Academic Dental Public Health Diplomates: Their Distribution and Recommendations Concerning the Predoctoral Dental Public Health Faculty

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Abstract

Objectives: *The purpose of this study was to assess the representation of academically based diplomates of the American Board of Dental Public Health (ABDPH) and to identify their perceptions on the training of dental public health predoctoral faculty.* ***Methods:*** *Data were collected by a mailed, self-administered, 13-item questionnaire. The population was the 48 diplomates of the ABDPH as of March 1997 associated with academic institutions.* ***Results:*** *Twenty of the 55 US dental schools had a diplomate of the ABDPH with a mean of 1.8 diplomates per school with a diplomate. An average of 4.5 full-time faculty members per school were associated with teaching dental public health. A master's degree in public health (MPH) was the most frequently suggested educational requirement for dental public health faculty. Continuing education courses were training needs perceived for dental public health faculty. The lack of time, money, and incentives, along with perceived rigidity of requirements for board certification, were reported as major barriers for faculty becoming dental public health board certified.* ***Conclusions:*** *Numerous challenges confront the development of a strong dental public health presence in US dental schools. These challenges include, among others, insufficient numbers of academic dental public health specialists and insufficient motivations to encourage promising candidates to pursue specialty status. [J Public Health Dent 1998;58(Suppl 1):94-100]*

Key Words: public health dentistry, dental faculty, dental schools, public health schools, dental education.

The Institute of Medicine (IOM) report "Dental Education at the Crossroads: Challenges and Change" (1) placed a focus on dental public health not seen for years. Many of the principles, objectives, and recommendations from the IOM report fall within the realm of dental public health. More specifically, a reasonable expectation is that the IOM report recommendations numbered 1–3, 6, 9–18, 20, and 21 would be handled best in conjunction with a dental public health specialist.

The definition of dental public health by the American Board of Dental Public Health (ABDPH) has been approved by the American Association of Pubic Health Dentistry, American Public Health Association Oral Health Section and the American Dental Association (2). As such, dental public health is defined as (3,4):

> ... the science and art of preventing and controlling dental diseases and promoting dental health through organized community efforts. It is that form of dental practice which serves the community as the patient rather than the individual. It is concerned with the dental health education of the public, with applied dental research, and with the administration of group dental care programs as well as the prevention and control of dental diseases on a community basis.

Specialists in this field are expected to have "broad knowledge and skills in public health administration, research methods, the prevention and control of oral diseases, the provision and financing of oral health care, and the study and development of resources" (2). Dental school faculty who are specialists in dental public health may be expected to cover such content areas as: prevention, dental care delivery systems, research methods/analytical skills, risk assessment, critical appraisals of scientific literature, geriatrics, administration and management, and community-based field experiences.

The number of dental public health specialists appears inadequate to meet the challenges put forward. At the start of this study (March 1997) there were 127 diplomates of the ABDPH. On average, nine dentists per year have taken the examination for the past five years. Of the 25 dentists currently board eligible, 11 serve as faculty members in schools of dentistry, public health, or other universities (personal communication, February 4, 1997, Dr. Stanley Lotzkar, executive

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director, ABDPH).

Despite the overwhelming need for dental public health expertise, the low number of diplomates raises the following questions. How well and by whom is dental public health addressed in US dental schools? What potential barriers keep academically based dentists from seeking to achieve board certification or specialization in dental public health? How might these barriers be addressed?

This paper reports on Phase 1 of the study "Current Status and Needs of Dental Public Health Faculty within US Dental Schools." Phase 1 was a survey of academically based diplomates of the ABDPH. The object of this study was to solicit information about the dental public health predoctoral faculty from academically based diplomates of the ABDPH. Results of Phase 2 of the study, an assessment of nondiplomate faculty associated with teaching the predoctoral dental public health curriculum, will be reported at another time.

