Milieu in Dental Education and Practice

Alternative Careers in Pediatric Dentistry: A Survey of Pediatric Dental Residents


Abstract: Pediatric dentistry has enjoyed growing popularity in recent years, yet there remains a need for leadership in academe, research, and public health. In November 2008, the first Maternal and Child Health Bureau-sponsored regional Leadership in Pediatric Dentistry convocation was held at the Columbia University College of Dental Medicine. Seventy-two pediatric dentistry trainees from thirteen programs in the New York City area participated in interactive presentations and exercises. Of the sixty-seven participants who completed a pre-event survey, 93 percent stated they would likely or very likely pursue careers that involved, at least in part, private practice, 55 percent in care of children in Medicaid, 51 percent academics, 36 percent dental public health, and 12 percent research. Barriers related to finances, competence, or work environment/location were perceived by 83 percent for careers involving research, 73 percent for dental public health, 66 percent for providing care to children in Medicaid, 46 percent for academics, and 9 percent for private practice. Results of a pair of pre-event and post-event surveys completed by sixty-three attendees showed no change in reported likelihood to pursue a career alternative except for an increase in the likelihood of working in a practice that accepts Medicaid. The challenge before dental educators is to provide consistent and meaningful opportunities throughout training that encourage residents to consider all career options and to discover how their individual interests mesh with their clinical learning.

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Oral health care for underserved children and their families is a growing area of programming, policymaking, advocacy, clinical care, and research. As the field continues to expand and become more complex, there is a pressing need for pediatric dentistry experts who will commit substantial portions of their careers to authoritative leadership roles on behalf of maternal and child health (MCH) populations. Nationally, there continues to be insufficient pediatric dental leadership addressing the poor oral health of young children made vulnerable by special health care needs or social condition. This is in part due to the lack of professional training designed to promote alternative pediatric dental careers in academe, research, dental public health, and oral health policy.

Starting nearly forty-five years ago, the precursor to the Maternal and Child Health Bureau (MCHB) initiated the Pediatric Dentistry Training Program to address these needs through 1) postdoctoral pediatric specialty leadership training in education, research, service, administration, and advocacy for MCH populations; 2) development and dissemination of curricula, teaching models, and other educational resources; and 3) continuing education, consultation, and technical assistance in pediatric oral health. Columbia University College of Dental Medicine’s (CUCDM) pediatric dentistry residency program, with its ten residents and one fellow, is one of three grantees in the current iteration of the MCHB Leadership Training in Pediatric Dentistry. CUCDM is one of seventeen pediatric dentistry programs in the greater New York City area, which constitute 23 percent of all U.S. pediatric dentistry programs and educate 25 percent of all U.S. pediatric dentistry trainees, according to the American Academy of Pediatric Dentistry (AAPD). This location provides an opportunity for the CUCDM Leadership Program to...
reach out to a substantial portion of the next generation of pediatric dental specialists.

As part of its MCHB-funded training program entitled Alternative Careers in Pediatric Dentistry, CUCDM on November 12, 2008, convened the first regional leadership convocation. Seventy-two residents from thirteen programs attended the meeting on Social Justice: Child Advocacy and Oral Health Policy. Presentations focused on leadership opportunities in organized dentistry, private practice, and oral health policy, as well as a hands-on opportunity to debate current oral health issues. This article describes results of a pair of pre-event and post-event online surveys of attendees’ interest in alternative pediatric dental careers and discusses the implications of MCH dental leadership promotion during residency training for the future pediatric dental workforce in research, academe, public health, and pediatric oral health policy.

**Methods**

As part of online registration for the Leadership in Pediatric Dentistry Convocation, all pediatric dental resident attendees were asked to complete a survey using a commercial online survey program (Survey Monkey). The Columbia University Institutional Review Board-approved study collected subjects’ demographic information, pediatric dental residency program and year in residency, and answers to questions on 1) the likelihood to be involved in alternative careers of academe, research, oral health advocacy, or oral health policy following completion of their residency; 2) likelihood to be involved with MCH populations such as Head Start, children enrolled in Medicaid, or children with special health care needs (CSHCN); 3) likelihood to practice in a rural, suburban, or urban location; 4) desired number of work hours as a pediatric dentist; 5) perceived barriers to pursuing alternative pediatric dental careers and practice venues; and 6) makeup of ideal professional career as a pediatric dentist.

