



## American Academy of Pediatric Dentistry Survey of US Pediatric Dentistry Faculty Members

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### Abstract

**Purpose:** This survey's purpose was to: (1) assess the status of the pediatric dentistry academic workforce; (2) determine if the current workforce is sufficient for pediatric and general dentistry education requirements; (3) address other workforce issues; and (4) explore factors influencing this faculty shortage, thereby narrowing the focus of other surveys.

**Methods:** In 2004, 130 pediatric dentistry faculty members completed a Web-based survey regarding workforce issues. Questions were asked regarding: (1) faculty characteristics; (2) job history prior to academics; (3) academic career longevity/motivators for change; and (4) private practice participation.

**Results:** Twenty-four percent indicated academic involvement for over 25 years, followed by 20% indicating 1- to 4-year involvement. Eighty-two percent of chairpersons had educators leave within the last 5 years, with 38% of positions remaining unfilled. Motivators for leaving included location (25%), family (19%), and faculty (12%). Twenty-three percent identified salary as an influential factor when considering an institution change, and 74% felt clinical tracks would aid in recruiting/retaining faculty. The majority of full-time faculty members maintained a part-time practice.

**Conclusions:** Survey results indicate that pediatric dentistry mirrors the national dental faculty member shortage. Most troubling is the loss of educators after 5 and 10 years of teaching, perhaps due to salary disparities with private practice, tenure requirements, and family. (Pediatr Dent 2006;28:537-542)

**KEYWORDS:** SURVEY, ACADEMIC WORKFORCE, PEDIATRIC DENTISTRY, FACULTY

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The well-documented national shortage of dental faculty members is an ongoing dilemma with no definite solutions. This problem is due to both the increase in faculty separations and diminishing numbers of recent graduates who consider a full-time career in academia.<sup>1-5</sup> In addition, these issues are compounded by: (1) lost full- and part-time positions<sup>1</sup>; (2) inadequacies in faculty member recruitment<sup>5</sup>; and (3) the increasing average age of dental faculty.<sup>3,6,7</sup> The clinical sciences appear to be in the most dire need for incoming faculty, accounting for 80% of total faculty member vacancies.<sup>1</sup> Among the clinical disciplines, pediatric dentistry accounts for the third largest number of reported vacancies, ranked after general/operative/restorative dentistry, and periodontics.<sup>1</sup> Taking into account that most US dental schools have departments of general dentistry, operative and restorative

dentistry and periodontics, consisting of faculty members that far outnumber that of pediatric dentistry, the urgency to recruit new full- and part-time pediatric dentistry faculty members should be considered nothing short of critical.

The impact of diminishing pediatric dental faculty members is already evident. As of 2003, one third of US dental schools employed general dentists to teach pediatric dentistry and greater than a third have fewer pediatric faculty members than 5 years ago.<sup>8</sup> Additionally, some pediatric dentistry departments have been collapsed into larger divisions directed by individuals not trained in the specialty of pediatric dentistry.<sup>4,8</sup> Blurring the discipline of pediatric dentistry with that of general practice may create a less effective predoctoral education for those interested in the specialty. The absence of pediatric dentistry faculty members dedicated to recruiting students into their field may also effectively reduce the number of individuals interested in pediatrics following dental school. Bearing the current crisis in mind, pediatric administrators and faculty members must take active measures to reverse this trend.

Casamassimo et al<sup>6</sup> provided a grim view of pediatric faculty members over the next decade. Fifty- to 54-year-olds represent the largest group of full-time pediatric dental

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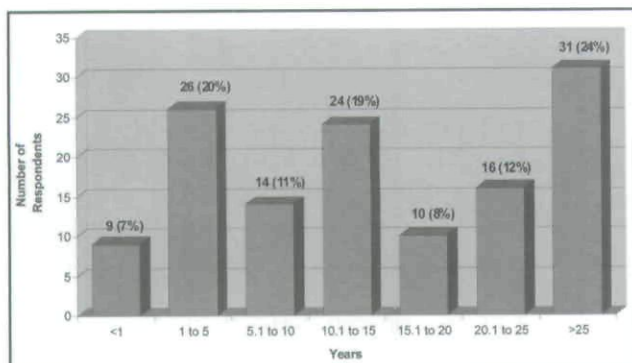


Figure 1. Length of time in academics of respondents to the on-line survey of academicians conducted by the American Academy of Pediatric Dentistry.

faculty, followed by those over 60 years of age. In addition, young entry-level faculty members between 25 to 29 years old represent a meager 2% and 5% of full- and part-time faculty, respectively.

