CHOOSING DENTAL CAREER PATHS BY ASSESSING COMPETITIVENESS OF MATCH PROGRAMS

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ABSTRACT

Dental school graduates have many options following graduation. Many are pursuing additional education and training by doing a residency program. As more graduates consider this career path, these programs have become more competitive. This study evaluates the competitiveness of match programs in dental residency programs by assessing data over a 9-year period for programs in the National Matching Service. The number of applicants participating in the match, number of positions offered, number of positions filled, and number of positions unfilled were analyzed for General Practice Residency (GPR), Advanced Education in General Dentistry (AEGD), Oral Maxillofacial Surgery (OMS), Pediatric Dentistry (PED), Orthodontics (ORTHO) and Dental Anesthesiology (ANES). The result has been an overall increase in number of applicants for these programs. Based on positions offered, ORTHO, PED, and OMS are the most competitive programs. PED programs were the most competitive due to the increase in applicants and relatively unchanged available positions.

KEYWORDS

Dental match program, competitiveness, dental career path

1. INTRODUCTION

In pursuit of becoming better health care professionals, dental students may seek further training through various post-graduate programs after their graduation. Although there are several career paths for a newly graduated dentist, many search for advanced education and additional training to further improve their knowledge in modern dentistry. As the number of applicants rise for these programs, the programs become increasingly competitive for each discipline from year to year.

With an increase in the number of dental school graduates partly as a result of the opening of new dental schools throughout the United States, more graduating students are pursuing Advanced Education in General Dentistry programs in order to enhance their learning and gain additional experience before going into practice[1]. The increased desire to pursue further experience and education also extends into general practice residency programs and specialty programs, such as oral maxillofacial surgery, pediatric dentistry, and orthodontics. In the 2009-10 survey of Dental Education conducted by the American Dental Association, enrollment in Advanced Education in

General Dentistry programs, as well as in General Practice Residencies and several dental specialty programs have all increased[1,2].

A major problem that admissions to these Advanced dental programs must overcome when selecting new candidates to their programs is how to properly filter the applicants as many dental schools are transitioning to pass/fail grades. Pass/fail grades do not properly give admission officers a clear picture into each student's skill and potential while a graded candidate's chances may be hurt if he or she doesn't perform optimally.

This study explores the competitiveness of post-graduate programs, while looking at the statistics of number of applicants, applicant positions offered, positions filled, and positions unfilled in order to gather a better understanding of the application process of residency and post-graduate programs.

2. MATERIALS AND METHODS

There are six residency programs in the Postdoctoral Dental Matching of the National Matching Services. We collected and analyzed the publicly available data published by the National Matching Services Inc. for the Postdoctoral Dental Matching Program from 2007-2016[3].

The data collected for six residency programs included; General Practice Residency (GPR), Advanced Education in General in General Dentistry (AEGD), Oral Maxillofacial Surgery (OMS), Pediatric Dentistry (PED), and Orthodontics (ORTHO). The data was collected for Dental Anesthesiology (ANES) from 2011-2016 because this program did not join the match until 2011. We recorded the number of applicants participating in the match, the number of positions offered, the number of positions filled, and the number of unfilled positions.

3. RESULTS

This study aims to evaluate the competitiveness of six match programs in dental residency programs between 2007 to 2016. All six programs had an increase in applicants over the 9 year span. The graph on Figure 1 shows the applicants trend. The number of applicants of all programs increased on average by 3% year-over-year. Table 1 shows the average growth rate for each specific program.

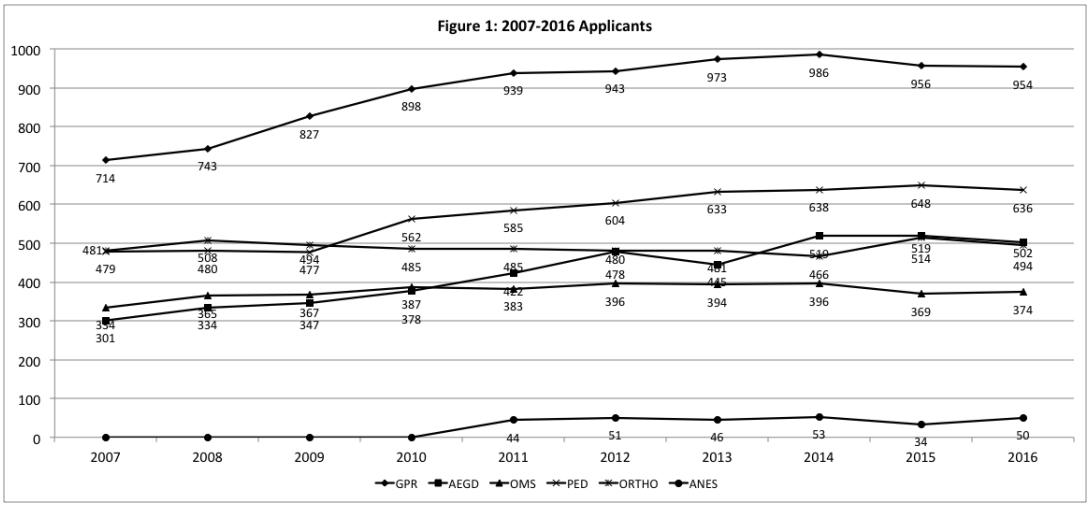

Figure 1. 2007-2016 Applicants.