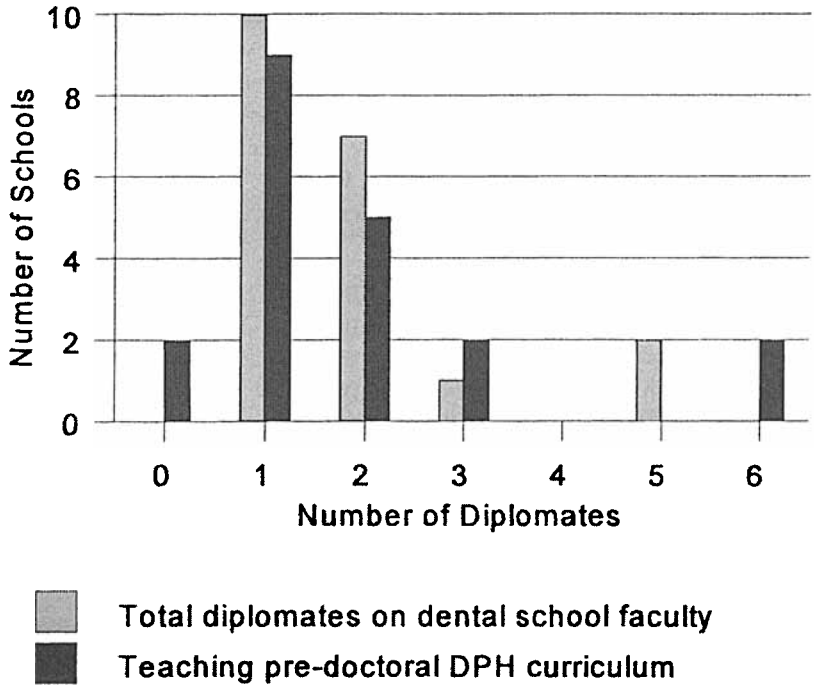
Methods

Academically based diplomates were identified by the authors from the March 1997 list of diplomates of the ABDPH. Three institutions without a diplomate had a nonboarded dental public health residency director who had been "grandfathered-in" when current residency standards of boarded directors went into effect. These nonboarded residency directors were included as diplomates for purposes of sampling for this survey.

In September 1997, a 13-item questionnaire was mailed to 48 diplomates in 25 US universities with dental schools. Approximately three weeks after the initial mailing, reminder postcards were sent. Further contact was made with nonresponders at the American Association of Public Health Dentistry annual meeting in mid-October 1997. Additional follow-up was needed for three of the respondents. These procedures included administering the questionnaire over the telephone for one, and obtaining faxed responses from the other two. The questionnaire is available upon request from the corresponding author.

The term "dental public health" was defined on the questionnaire as "the section of the predoctoral curriculum addressing dental public health, community dentistry, and preventive dentistry." Information from the questionnaire related to Phase 2 of the study (survey of nondiplomate faculty associated with teaching the dental public health curriculum) is not reported here.

FIGURE 1
Distributions of ABDPH Diplomates as Faculty at Dental Schools and Diplomates Teaching Predoctoral Dental Public Health for 20 US Dental Schools with at Least One Diplomate



The information from the questionnaire is descriptive; only frequency and percent distributions and measures of central tendency are presented. No analytical statistical analysis was performed. Either school level or individual diplomate level information is presented, depending on the nature of the question. When more than one diplomate was associated with a school and there were differences reported for the school level information, all the questionnaires from the school were assessed together to ascertain the best response. For example, diplomates reporting that they did not teach in the predoctoral dental public health curriculum were not included in the count for that school. The opinions presented reflect those of the individuals. The participants were instructed that the information collected would be used in aggregate, and other than for school participation status, neither the diplomate nor the school would be identified.

Results

Questionnaires were mailed to 48 ABDPH diplomates or dental public health residency directors at 25 universities with dental schools. Response was achieved for every diplomate or grandfathered nonboarded dental public health residency director still academically based.

No information was available for three of the dental schools. At two of the schools, the diplomates were based at schools of public health and could not provide information on the corresponding dental school. The third school was not included because the sole diplomate at the dental school had retired since the compilation of the list of diplomates. Information was not obtained from four diplomates. Three diplomates had retired, and for two of these there was another diplomate who responded from the school. The fourth diplomate is no longer working in dentistry; however, there was a response by another diplomate at the dental school.

Thirty-seven respondents were

from 21 dental schools (Appendix) including response from one grandfathered residency director. One of the school of public health-based residency directors was able to provide information for the corresponding dental school, bringing representation for 22 dental schools. Seven respondents were primarily at public health schools, representing seven schools (Appendix). The number of diplomates at the 22 dental schools ranged between 0 and 5.

Emeritus faculty members were not counted. Less than 40 percent of the schools had a diplomate (36.3%) and the mean number of diplomates at those 20 dental schools with a diplomate (excluding the grandfathered nonboarded residency directors and the diplomates based at public health schools) was 1.8.

The mode and median were both 1. The number of diplomates could differ by assessing the presence at school versus participating in teaching predoctoral dental public health (Figure 1). In five schools, faculty for the predoctoral dental public health curriculum were supplemented by nonacademically based diplomates.