The objective of this study was to survey the pediatric subset of clinical faculty members to collect workforce data, thus narrowing the focus of other published survey studies which addressed dental faculty member shortages on a school-wide basis. In doing so, elements of the multifaceted pediatric dentistry faculty member shortage may be identified, confronted, and hopefully corrected.

## Methods

In March 2004, the American Academy of Pediatric Dentistry's (AAPD's) Council on Predoctoral Education created and sponsored a Web-based survey to assess the status of the pediatric dental education workforce. Prior to distribution, both the Council on Predoctoral Education and the AAPD headquarters office staff reviewed and revised the survey instrument for clarity, accuracy, and conciseness. A link to the survey was sent to pediatric dentistry program directors and faculty members in the United States, Canada, and Puerto Rico via the AAPD Program Directors' Listserv.

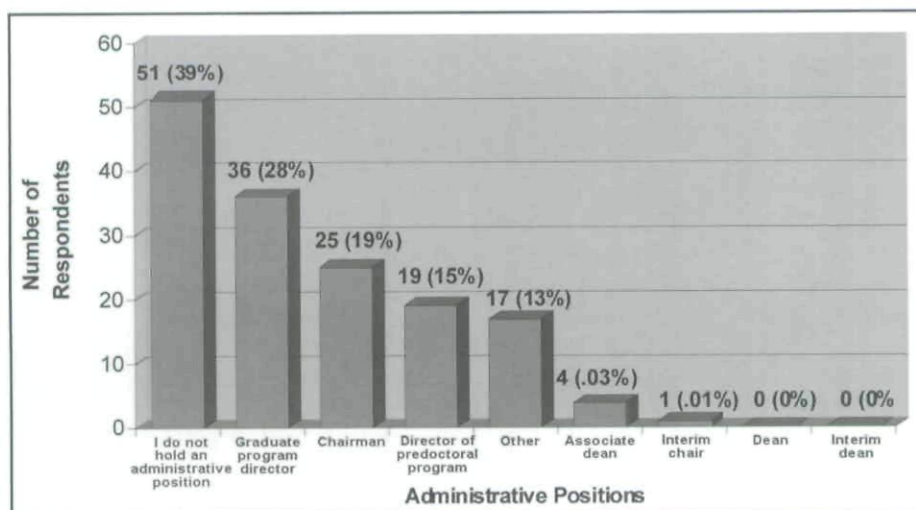


Figure 2. Administrative positions held by respondents to the online survey of academicians conducted by the AAPD.

One reminder e-mail was sent to all survey recipients. One hundred forty-four individuals were contacted, of whom 130 responded, resulting in a response rate of 90.3%. The survey was available online for 44 days.

Survey questions addressed 5 areas: (1) demographics; (2) institutions attended vs institutions where employed; (3) longevity of career; (4) faculty member retention (asked of chairpersons only); and (5) private practice status of full-time faculty. The types of questions included:

1. multiple choice (12 questions);
2. multiple choice with prompt for short explanation (6);
3. multiple choice with option for multiple answers (1);
4. multiple choice with option for multiple answers and prompt for short explanation (4); and
5. fill-in-the-blank items (5).

Basic demographic information was collected in one of the multiple choice formats. Questions requiring more in-depth information provided multiple answers to be chosen and prompted participants for a short explanation.

