Dental Public Health Postdoctoral Education: a Survey on the Status of Funding and Career Opportunities

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Abstract

Objectives: *This paper reports the results of a survey to determine the consequences of budget reductions on the status of dental public health postdoctoral training in the United States, and opinions of experts in education and practice regarding career opportunities in dental public health.* ***Methods:*** *A survey was mailed to 154 dental and public health education and service institutions.* ***Results:*** *Most respondents (74 of 103; 72%) agreed that training opportunities depend on funding, and 73 percent (n=75) expressed the view that more dental public health specialists are needed. Respondents reported that funding for current dental public health master's degree and residency programs is less than satisfactory. Respondents involved in training of dental public health professionals held marginally statistically significant different opinions regarding career opportunities than those who were not involved. No significant differences in opinions of respondents existed by type of institution.* ***Conclusion:*** *With decreased numbers of dental graduates, improved funding for dental public health programs will be critical, particularly at the specialty entry level, to ensure that adequate numbers of specialists are trained and available to meet the oral health needs of all the US population. [J Public Health Dent 1998;58(Suppl 1):90-3]*

Key Words: public health dentistry, education, work force, funding.

Dentistry and public health have undergone significant changes in the past decade. As a profession, dentistry has continued to enjoy economic growth, with expenditures for dental services rising to almost $45.8 billion in 1995 (1). Public dental programs, however, have experienced reductions in resources at federal, state, and local levels (2-5). These reductions presumably are due to large increases in costs for most other types of health care, decreases in federal expenditures, and declines in dental caries in certain segments of the population. The latter may have led policy makers to assume that dental disease is no longer a significant problem that merits the same level of public funds.

A goal of the specialty of dental public health is to improve the oral health of the entire population. Despite the many achievements of dental public health professionals in the prevention of oral diseases (6), epidemiologic studies show that a considerable amount of oral disease still affects Americans, particularly minorities and the poor (7).

Nationwide, dental schools have reduced their class sizes by an average of one-third. Approximately 4,000 dentists graduate each year, down from a high of 6,300 in the late 1970s (3). As resources for dental education have declined, schools have been forced to raise tuition and fees (8). Thus, a smaller number of dental graduates are joining the work force, and proportionately more dental graduates are facing increased debts for their education.

These trends raise serious concerns about the future recruitment of dentists into dental public health because it is the one dental specialty for which income potential decreases after specialty training (9). Lack of financial incentives for training has been identified as one of the major obstacles to attracting more dentists into the specialty (4). Dental public health practitioners are needed, in addition to private practitioners, if the goal of adequate oral health for all is to become a reality.

Information about dental public health postdoctoral education has been scarce and sporadic (4,10-14), particularly information about recruitment needs and career opportunities. The purpose of this survey was to determine the consequences of current funding trends on dental public health postdoctoral education programs in the United States, and to investigate the opinions of experts in public health and dentistry regarding training needs and career opportunities in dental public health.

Methods

This survey was conducted in 1991 as part of a dental public health residency based in Washington, DC. A questionnaire was developed and then peer-reviewed by three diplomates of the American Board of Dental Public Health. Because the questionnaire was to be mailed to the universe of possible respondents, no pretest was done to preserve the total sample. The survey consisted of three components: Part I—opinions regarding consequences of budget reductions on the training of dental public health professionals; Part II—costs, affiliations, and funding amounts and sources for existing public health education programs; and Part III—structure, student activities, and community involvement of existing master's and residency programs.

The self-administered survey was mailed along with a return envelop

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and postage to: (1) directors of dental public health education programs in the United States, including both "academic programs" that lead to university degrees and "residencies" that provide practical training experiences and lead to certificates; (2) directors and deans of dental and public health education institutions; and (3) dental directors in state health departments. A combined list of these individuals was compiled using mailing lists provided by the American Dental Association (15), the American Student Dental Association (16), the American Association of Dental Schools, the American Association of Schools of Public Health, and the American Association of State and Territorial Dental Directors. Duplicate listings were identified and only one survey was mailed to those institutions on more than one list. When a dental public health program was available at an institution, the survey was mailed directly to the director of that program; otherwise, it was sent to the dean. Because more than one respondent could report on a program as a result of multiple institutional involvement in dental public health education and resource sharing, care was taken to count existing programs only once.