An average of 4.5 full-time (>32 hours per week) faculty were associated with teaching dental public health at 20 of the 22 dental schools. The modes were 2 and 3 faculty as reported by 6 respondents each, the median was 4, and the range was 1 to 11. Two dental schools had no full-time dental public health faculty. Fifteen of the 22 dental schools had part-time (≤32 hours per week) dental public health faculty. The mean for these schools was 3.9, the mode was 1 as reported by 9 respondents, the median was 2, and the range was 1 to 25. For schools with more than one diplomate, complete agreement among the diplomates on the number of full-time and part-time faculty reported was not achieved.

Respondents for 18 dental schools reported that there were nondental public heath faculty with MPHs at the school. Only respondents for 13 schools could estimate the number of nondental public health faculty, and among them the mean was 2.4. At 16 schools, a department of preventive medicine (or equivalent) was reported as being at the same campus as the dental school. Of these 16 schools, 14 reported some contact with faculty

TABLE 1
Perceptions of Academically Based Diplomates of ABDPH about Dental Public Health Educational Requirements for Predoctoral Dental Public Health Faculty (Distribution is more than 100% because of multiple responses)

Recommended Requirement	Response Frequency	Ranking
A. MPH or equivalent degree	29	1.0
B. Dental public health residency	15	4.0
C. Board certification in dental public health	20	2.0
D. Recertification for DPH specialty board	6	5.0
E. Other	16	3.0
Combinations of Requirements	**Frequency**	**Percent**
A	5	11.9
AB	4	9.5
ABC	5	11.9
ABCDE	1	2.4
ABCE	2	4.8
ABD	1	2.4
ABE	2	4.8
AC	2	4.8
ACD	3	7.1
AE	4	9.5
C	6	14.3
CDE	1	2.3
E	6	14.3

TABLE 2
Perceptions of Academically Based Diplomates of ABDPH about Dental Public Health Training Needs for Predoctoral Dental Public Health Faculty

Perceived Training Need	Response Frequency	Rank
A. MPH or equivalent degree	9	3
B. Dental public health residency	7	4
C. Dental public health board certification	7	4
D. Continuing education courses	18	1
E. Other	16	2
Combinations	**Frequency**	**Percent**
A	2	5.0
AB	1	2.5
ABC	1	2.5
ABCDE	1	2.5
ABD	1	2.5
AC	2	5.0
AE	1	2.5
B	1	2.5
BC	1	2.5
BDE	1	2.5
C	1	2.5
CE	1	2.5
D	14	35.0
DE	1	2.5
E	11	27.5

TABLE 3
Academically Based Diplomates' Perceptions about Barriers to Specialization of Nonboarded Predoctoral Dental Public Health

Barrier	Frequency
Time	14
No incentives to become board certified	10
Lack of graduate student support	7
Need for salary replacement if do additional training	6
Lack of residency training	6
Lack of flexibility on residency equivalent/eligibility requirements too strict	4
Lack of MPH or equivalent degree	4
Lack of understanding of what dental public health is or what is involved in certification	4
Lack of mentor support	3
Many of the dental public health faculty are not dentists	3
Lack of support from administration	2
Missing training in some of the competencies	1
Lack of access to training	1
Lack of status for dental public health, especially by clinical peers	1
No young faculty interested in dental public health	1
Perceived lack of commitment to research by dental public health	1
Only one dental public health faculty member	1
Fear of taking the exam	1

TABLE 4
Academically Based Diplomates' Suggestions for Eliminating Barriers for Specialty Status for Predoctoral Dental Public Health Faculty

Suggestion	Frequency
Funds for appropriate level of stipend support	10
Flexible residencies (part-time/off-site) and more training opportunities	8
Release time	5
Broader perspective of dental public health with increased awareness of dental public health	4
I do not know	4
Hire DPH faculty already certified or appropriately trained	4
Equal academic recognition for dental public health specialty as for other specialties, including salary	4
Flexibility on substituting experience for DPH residency	3
Change eligibility criteria	3
Have a category of dental public health specialization for hygienists and nonclinicians	2
Training grants for faculty	2
Study groups	2
Change specialty exam format to be papers or a proposal	1
Better communiciation between residency directors and ABDPH board	1
Reach students early in their training	1
Stronger mentoring	1
Improved continuing education	1
Development of standards for dental public health faculty hires	1

members in preventive medicine.