Table 1. Average Growth Rate of Applicants to Program

Applicants	Avg. Growth Rate
GPR	3.3%
AEGD	5.8%
OMS	1.3%
PED	3.2%
ORTHO	0.3%
ANES	2.6%

GPR offered the most positions (86%) compared to the number of applicants who applied (Figure 2). However, fewer applicants accepted these positions compared to OMS, PED, ORTHO. ORTHO (54%), PED (59%) and OMS (57%) offered the least number of positions out of applicants who matched, however, these specialties were filled at the highest rate (>90%). These specialties are more competitive due to less percentage of positions offered.

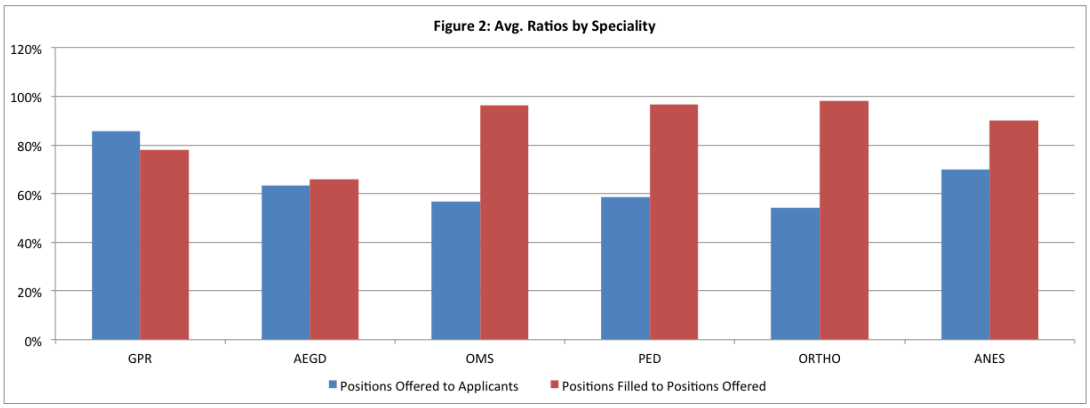

Figure 2. Average Ratio by Specialty.

From 2007-2016, less GPR positions were being offered to the number of applicants. However, the ratio is much higher (avg. 86%) compared to the other specialties. ANES started in the match program in 2011. From 2011-2016, ANES increases, spiking in 2015 at 100%. In 2007-2016 the trend to positions offered for PED, ORTHO, and OMS is relatively flat (average 58%) (Figure 3).

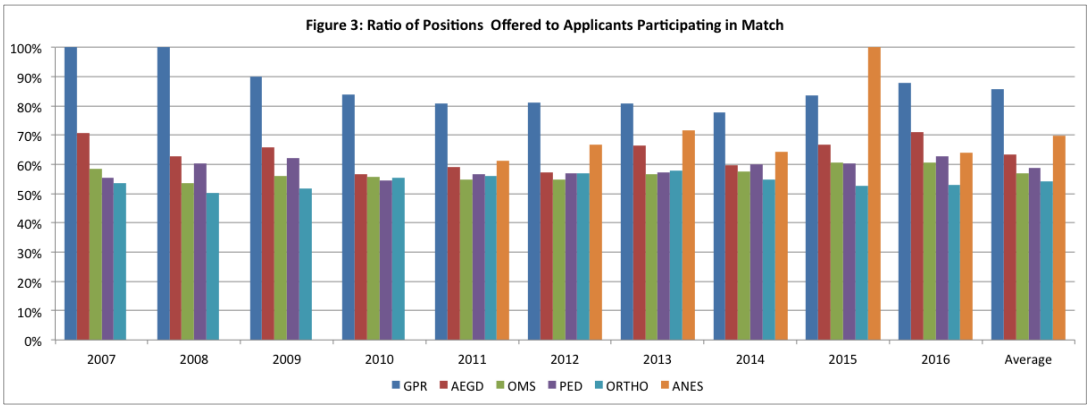

Figure 3. Ratio of Positions Offered to Applicants Participating in Match.

