

# Fostering the Future of Pediatric Dental Education

## How the University of Washington has Successfully Encouraged Graduates to Pursue Academic Careers

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### INTRODUCTION

Pediatric dental departments across the country are facing faculty shortages. The vast majority of pediatric dental graduates go into private practice following residency training. In the past decade however, the University of Washington (UW) Department of Pediatric Dentistry has graduated a significant number of residents who have pursued full-time and part-time teaching positions. Currently, there are at least 12 graduates who hold full-time teaching positions and six who hold part-time positions that graduated from UW in the last ten years. Scores of others also held various academic appointments during this timeframe. Dr. Travis Nelson, a graduate and current clinical associate professor at UW, states, “The true success of an academic program may be judged by its ‘byproduct,’ which would be the future of pediatric dentistry in our case. Since inception, UW consistently produced high quality pediatric dentists that contribute greatly to the field as academicians, community leaders, and representatives in organized dentistry.” This article aims to highlight the factors that promote and successfully lead graduates to serve in academics and/or research positions after program completion.

Many programs, such as the University of Iowa and the University of North Carolina at Chapel Hill, have historically had a reputation as academic centers with some graduates who pursue teaching and research careers. Recently, the University of Washington has joined their ranks. What do these programs that produce academicians have in common? They have a common goal to foster public health education and integrate leadership, service, research, and advocacy into their clinical pediatric dental education. Dr. Wa’ Yin Chan states that she was encouraged to pursue teaching and public health endeavors because of the strong public health component which was introduced to her while a resident at UW.

There is no uniform agreement on what defines an academic career. This spectrum includes individuals with non-clinical responsibilities, those with part-time and adjunct teaching appointments, and those with full-time faculty positions—with a range from research intensive to clinically intensive roles.



### BARRIERS AND FACILITATORS TO CHOOSING AN ACADEMIC CAREER

At a time when dental schools and non-university programs (such as hospital and community-based residencies) face challenges recruiting and retaining faculty, academicians and administrators are left wondering how they can encourage students to pursue academic careers. Reasons for the number of open faculty positions are multifactorial, including reduced funding to support faculty salaries, reduced funding to support dental research (a pillar of academic careers and component of advancement), and the financial opportunity cost of teaching when compared to entering private practice.

Most literature outlining reasons why people pursue academic careers is greater than ten years old, does not focus on specialty training, and does not reflect the current climate of dental education. Nevertheless, many of the key findings likely persist and are still relevant today. According to Schenkein and Best<sup>1</sup>, factors that promote an academic dentistry include an individual's interest to contribute to teaching and scholarship, having positive mentors and role models, the desire to conduct research, and long-term academic aspirations. These and mentorship for career development “are crucial factors in developing interest in academics among graduate dentists.” The primary barrier to entering academic careers is reduced income potential and student loan indebtedness. This is becoming a rising concern given the increase in the cost of dental education.

## **INFLUENCES OF PRE-DENTAL EDUCATION ON CAREER DECISIONS**

When students begin their pre-doctoral dental education, it is unlikely that most have been informed about careers in academic dentistry. Up to this point, most are deciding whether they want to be a general dentist or whether they want to specialize and which specialty would be the most appropriate. Based on feedback from University of Washington graduates, most indicate that they were exposed to the idea of a teaching career while in dental school or earlier. This highlights the importance of fostering dental educators as early as the first year of dental school when students are early in the career decision-making process.

One example of early mentorship comes from the University of California Los Angeles, where faculty and selected students participate in a *Basic Dental Principles* selective. Participants can learn about dental careers and work with a faculty mentor to develop and deliver a lecture to pre-dental students. Lefever and Bibb indicated that mentoring future dental educators through an apprentice teaching experience, such as the *Basic Dental Principles* course, has great potential for encouraging more graduates to pursue careers in academic dentistry<sup>2</sup>. A survey of dental students in 2006 indicated that factors contributing to the intent to pursue some form of faculty career were gender, plans to specialize, knowledge of academic issues, having a parent in higher education, and personal teaching experience. This study highlights that dental students in general do not possess the knowledge and information necessary to make an informed decision regarding a career in dental education<sup>3</sup>. To address this issue, the American Dental Education Association (ADEA) developed the Academic Dental Careers Fellowship Program with the goal of providing both students and residents the opportunity to gain exposure to academia through structured mentorship, training, and information about academic careers. Expanded awareness through programs like UCLA's *Basic Dental Principles* course and the ADEA Academic Careers program have the potential to recruit academicians early. Dr. Jessica de Bord, a graduate from UCLA and participant in *Basic Dental Principles*, became interested in teaching prior to attending UW. She was drawn to UW because "they educated [them] to understand the big picture

beyond restoration of teeth, from the child and family level, to the community level, to the policy and advocacy level."