The questionnaire asked "What dental public health educational requirements do you think should be the standard for dental public health faculty?" The responses are listed in Table 1. The respondents were instructed to circle all that they thought applied and could write comments to "Other." The most frequently identified educational requirement was having an MPH or equivalent degree, and was chosen alone or in combination with other requirements for 69 percent of the respondents to the question. Responses to "Other" covered such ideas as: "An MPH is the level for a person responsible for a course. Since research is the key to advancement, advanced research training at the PhD level would be desirable"; "Board eligibility should be the standard"; "A mixture of qualifications is needed—behavioral and social scientists, psychologists, ethicists, epidemiologists, statisticians, nutritionists, and economists"; "Board eligibility is recommended for senior faculty and board certification for department chairs"; "Set standards consistent with other specialties—at least one dental public health faculty member who is board certified"; and "Some level of competency in education."

Training needs for dental public health faculty perceived by the academically based dental public health diplomates are presented in Table 2. The most frequently cited need—"access to continuing education courses"—was chosen by 45 percent of the respondents.

Over 20 percent thought that MPH degrees or equivalent were needed by the faculty. Additional concepts provided as comments to this question included: "Need faculty"; "Faculty need to be skilled researchers to advance the field, themselves, and the school"; "All eligible faculty at our school are boarded"; "Creative thinking"; "Faculty should be educated in a competency area of dental public health"; "I am the only dental public health faculty member"; "Board eligibility should be established for public health PhD programs"; "All board eligible faculty should seek certification"; "Need situations where dental public health faculty can learn from other dental public health faculty"; "Cannot generalize our situation to a general need"; and "Do not need each

TABLE 5
Academically Based Diplomates' Perceptions about Institutional Incentives for Becoming a Diplomate of ABDPH

Existing Institutional Incentives	Response Count
Few or none	22
Promotion and tenure	8
Residency director	4
Potential for being hired	3
Part-time residency at our school	3
Bonus or merit raise	2
Board prep assistance	2
Do not know	2
Clearer career track	1
Peer recognition	1
MPH on campus	1
Would Like to See Developed Incentives	**Response Count**
Salary increase	18
Promotion and tenure consideration	7
Stipend support for residency	4
Criteria for being hired	3
Make part of job description	3
Time to do residency	3
Tuition support	2
Dental public health valued by administration	2
Recognition and rewards	2
Require certification for departmental chair	1
Treat dental public health as other specialties	1
Time to prepare for board exams	1
Involve dental public health in the commitment to outreach	1
Awareness that dental public health exists	1
More access to state and federal research funding	1
Do not treat dental public health as a hobby	1
Do not know	1
None	1

dental public health faculty member to be trained in all dental public health areas".

In responding to the question "What barriers prevent faculty from obtaining dental public health specialty status?" the diplomates answered with a variety of comments (Table 3). The most frequently cited barriers were, in decreasing order: a lack of time and money, requirements for board certification, and a perception that no incentive exists to become board certified.

Suggestions for solutions were sought by asking "How might these barriers be removed or lessened?" The suggestions given by respondents are listed in Table 4. A major emphasis conveyed by the diplomates was the need for flexibility—flexibility for training opportunities and flexibility on requirements and board examination. Secondary to flexibility, money and time were suggested as ways to remove these barriers. Better recognition of the specialty and support from other members of the specialty also were identified as areas for improvement.

The diplomates also were questioned about their perceptions of institutional and individual incentives for seeking dental public health specialty status. Their answers are summarized in Tables 5 and 6. A considerable portion of the respondents perceive that no institutional or individual incentives exist. Money, time, and recognition—be it academic, professional, or public—are incentive areas where the diplomates would like to see improvement.

Discussion

Description of the Work Force

In the *1996–97 Directory of Institutional Members and Association Officers* of the American Association of Dental Schools (5), there were 55 dental schools in the United States in 32 states, the District of Columbia, and Puerto Rico. This study has assessed that of the 55 dental schools, only 20 have a dental public health diplomate on faculty. In other words, 64 percent of US dental schools lack even one boarded specialist to assist in the development and teaching of the predoctoral dental public health curriculum. In light of the increasing importance and focus placed on public health in the predoctoral curriculum (as discussed in the IOM report (1) referenced previously), this is a sobering statistic, indeed. In the 36 percent of dental schools that do have academically based diplomates, the intensity of dental public health specialist faculty coverage varies from one to five individuals.