Reponses were compiled using American Eagle Web Survey Software, (American Eagle.com Inc., Park Ridge, Ill.) Means were computed for numerical fill-in-the-blank questions. Short answer responses were compiled for comparison. All multiple choice questions were tallied, and answer percentages were calculated. Tallies and percentages reported for any given answer reflect only those who responded to that question rather than the surveys completed. All short answers were reviewed, and their interpretations were agreed upon by the 2 primary researchers. Due to the simplicity of the responses, minimal interpretation was required.

## Results

Of 144 faculty members, 130 responded to this survey, yielding a response rate of 90%. Responses have been grouped into 5 areas: (1) demographic information; (2) institutions attended and institutions where employed; (3) career longevity; (4) faculty member retention (asked of chairs only); and (5) private-practice status of full-time faculty. Systematic differences between the responders and nonresponders were not considered due to the very high response rate.

### Demographic information

Demographic information obtained indicated that 58% of respondents were male and 42% were female. The average age of respondents was 47.

When asked about the length of time in academic careers, the largest group of respondents (24%) indicated that they had been in academics for over 25 years, with the next largest group (20%) indicating a 1- to 5-year involvement in academics (Figure 1). Slightly



over a third of the faculty members surveyed (36%) were at the associate professor level, while equal numbers (27%) were ranked as either assistant professor or professor. Nearly all respondents (95%) were pediatric dentists, with most (92%) being members of the AAPD.

By self-report, the majority of faculty members surveyed (77%) considered themselves to be full-time. Of those who were full-time, just over half (57%) were on a "tenure track" while the remainder (43%) were on a "clinical track." Thirty-seven percent of the "clinical track" respondents gave narrative comments, with half indicating that "clinical" was the only track offered or available to them. The majority of all survey respondents (74%) felt that availability of a "clinical track" would aid in recruiting and retaining pediatric dentistry faculty. Of the 38% who gave explanations, about half felt that relief from research requirements offered by "clinical tracks" would help in the recruitment/retention of faculty. Other reasons supporting the "clinical track" as a means of recruitment/retention were better salary and less of a time commitment than "tenure track."

One third (33%) of the responding faculty members did not hold any type of administrative position within their institutions. Of those who did, almost half (46%) reported serving as graduate program directors (Figure 2).

#### Institutions attended and institution employers

Responses to this survey indicated that only 35% of faculty members are currently teaching at schools where they also attended dental school, while 39% are currently teaching at schools or institutions where they received their specialty training. Relatively few (15%) had received their dental school training outside of the United States.

#### Career longevity

The average respondent had been at his/her current institution for 11 years. Of faculty members responding:

1. 41% had transferred from a faculty position at another school;
2. 36% had entered academics from private practice; and
3. 3% had come directly from military service.

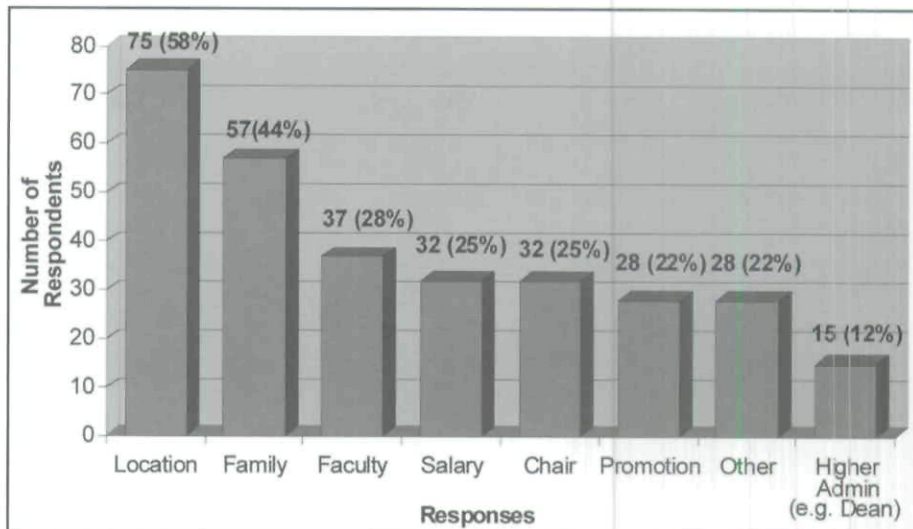


Figure 3. Reasons for staying at one institution for longer than 5 years, as indicated by respondents to the online survey of academicians conducted by the AAPD.