## **INFLUENCES OF RESIDENCY EDUCATION ON CAREER DECISIONS: CREATING A CURRICULUM THAT TEACHES MORE THAN DRILLING AND FILLING**

We recognize that the decision to enter academics may not be realized during dental school. Many people may not choose to pursue teaching until early—or even late—in residency education. This highlights the importance of mentorship throughout residency. Dr. Glenn Canares describes that "during residency, it was good to have both experienced faculty and junior faculty serve as mentors. The experienced faculty served as examples of the long-term career opportunities" while the junior faculty were "people he could relate to more easily." Graduates consistently describe the mentorship from both junior and senior faculty as key influencers in their decision to pursue academics.

Through the application review process, faculty at the University of Washington indicate that they seek to matriculate residents that have the potential to become leaders in the field of pediatric dentistry. Dr. Joel Berg, former department chair and dean at UW stated, "We are not only training first-rate dentists and pediatric dentists, we are also teaching future teachers to teach." While academic performance and potential for clinical success are highly important factors, their evaluative criteria also emphasize service, life experiences, leadership, and advocacy. This suggests that UW residents may represent a self-selective group of individuals who have academic potential; however, components of the residency program also promote academic development that sets graduates up for success in academic careers.

Through the Maternal and Child Health Bureau, the University of Washington received funding to support dual degree programs in Pediatric Dentistry and the School of Public Health. Under the leadership of Dr. Penelope Leggott (Professor Emeritus), two residents per year participated in a three-year program that included a Certificate in Pediatric Dentistry, Master of Science in Dentistry, and Master of Public Health. Both two-year and three three-year residents received

didactic and practical experiences that foster public health training with an emphasis on maternal and child health education. A survey of graduates suggests that this formalized training has a high propensity to develop individuals that pursue academic careers. Dr. Elise Sarvas stated: "From the day I interviewed, UW professed its mission to be a public-health program. It is unique in that it truly sees the discipline of pediatric dentistry through that lens."

Embedded in the UW curriculum are opportunities to participate in pre-doctoral teaching. Under the guidance of clinical faculty, residents serve as teaching assistants for dental students during student rotations in the pediatric dentistry clinic. Furthermore, the program has strong support for resident research projects. While many students may feel overwhelmed by the idea of conducting clinical, biomedical, or behavioral research, strong research support encourages intellectual curiosity, interest, and potential for future research collaborations after residency. Dr. Karin Herzog took full advantage of research opportunities while at UW and now serves as Director of Research Statistics at Boston Children's Hospital. She stated that UW "employed experts from other disciplines, such as biostatisticians, psychologists and epidemiologists. Access to these diverse experts enabled multi-disciplinary research" and allowed her to complete "several research projects as part of [her] residency, and through this experience strengthened [her] interest in research."

Under the guidance of program leadership such as Dr. Joel Berg (past Department Head and Dean), Dr. Rebecca Slayton (past Department Head and Program Director), Dr. Travis Nelson (Clinic Director), Dr. Marcio da Fonseca (past Program Director), and other past and present faculty, there has been substantial mentorship to pursue academic careers that include research, involvement with advocacy and organized dentistry, research and publication, and strong clinical training. There is also strong support from Dr. Elizabeth Velan (past Program Director), Dr. Joseph Kelly (past interim Program Director), and other full- and part-time faculty to pursue hospital dentistry. The reputation of leadership in the department provides significant opportunity for strong mentorship, a key factor in developing graduates who aim to pursue academic careers.

This highlights that the University of Washington has developed a culture that aligns with the traits and career interests that are foundational to academic careers. Furthermore, as Dr. Elizabeth Velan describes, she chose to enter a teaching career because she had “faculty that appeared to enjoy their jobs!”