The number of dental public health faculty is quite variable across the institutions. A range of 0 to 11 full-time faculty in dental public health for this subsample of US dental schools may pose a number of hypotheses. First, there is variation in the interpretation of who is a dental public health faculty member. This confusion is seen within the study by the variation in the answers from diplomates within the same school. The issue of interpretation is taken with whether to include nondentists in discussions of who is dental public health faculty. Second, clearly unmeasured factors exist that affect the number of dental public health faculty. Because this questionnaire was aimed at obtaining information concerning the faculty responsible for the predoctoral dental public health curriculum, no information was sought on research, service, or postdoctoral education components of positions of the diplomates. Hence, the influence these components might have upon the number of faculty cannot be assessed from this study.

TABLE 6
Academically Based Diplomates' Perceptions about Individual Incentives for Becoming a Diplomate of ABDPH

Existing Individual Incentives	Response Count
None	11
Personal	9
Promotion and tenure	3
Peer pressure	3
Career advancement	2
Residency director	2
Professional voice	2
Financial reward	1
Would Like to See Developed Incentives	**Response Count**
Salary increase	9
Better recognition in profession	3
Personal	2
None	2
Part of promotion and tenure	2
Count as continuing education	2
Increase employment opportunities	1
Credit toward tenure	1
Flexible residency	1
Tuition-free residency	1
Appropriate stipend for training	1
DPH faculty become active in organized public health activities	1
Greater opportunity to consult with state agencies	1
Increased status in department	1
Do not know	1

The wide range of numbers of faculty in community dentistry or dental public health has been observed before. A 1969 assessment by Petterson (6) found a range of 1 to 34 faculty members per school across 20 dental schools. Similarly, Waldman and Siegel (7) found a wide range of hours spent on the dental public health curriculum and raised questions about this variability.

Nearly all of the schools assessed have additional faculty members with MPHs outside of the dental public health curriculum area. Perhaps a reason for this finding is that some faculty have recognized the value of such a degree, independent of the specific department or subject area with which they are affiliated. Or perhaps en route to public health, these faculty decided that there were stronger influences on their career paths.

More than one-half of the dental schools with dental public health diplomates have contact with the equivalent department in the medical school. Ironically, the dental public health diplomates located at schools of public health acknowledge that they have limited or no knowledge of the predoctoral dental public health curricula at their universities. Perhaps both the association with medical colleagues and weak affiliation with predoctoral curricula are indications of a research focus rather than an educational focus for the diplomates. An additional concern would be that the demands at schools of public health combined with low priority for public health at schools of dentistry might be contributing to a weak dental public health presence in the predoctoral curriculum.

Training Needs

Although training needs were identified, suggestions to eliminate the barriers and lack of incentives were a challenge for the respondents. However, the need for flexibility was a major message from the diplomates. Other papers in this special issue provide updates on the issues of education (8,9) and competencies (10). Clearly, collaborations among the faculty, administration, and funding sources are needed to assist in the dental public health training of existing faculty.

One hopes that new opportunities, such as the recently increased investment in the dental public health infrastructure by the Health Resources and Services Administration (11,12), will provide options for meeting the expressed needs of the dental public health faculty.

Incentives

Efforts are needed to raise predoctoral dental students' contact with dental public health diplomates and improve the specialty's stature among dental colleagues. The specialty of dental public health needs to work toward improving its image and status in dental schools. An initial recommendation would be to place at least one diplomate in each US dental school, and to ensure that the individual is involved with predoctoral students and their dental public health curriculum.

In conclusion, these are exciting and dynamic times for dental public health. Changes in predoctoral dental education, including increased attention toward areas such as prevention, evidence-based dentistry, critical evaluation of research and the literature, and multiple dental care delivery models create a strong need and welcome opportunity for academic dental public health. However, significant challenges must be overcome to optimally address the present opportunity. These challenges include, among others, insufficient numbers of academic dental public health specialists and insufficient motivations to encourage promising candidates to pursue specialty status. Investments by the dental schools, society (the government), and the specialty itself will be required to optimally meet these needs and opportunities.

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Appendix

Dental Schools Participating in Survey

Columbia University
New York University
State University of New York at Stony Brook
University of North Carolina
Case Western Reserve University
Ohio State University
University of Oklahoma
University of Pittsburgh
Medical University of South Carolina
Baylor College of Dentistyr, Texas A&M University System
University of Texas Health Science Center at Houston
University of Texas Health Science Center at San Antonio

Public Health Schools with ABDPH Diplomate or DPH Residency Director

University of Alabama
University of California at Los Angeles
University of California at San Francisco
University of Southern California
University of Florida
University of Iowa
Boston University
Harvard University
Tufts University
University of Michigan
University of Illinois at Chicago
Boston University
Harvard University
University of Michigan
University of Minnesota
University of North Carolina