All participants were asked to complete Part I of the survey. Directors of all dental public health education programs were asked to complete Part II in addition to Part I. Only directors of accredited dental public health residency or master's programs were asked to complete all three parts of the survey. Accredited programs were selected for detailed study because graduates of these programs are most likely to pursue specialty board certification.

Statistical analyses were done using SAS and Stata statistical packages. Descriptive statistics were completed for all three parts of the questionnaire. We postulated that those involved in dental public health training would have more positive perspectives on issues related to the future careers of dental public health practitioners. Bivariate analyses using one-sided Fisher's exact tests with significance levels of alpha=.05 were done to test this hypothesis. Indicator responses were compared among respondents according to active involvement with a dental public health educational program and type of institution.

TABLE 1
Survey Responses by Type of Institutions Surveyed and Report of Current Dental Public Health Education Programs (*n*=103)

Type of Institution	Surveys Mailed	Responses to Part I	Responses to Part II	Responses to Part III*
School of dentistry	58	38 (65.5)†	7	5
School of public health	26	18 (69.2)	7	7
State health department‡	59	38 (64.4)	6	5
Federal government¶	8	7 (87.5)	4	4
Other§	3	2 (66.7)	0	0
Total	154	103 (67)	24	21

*Includes only respondents with operational master's and residency programs.
†Numbers in parentheses are response rates.
‡Includes one city health department and directors of territorial health regions that are commonwealths of the United States
¶Federal government dental programs included are: (1) dental programs within agencies in the US Public Health Service (i.e., Centers for Disease Control, Indian Health Service, National Institute of Dental Research, and the office of the Chief Dental Officer); (2) dental programs within agencies in the US Department of Defense (Army Dental Corps, Navy Dental Corps, Air Force Dental Services); and (3) the US Department of Veterans Affairs.
§Includes dental centers/institutions with graduate dental education components (Eastman Dental Center, Forsyth Dental Center, and Mayo Graduate Center).

TABLE 2
Opinions Regarding Future Training Needs for Dental Public Health and Expected Career Opportunities (*n*=103)

	Agree	Disagree	Don't Know
There is a need for additional advanced-degree specialists in dental public health.	75 (73%)	9 (9%)	19 (18%)
The decision to continue or to begin dental public health training programs for existing schools of public health is largely determined by availability of funding.	74 (72%)	11 (11%)	16 (16%)
In your opinion, career opportunities (positions) will be available to employ these additional dental public health professionals.	53 (51%)	17 (17%)	33 (32%)
Would your institution consider implementing any (or any other) type of dental public health programs if funding were available?	62 (60%)	33 (32%)	8 (8%)

Results

The overall survey response rate was 67 percent (103 of 154); the response rate according to the three main types of institutions surveyed were similar, varying from 64 percent to 69 percent (Table 1). Responses were received from 38 dental schools, 18 schools of public health, 38 dental programs in state health departments, seven federal dental programs, and two dental research centers.

All 103 respondents completed Part I of the survey. Twenty-four respondents involved in one or more operational dental public health education programs completed Part II. Part III was completed by seven directors of master's programs and 14 residency directors. Ten respondents stated that the institutions they represented had had a program in the past, but that it was no longer in operation.

Generalized agreement existed among respondents on the need for

TABLE 3
Pros and Cons Regarding Implementation of Dental Public Health Training Programs

Pros	n*	Cons	n*
To expand research and academic background at local and national levels	19	Funding problems/lack of academic support, inadequate infrastructure	33
To meet nation's need, because there are subsets of the population in need	12	Not an academic institution, no educational mission	18
To increase outreach of preventive services and oral health promotion	7	Lack of dental public health positions, enough dental public health professional exists	11
There is a need for additional well-trained dental public health professionals, decision makers, and advocacy leaders	5	We already have programs, a local program exists	12

*n is less than 103 because of nonresponse to open-ended questions.

more advanced degree specialists in dental public health, and that the decision to start or continue a dental public health training program depends on the availability of funding (Table 2). Responses were both positive and negative regarding reasons for considering the implementation of dental public health training programs (Table 3). Many respondents mentioned a need for well-trained specialists to meet the nation's needs. Others criticized funding trends and mentioned the negative repercussions of current funding levels, including a low priority for dental public health education and community programs.