### COMMON MISPERCEPTIONS ABOUT ACADEMICS

Many graduates report that they may not consider academic careers following graduation because they do not feel ready without having clinical experience following graduation. The late Dr. Suzi Seale frequently addressed this concern with students and suggested that new graduates consider teaching immediately following residency. She indicated that pediatric dentists who become “settled” in clinical practice may find it difficult to return to teaching after establishing themselves in practice. Graduates must also recognize that to graduate from a Pediatric Dentistry program, they must achieve competency in all areas outlined by the Commission on Dental Accreditation and therefore likely have the capability to become strong educators immediately following completion of residency. Although it may be beneficial for individuals to pursue full-time academic positions early in their academic career to realize their full potential, there are always opportunities to return to teaching mid- and late-career.

For individuals who may not be interested in full-time academic careers, there are many opportunities for part-time teaching positions in community health centers, hospitals, dental schools, and other settings where dental students and residents train. Full-time academicians often encompass the pillars of academic development, which include scholarship, research, and service. This also normally includes administrative responsibilities. In addition to these obligations, full-time clinical faculty often also provide direct patient care through intramural or extramural practice. Most part-time teaching positions are usually devoted to

## University of Washington Graduates (only those actively teaching)

### CLASSES OF 2006-2018

**David Avenetti, D.D.S., M.S.D., M.P.H.**

**Class of 2013**  
Residency Program Director  
and Clinical Associate Professor  
University of Illinois at  
Chicago, College of Dentistry  
Department of Pediatric Dentistry



**2006), Anne Reeves (Class of 2011)**



**Glenn Canares, D.D.S., M.S.D.**  
**Class of 2013**

Clinic Director and Clinical  
Assistant Professor  
University of Maryland School  
of Dentistry  
Division of Pediatric Dentistry



**Wai Yin Chan, D.M.D.**  
**Class of 2013**

Pediatric Dentistry Faculty  
NYU-Langone Dental  
Medicine  
San Ysidro/San Diego Health  
Center



**Jessica de Bord, D.D.S., M.S.D., M.A.**  
**Class of 2010**

Associate Program Director and  
Pediatric Dentistry Faculty  
NYU Langone Health  
Yakima Valley Farm Workers /  
Children's Village



**Anna Forsyth, D.D.S., M.S.D.**

**Class of 2011**  
Assistant Professor  
Oregon Health Sciences  
University, School of Dentistry  
Department of Pediatric  
Dentistry



**Roopa Gandhi, B.D.S., M.S.D.**

**Class of 2008**  
Residency Program Director  
and Associate Professor  
University of Colorado, School  
of Dental Medicine /  
Children's Hospital of Colorado



**Not Pictured: James Cannava (Class of 2012), Joseph Kelly (Class of**



**Karin Herzog, D.D.S.,  
M.S.D.**

**Class of 2015**

*Associate and Director of Research*

*Statistics*

*Boston Children's Hospital,*

*Department of Dentistry*

*Harvard School of Dental Medicine, Department of*

*Developmental Biology*

**Ian Marion, D.D.S.,**

**M.S.D.**

**Class of 2015**

*Pre-Doctoral Program Director*

*and Clinical Assistant*

*Professor University of Illinois*

*at Chicago, College of*

*Dentistry*

*Department of Pediatric Dentistry*

**Travis Nelson, D.D.S.,**

**M.S.D., M.P.H.**

**Class of 2010**

*Clinical Associate Professor*

*and Clinic Chief*

*University of Washington, School*

*of Dentistry*

*Department of Pediatric*

*Dentistry* **Elise Sarvas,**

**D.D.S., M.S.D.,**

**M.P.H.**

**Class of 2015**

*Clinical Assistant Professor*

*and Interim Pre-Doctoral*

*Director University of*

*Minnesota and Masonic*

*Children's Hospital*

**Kari Sims, D.D.S.,**

**M.S.D., M.P.H.**

**Class of 2014**

*Clinical Attending*

*Odessa Brown Children's*

*Dental Clinic, Seattle*

*Children's Hospital*

**Elizabeth Velan,**

**D.M.D., M.S.D.**

**Class of 2008**

*Hospital Dentist and Clinical*

*Assistant Professor*

*University of Washington, School*

*of Dentistry*

*Seattle Children's Hospital*

**Joe Wilson, DMD**

**Class of 2009**

*Pediatric Dentistry Attending*

*NYU Langone Health*

*Yakima Valley Farm Workers /*

*Children's Village*

clinical teaching, but part-time faculty still can become involved in didactic teaching, scholarship, service, and other components that are foundational in full-time careers.