All attendees were invited to participate in a similar online post-event survey within seven to thirty days following the event. The post-event survey included items identical to the pre-event survey regarding future careers as well as additional evaluative questions measuring the quality and impact of the event. Paired t-tests were conducted to analyze pre-event and post-event data using a statistical software package (SPSS).

**Results**

Sixty-seven of seventy-two resident attendees (93 percent) completed the online pre-event survey. Of these, sixty-three (94 percent) also completed the post-event survey. Half were first- and half second-year trainees. Questions regarding anticipated future career choice and practice location were not mutually exclusive, allowing respondents to select multiple responses. When asked about their plans following residency, 93 percent of respondents answered that they would likely or very likely work in private practice, 55 percent in a practice that accepts Medicaid (Figure 1). Fifty-one percent of respondents answered that they would likely or very likely work in an academic setting, 36 percent in a dental public health setting, 16 percent in a health policy setting, and 12 percent in a research setting. Fifty-seven percent of respondents answered that they would likely or very likely be involved with organized dentistry, 53 percent with oral health advocacy, and 49 percent with Head Start populations. Sixty-nine percent of pre-event respondents answered that they would likely or very likely be involved with CSHCN, 57 percent with hospital/inpatient populations, and 51 percent with children in Medicaid.

Regarding practice location, the vast majority (90 percent) stated that they would likely or very likely practice in a suburban setting, while 64 percent anticipated an urban setting and 22 percent a rural setting (Figure 2). The majority (55 percent) planned to work between twenty and forty hours a week, while 34 percent planned to work forty hours and 11 percent more than forty hours.

More than a third of the respondents (37 percent) indicated that they would likely or very likely pursue an additional degree, primarily the master’s in public health (16 percent), or additional specialty training (11 percent). Almost all (96 percent) indicated that they would likely or very likely pursue board certification in pediatric dentistry. Eighty-six percent indicated that some involvement in academics would be included in their ideal professional situation. However, only 9 percent of those indicated that their involvement would constitute more than 20 percent of their total professional work week.

Inadequate financial compensation was reported as the largest perceived barrier to working in a dental public health setting (46 percent), additional training in public health (44 percent), and working in a practice that accepted Medicaid (37 percent).
Lack of personal interest was the highest reported barrier for working in research (58 percent) and second highest reported barrier for both additional training in public health (21 percent) and working in a dental public health setting (15 percent). Ninety-one percent of subjects reported no perceived barrier to working in private practice, 78 percent to working with CSHCN, 54 percent to working in an academic institution, 34 percent to working in a practice that accepts Medicaid, 30 percent to additional training in public health, 26 percent to working in a dental public health setting, and 17 percent to working in a research setting.

The post-event survey included questions about leadership in pediatric oral health advocacy and policy. Among respondents, over 90 percent agreed or strongly agreed that it was important for them to be aware of current policy issues related to children’s oral health, that they were to be leaders in pediatric oral health. In addition, 88 percent agreed or strongly agreed that it was important to be directly involved in shaping and influencing oral health policy and 71 percent that they were to be experts in policy issues related to pediatric oral health.

Paired comparisons of pre- and post-event surveys revealed no significant immediate changes in career plans except for the higher likelihood of working in a practice that accepts Medicaid.

### Discussion

Generalization of study findings to all U.S. pediatric dentistry trainees or trainees in other specialties is limited by a potential regional bias, small number of respondents, reliance on a convenience sample, and potential social desirability bias. However, as the respondents represented thirteen out of
seventeen pediatric dentistry training programs and approximately 38 percent of all first- and second-year trainees in the New York City area, these findings well describe this subset of trainees.

