degree can have a powerfully positive impact on a physician’s career.

The difference between men and women combining clinical with PH activities in their career is an interesting finding that deserves further investigation. Future research and additional questioning may help to clarify these findings.

This interview study was limited by response bias, with more involved individuals to be more likely to respond to the query. We did not collect enough information to investigate any possible difference between participants and non-participants.

The addition of a PH degree can greatly augment the career of medical providers, influencing the character and caliber of the care delivered. Information gleaned from this investigation can help individuals in medicine who are considering or advising those who might consider the pursuit of PH education.

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