While income potential and high loan debt are the most commonly cited barriers to academic careers, there are other benefits to offset these concerns. Many full-time positions offer the potential to supplement base salary through intramural or extramural practice, fringe benefits, healthcare, retirement, monetary support for professional expenses, and allowed time-off. Practitioners in private practice may report limited scheduling flexibility, uncompensated sick and vacation leave, and the feeling of geographic anchoring after establishing themselves in a practice setting.

### **FEDERALLY FUNDED PROGRAMS TO SUPPORT FACULTY LOAN REPAYMENT AND ACADEMIC CAREERS**

Through the efforts of the American Academy of Pediatric Dentistry, three cycles of dental faculty loan repayment have been funded by the Health Resource and Service Administration (HRSA). This program has the

potential to significantly reduce the financial barriers of student loan repayment while serving as faculty. As Townsend and Chi describe, numerous opportunities exist through faculty compensation models and loan repayment programs that make an academic career financially viable<sup>4</sup>. Many graduates from the UW are currently participating in these faculty loan repayment programs. Additional programs are available through the HRSA Bureau of Health Workforce to support individuals from disadvantaged backgrounds in health professions and through the National Institute of Health to support individuals that perform biomedical or behavioral research<sup>5</sup>.

While the programs support direct loan repayment, HRSA has also funded pre-doctoral and post-graduate training grants to improve access to underserved individuals. These grants do not fund faculty loan repayment, but do have the opportunity to expose dental students and residents to key factors facing public health, dental education, and health services research. These programs foster both direct patient services while also providing enhanced education that may support and encourage future academicians.

Dr. Ian Marion describes that he is able to overcome financial barriers through faculty loan repayment programs, faculty practice, and fringe benefits—“though faculty may still earn a lower salary overall, the gap is not as wide as it may seem when comparing annual salary.”

### **CONCLUSION**

The University of Washington has emerged as a program with a reputation for developing academicians. It is important to explore the factors that lead graduates to pursue academic careers, and UW, among others, may serve as a model. This is important at a time when the number of open faculty positions in U.S. dental education continues to rise. Literature suggests that mentorship during dental education and residency may increase the likelihood of students to enter academic careers. The primary barriers are financial. AAPD’s success in advocating for faculty loan repayment programs, in addition to other federal programs, may offset some of the concerns surrounding student loan debt as a barrier to pursuing academic careers. Notwithstanding, the UW curriculum embraces and provides strong mentorship for research, service, advocacy, and leadership in addition to strong clinical education. These align with the principles of academia: scholarship, service, and research and may therefore lead graduates to consider teaching.

<sup>1</sup>Schenkein, Harvey A., and Al M. Best. “Factors considered by new faculty in their decision to choose careers in academic dentistry.” *Journal of Dental Education* 65.9 (2001): 832-840.

<sup>2</sup>Bibb, Carol A., and Karen H. Lefever. “Mentoring future dental educators through an apprentice teaching experience.” *Journal of Dental Education* 66.6 (2002): 703-709.

<sup>3</sup>Rupp, Jeffrey K., Daniel L. Jones, and N. Sue Seale. “Dental students’ knowledge about careers in academic dentistry.” *Journal of Dental Education* 70.10 (2006): 1051-1060.

<sup>4</sup>Townsend, Janice A., and Donald L. Chi. “Academic Pediatric Dentistry is a Rewarding, Financially Viable Career Path.” *Pediatric dentistry* 39.5 (2017): 361-363.

<sup>5</sup>Faculty Loan Repayment and Grant Programs, Accessed September 2018 [https://www.adea.org/professional\\_development/academic\\_dental\\_careers/Pages/FacultyLoanRepaymentandGrantPrograms.aspx](https://www.adea.org/professional_development/academic_dental_careers/Pages/FacultyLoanRepaymentandGrantPrograms.aspx)