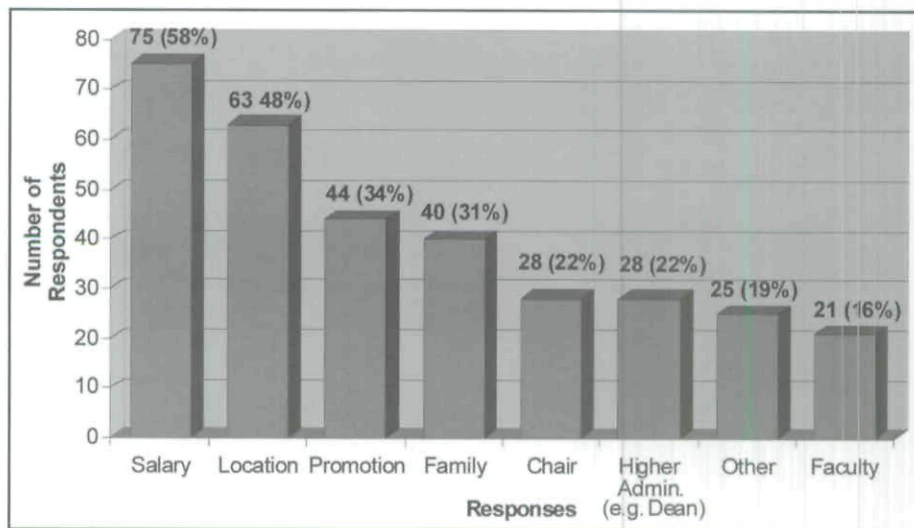


Figure 4. Factors which could influence a move to another institution, as indicated by respondents to the online survey of academicians conducted by the AAPD.

Regarding past academic employment, the average faculty member surveyed had taught at 2 institutions including his/her current school. Among the various reasons given for leaving their past institutions, 2 of the most common given in narrative comments were: (1) spousal relocations; and (2) low salaries. When asked about their motivations for retaining a faculty position at one institution for 5 years or more (Figure 3), the eligible respondents noted "location" as their prime motivator (25%). This was followed by "family" (19%) and "faculty" (12%). When asked what, if anything, might influence them to move to another institution, almost a quarter of faculty member respondents (23%) answered "salary" (figure 4).

#### Faculty member retention

Questions regarding retention of faculty members were addressed primarily to department chairpersons. Eighty-two percent of chairpersons surveyed reported having had



faculty members leave their department within the last 5 years; 37% of these positions remained unfilled at the time of the survey.

### Private practice status of full-time faculty

Two thirds of all full-time faculty member respondents (66%) indicated that they maintained a part-time practice outside of academia. The average percentage of their week committed to practice was 15%. Of those full-time faculty members who chose to also practice part-time, only 31% were required by their institutions to supplement their base salary with private practice activity.

## Discussion

This study is consistent with previous studies citing a crisis in the recruitment and retention of dental faculty.<sup>1,3,5</sup>

The response rate for this survey (90%) indicates that a majority of the pediatric dentistry educators known to the AAPD had input in the survey questions. The demographic characteristics of pediatric dentistry educators responding to this survey are generally similar to those reported by other researchers examining all dental educators.<sup>3</sup> One possible difference may lie in the gender of pediatric dentistry educators, 42% of whom this survey indicated were female as compared to a 1999 report indicating that only 24% of dental educators in general were female.<sup>5</sup>

The average age of respondents was 47, with nearly one quarter of respondents presumably past the mid-point (over 25 years) of academic careers. This fact underscores the importance of addressing the current crisis as quickly as possible, due to the imminent retirement of many in the pediatric dentistry academic workforce.