The specialty of pediatric dentistry has enjoyed growing popularity in recent years with the number of applications to residency programs increasing dramatically.\textsuperscript{2,3} On a national level, there remains a need for pediatric dental leadership in academe, research, and for MCH populations.\textsuperscript{4,5} Particular to academics, the workforce shortage has been long recognized as a problematic issue.\textsuperscript{6,7} Despite doubling the numbers of pediatric dentists trained in recent years, the number of unfilled faculty positions has increased.\textsuperscript{8} In 2006, there were 385 dental faculty vacancies nationwide, forty-three within pediatric dentistry.\textsuperscript{9} Similarly, there remain unfilled positions for pediatric dentists in community health centers, federal direct care programs like the Indian Health Service, and public health programs administered by state MCH agencies. Nationally, there are over 4,000 identified dental provider shortage areas affecting 48 million people that would require over 9,000 dental practitioners of all types to meet current need.\textsuperscript{10}

Pedician dental residents expect pediatric dental programs to train and prepare them as clinicians for dental practice. Residents show high interest in pediatric dental programs that feature modern clinical facilities, a high ratio of dental assistants and faculty to residents, and a high amount of clinical experience. In contrast, there is minimal interest in programs that prepare residents for academe, public health, or additional advanced education.\textsuperscript{11}

However, residents do show significant interest in careers other than, or in addition to, private practice. Few subjects from our study indicated a desire to be solely in private practice as a career. Eighty-five percent of the respondents said they desire to be involved to some degree in academics, and more than a quarter indicated being open to the idea of pursuing a master’s of public health or other additional degree. In the post-event survey, 39 percent reported rethinking their career options as a pediatric dentist, 61 percent were encouraged to become more involved in pediatric oral health advocacy, and 60 percent said they became more interested in oral health policy.

Inadequate financial compensation has been known to be a contributor to resident reluctance to

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\caption{Pediatric dental residents’ perception of the likelihood of their choice of work location (n=67)}
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consider alternative careers.\textsuperscript{4,12} When asked for the primary barrier that prevents them from working in a dental practice that accepts Medicaid, 37 percent of the residents in our study reported inadequate financial compensation. However, “lack of personal interest” was another reported barrier for future careers in both research and in public health. An additional 27 percent selected “undesirable work environment or location.” This suggests that solutions for the dental workforce shortage may not be as one-dimensional as increasing financial reimbursement. The lack of interest in alternative careers may be due in part to lack of exposure within programs. Program activities devoted to research, for example, remain minimal,\textsuperscript{13} despite the mandatory research component required of all accredited pediatric specialty programs.

When considering the future pediatric dental workforce in academics, research, or dental public health and health policy, our study suggests that the percentage of graduating pediatric dental residents expressing interest in pursuing these types of alternative careers will be extremely small. The overwhelming majority of residents in our study sample, which represented approximately 38 percent of all residents trained in New York State and approximately one-fifth of all residents trained in the United States each year, intend to have a future career in private practice. Less than 2 percent, or one single resident, reported unlikeliness of a future private practice career.

Future MCH dental leaders are the result of not only their own intrinsic capacities and life experiences, but also the breadth and quality of their training opportunities.\textsuperscript{14} Regular interaction with other faculty dentists, a wide variety of work activities, intellectual exploration, guided mentorship, and opportunities to influence a field of study are all positive influences for choosing alternative careers.\textsuperscript{7,15} Such experiences and relationships cannot be fully accomplished through a single lecture or short-term rotation. Our pre-post survey analysis showed that, despite being well received, there was no significant change in either resident attitude or behavioral intent after attending a single half-day leadership event. While there was a significant finding for interest

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**Figure 3. Pediatric dental residents’ perception of primary barriers to practice in specified areas (n=67)**
in Medicaid practice, no additional follow-up was done as a part of this study, and it is unclear as to the long-term effectiveness such an event has on resident career choice. Convocational events such as these may have individual short-term impact, but require continued guidance and follow-up for lasting interest in longer term goals such as future career choice.

Leadership often depends upon the ability to solve problems and address needs as they are identified. Therefore, being too prescriptive in training may limit residents’ capacities or desire to develop leadership skills or pursue individual interests for specific MCH populations. While more time-consuming and costly, pediatric dental residency programs need to build in both sufficient consistency and flexibility to meet residents’ interests, interactions, and opportunities as they arise. The challenge before dental educators is finding creative ways to provide consistent and meaningful venues so that residents may thoughtfully consider all career alternatives and discover for themselves how their individual interests most effectively correspond with the clinical skills they are learning.

REFERENCES