A total of 41 dental public health education programs were identified, sharing resources of 17 academic programs and five dental public health residencies. Sixty-five of the respondents stated that funding was less than satisfactory for both master's programs and dental public health residencies. Most programs reported at least one interruption in their funding. Only four master's programs and six residency programs reported providing a stipend for students. The amounts available for stipends were disparate, ranging from $4,000 to $26,000 per year. Solutions to the lack of stipend support reported in use by program directors included enrolling employees of the agency sponsoring the educational program in its own part-time residency program, and recruitment of federal employees who continue to receive their regular salaries while in training.

Forty-two percent of respondents reported that educational experiences were jeopardized because students needed to work to support themselves financially while in school. Sixty-seven percent reported that they had lost potential postdoctoral students because of inadequate student financial support. When respondents were asked what should be the top priority for allocating funds, if available, MPH directors preferred to increase their faculty and class sizes. Dental public health residency directors favored increasing residency positions and stipends. Funding for research projects and community-based projects also received priority mention.

TABLE 4
Contingency Table of Opinions Regarding Whether There Will Be Dental Public Health Career Opportunities (n=70 Respondents Who Agreed or Disagreed)

	Agreed*	Disagreed*	Uncertain	n
Involved with a dental public health program	14 (67%)	1 (5%)	6 (29%)	21
Not involved with a dental public health program	39 (48%)	16 (20%)	27 (33%)	82

*Fisher's exact P=.0653 (analysis conducted for two by two contingency table).

A question subject to some disagreement pertained to prospective career opportunities in dental public health. As shown in Table 4, respondents not involved in the training of dental public health professionals were four times more likely to disagree with the statement that career opportunities will exist for future dental public health professionals than those involved in these programs. Even though a considerable level of uncertainty was reported for this question in both groups (29% and 33% in those involved and not involved, respectively), 67 percent of those involved in dental public health training agreed that positions to employ additional dental public health professionals will be available. No significant differences in opinions of respondents existed by type of institution.

Discussion

This study provides insights into the status of dental public health postdoctoral training in the United States in the early 1990s, and opinions of experts in public health and dentistry regarding prospective dental public health career opportunities. Caution is indicated when interpreting these data because of possible nonresponse bias and the borderline acceptable response rate of 67 percent. In addition, because of respondents' uncertainty (i.e., many "do not know" answers) limited power was available to test for the statistical significance of differences in opinions.

Survey respondents concurred that a need for additional advanced degree specialists in the field of dental public health exists, and that the availability of funding is a critical determinant for training dental public health special-

ists. Dental public health practitioners and educators reported that several programs have been terminated, funding constraints have hindered student projects, and continuity has been lost because of repeated interruptions in program funding. Lack of funding is a deterrent to the prospective dental public health professional because additional personal funds are required to undertake formal postdoctoral training, and once graduated, the financial rewards are less than in other specialties.

A concern has been expressed for better integration of activities between dental schools and schools of public health (14,17). However, this study found that creative arrangements have been developed to implement successful, jointly administered dental public health education programs. Despite reports that sufficient support for dental public health is not always available, even in schools of dentistry (14), directors of master's and residency programs with ongoing affiliations appear to be satisfied with the activities and community involvement of their students.

Despite the high level of uncertainty regarding prospective career opportunities or positions for new graduates, respondents involved with training public health dentists and hygienists held different opinions regarding prospective career opportunities than those not involved in dental public health training. Respondents involved with dental public health programs had a more positive view, suggesting that these program directors believe jobs are available for creative and well-trained specialists, and that their graduates find employment upon completion of their training. In comparison, respondents not involved with dental public health programs presented a more pessimistic view, perhaps due to their experiences with funding reductions. The statistical significance of this difference was only marginal, however, perhaps because of the small sample size available for analysis.

This survey found a general agreement on the need for more dental public health specialists, and a consensus that postdoctoral training depends largely on funding. Organized efforts to improve funding for dental public health programs are needed at the entry level (i.e., master's and dental public health residencies), to ensure that adequate numbers of dental public health specialists are trained to meet the future oral health needs of the US population. Dental specialty training should provide the opportunity to engage in meaningful practical and research experiences, and should seek to be "graduate programs in the fullest sense, with faculty dedicated to research and graduate students challenged by new knowledge and advanced technology" (18). Current levels of student and research funding and the funding constraints faced by dental public health programs threaten the achievement of this model.

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