Regarding length of time in academic careers, 2 major drop-off points were seen: (1) those leaving academics after 1 to 5 years; and (2) those leaving after 10.1 to 15 years. Over a third of pediatric dentistry faculty members come to academics from private practice. Depending on their age at the start of their involvement in academic careers, the drop-off after 15 years in academia could be explained through retirement. The drop-off of faculty members after 5 years is more troubling and less likely explained by retirement. Proposed explanations for this drop-off, while not examined in this survey, may include: (1) salary disparities with private practice; (2) inadequate opportunity to fulfill tenure requirements; and (3) family commitments. It may be coincidental, but many schools' tenure process is on a 5-year cycle, and in many universities failure to obtain tenure means loss of the faculty member position. Respondents indicated that salary would be a significant motivator to move to another institution, and so presumably that could also be a significant motivator to leave academics, as private practice generally offers significantly more financial reward.<sup>9,10</sup>

While this project's intent was not to examine the choice to move from academics to private practice, it would be interesting to survey former educators who have left academia for private practice. Understanding the situation

from their perspective could be valuable in: (1) trying to address current workforce problems; (2) retaining current educators; and (3) attracting future pediatric dentists to academic careers.

With the current faculty member shortage—as documented by this survey and others—one may conclude that faculty members are overly busy and may have less than optimal time available to them to fulfill all areas required for tenure. With the number of women making up the academic workforce, issues around family obligations and time commitments may play a more significant role than with their male counterparts. Of interest, a majority of respondents felt that the availability of a “clinical track,” presumably with fewer requirements for scholarship and more focus on clinical teaching, would be beneficial in recruiting and retaining pediatric dentistry faculty.

With the current pediatric dentistry faculty member shortage, one potential source of new faculty members is residents who complete a program's training program. The advantage of this approach is that residents who become faculty members in the program where they received training may be more familiar with the program and, thus, may be effective in that program earlier than a newcomer. The disadvantage is a potential stagnation of knowledge and experience base within a given program. This survey indicated that just over a third of respondents were currently teaching at the institution where they attended dental school, and a slightly higher percentage were currently teaching at the institution where they received specialty training. The survey did not ask if the current employer, the specialty training program, and the undergraduate dental school were, in fact, the same institution for some individuals.

Individuals who attended dental school outside of the United States, but presumably attended specialty training programs here, did not seem to make up a significant number of current pediatric dentistry faculty members. This could indicate an untapped resource for new pediatric dentistry educators.

“Location” and “family” were indicated as the primary motivators for staying, while “salary” was much less frequently mentioned as a motivator for staying. Of interest, salary was a significant motivator for moving to another institution. It would seem that, at some point—which was not delineated in this survey—the motivator of salary can overcome location and family to stimulate a move among educators wishing to stay in academics. With recent and pending licensure reforms, which are making dentistry a more mobile profession, it may be that in the future, location of the dental school will be less of a motivator for staying. This may relatively increase the motivation to relocate for the purpose of increased salary.

Also, given that two thirds of full-time faculty member respondents maintain a part-time practice in addition to academic careers, financial reasons could be seen as a significant motivator for maintaining private practices. With financial need, the shift for additional time spent in more



profitable private practice could be a natural progression, ultimately motivating pediatric dentists to severely cut or to eliminate their time spent teaching.

Compared to recent data on dental school faculty members reported by Weaver et al,<sup>1</sup> the current survey seems to indicate that there is a higher rate of interacademic faculty member transfers within pediatric programs (41%) than within dental school faculty members as a whole (15%). It should also be noted that Weaver et al reported a significantly higher rate of transfer into dental academics from private practice (52%) than the current survey's finding of a 36% transfer rate from private practice into pediatric faculty member positions. This discrepancy may be due to the higher average salary of pediatric dentists when compared to that of general dentists,<sup>9,10</sup> thus creating a relatively larger income disparity for the pediatric dentist transitioning from private practice to academics. Furthermore, when retiring from private practice, a previously successful pediatric dentist may have less need to supplement his retirement income through teaching than would a general dentist. Private practitioners may represent an untapped source of future educators. Consequently, facilitating the participation of private practitioners in pediatric dentistry education and possibly easing the shift to full-time education for those interested in academic careers may help address the identified shortages.

As seen in the survey, 82% of pediatric dentistry chairpersons reported having at least 1 faculty member leave their department within the last 5 years. This fact alone is troubling, however, when considered in conjunction with this study's findings that 38% of those positions were still vacant underscores the severity of the problem. Weaver et al conducted a similar survey from 2000 to 2003 which reported the percentage of vacant positions within pediatric dentistry to be fluctuating between 7% and 10% of budgeted faculty member positions.<sup>1</sup> While these studies asked fundamentally different questions about the same problem, when the relatively small size of most departments of pediatric dentistry is considered, both serve to highlight the crisis-nature of the situation.

Due to the dynamic nature of faculty member positions, as described by the reported high turnover rate and the prevalence of unfilled faculty member positions, the responses indicated by this survey are likely to continue to change. The overall trends found, however, are likely to continue. The fact that the survey was distributed and responses were made in an electronic format may have slightly biased the group of responders toward those with adequate computer skills. As with all surveys, information can only be gathered about the questions asked. Thus, other factors related to faculty member retention may exist, but were not explored or revealed. Interviews with current and former faculty members may provide more insight in this regard. One specific discrepancy in the currently reported survey results is that there were a variable number of responses to "chairperson only" questions. There were, however, between

25 and 30 responses to questions in this area of the survey. Either faculty members who were not in fact chairpersons inadvertently responded to some of these items or some chairpersons failed to respond to all items in this section.

## Conclusions

Based on this study's results, the following conclusions can be made:

1. There is a serious workforce problem in academic pediatric dentistry, which mirrors that of academic dentistry in general.
2. The demographics and career histories of respondents indicate that the industry can reasonably expect to see a continuing drop in the number of pediatric dentistry educators and highlight the urgency of finding solutions to the current crisis.
3. Considering the current survey's results and the trend which they suggest, it seems that any possible solutions to the current workforce crisis should address the following:
  - a. resolving salary discrepancies between academic and private practice careers;
  - b. offering support, guidance, opportunities, and experience to current young faculty members to address tenure requirements in their respective institutions;
  - c. developing alternate academic career paths that emphasize clinical teaching as an adjunct to current tenure track-style faculty member positions;
  - d. developing programs that assist individuals interested in academic careers in pediatric dentistry, whether they be predoctoral dental students interested in specializing in pediatric dentistry, pediatric dentistry residents, or seasoned clinicians;
  - e. facilitating the return to academics of private practitioners approaching retirement.

## Acknowledgements

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## Abstract of the Scientific Literature



### Ranitidine and Reduction in Gastric Acid Secretion

The objective of this study was to evaluate the effect of oral ranitidine on: (1) esophageal acid exposure; (2) duration of gastric pH greater than 4.0; and (3) esophageal histology in infants clinically not responding to oral ranitidine administration. The study population consisted of 103 infants consecutively admitted for suspected symptoms of gastroesophageal reflux disease (GERD) between June 2001 and March 2004. Patients were submitted to a 2-channel pH study with one esophageal and one gastric probe. Weight, dose, and dose duration were also recorded. The dosage of ranitidine was associated with the esophageal reflux index (RI), but not with the duration of gastric pH greater than 4.0. The mean percentage of time gastric pH was 4.0 was 59%. The esophageal RI was greater than or equal to 5% in 80% of infants. Esophagitis was also present in 31/90 patients. Additionally, all patients with clinically suspected GERD disease presented unsatisfactory symptom improvement during at least a 2-week treatment. The authors conclude that many infants who have GERD symptoms and are treated with ranitidine may be misdiagnosed. Insufficient acid suppression could be the cause of these symptoms.

**Comments:** Ranitidine is often prescribed to infants with pathological GERD. Nonresponsiveness, however, is often reported. It is important to recognize that GERD symptoms can also be caused by insufficient acid suppression. **THB**

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**Salvatore S, Hauser B, Salvatori A, Vandenplas Y. Oral ranitidine and duration of gastric pH>4.0 in infants with persisting reflux symptoms. *Acta Paediatrica* 2006;95:176-181.**

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