Figure 4 and Table 2 show that the GPR has many positions being offered, and a lower percentage of applicants are accepting these offers (avg. 78%) compared to the rest of the specialties. The trend is declining from 2014-2016. OMS PED, ORTHO, and ANES have a high ratio from Positions Offers to Positions Filled (avg. 97%).

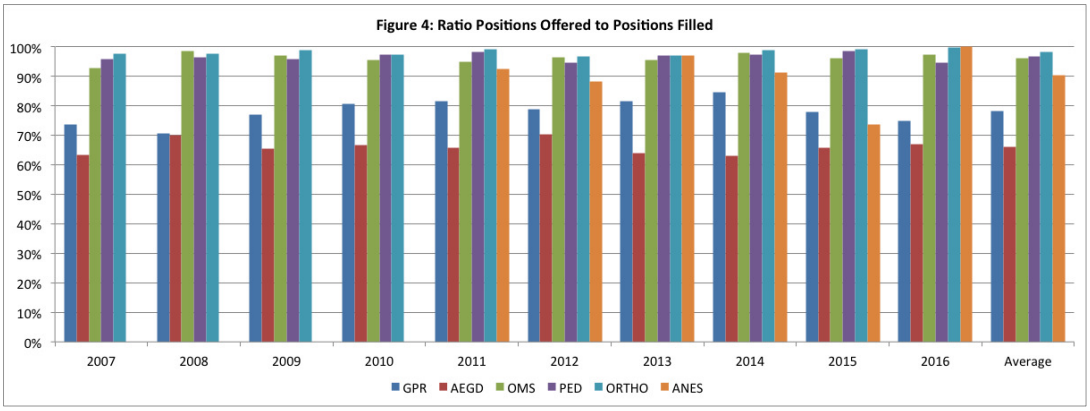

Figure 4. Ratio Positions Offered to Positions Filled.

Table 2. % Positions Offered to Applicants Vs. % Positions Filled to Positions Offered

Positions Offered to Applicants	Positions Offered to Applicants	Positions Filled to Positions Offered
GPR	86%	78%
AEGD	63%	66%
OMS	57%	96%
PED	59%	97%
ORTHO	54%	98%
ANES	70%	90%

The most unfilled positions were in GPR and AEGD. Over the 9-year period for all the programs there was an average of 291 unfilled positions per year. OMS, PED, ORTHO and ANES had few unfilled positions (at most less than 21 unfilled positions a year).

4. DISCUSSION

There is an increase in the number of applicants and positions offered for GPR residency programs. One possible reason for this is because some states such as New York have a residency requirement for licensure. Another reason why GPR programs had the most number of positions offered to applicants (86%) may be due to the total amount of time committed to a GPR program. Since a GPR program is generally a one-year program with many hospitals offering an optional second-year training, the obligation of a recent graduated dental student is minimal. As described by the American of Dental Association (ADA), "The GPR program is designed for advanced clinical and didactic training in general dentistry with intensive hospital experience at the postdoctoral level"[4]. Thus, many postgraduate applicants may choose to accept GPR programs as an immediate way to gain post-graduate experience in a relatively short amount of time. On the other hand, specialty residency programs such as ORTHO, PED, and OMS programs can range from to two to six yearsof postgraduate training. These extended continued educations require more commitment in order to complete these specialty programs.

GPR programs tend not to include extensive training in the specialty departments such as those offered in ORTHO, PED, and OMS programs. Although many GPR programs do provide clinical experience through rotations in specialties such as orthodontics or oral surgery, it is not

mandatory for GPR programs to provide such training. The absence of specialization in GPR programs is one reason why they are able to offer a wider number of positions to postgraduate applicants. The overall broader training in general dentistry is why GPR programs can reach a larger market of applicants. The GPR program also offers advantages such as hospital training and favorable geographic locations, which may be important factors for applicants in pursuing a GPR program. The results, however, indicate that there are fewer applicants accepting GPR positions (78%). One reason might be that GPR positions are offered, but applicants that do not choose to specialize may change their decisions and begin to work as a practitioner immediately after graduation, rather than entering a residency program.

ORTHO, PED, and OMS programs tend to attract applicants to their programs who have demonstrated interest in the specialty area before graduating from dental school. This may also be the reason why ORTHO, PED, and OMS have high ratios of acceptance from positions offered to applicants. They are the most competitive with >90% positions filled to positions offered. There are few unfilled positions in these specialties. There are many different possible factors that contribute to the recent increase in competitiveness for ORTHO, PED, and OMS match programs. For instance, the growing popularity of ORTHO despite the limited number of positions can be attributed to the flexible workload and earning potential[5,6]. ORTHO is also perceived to have the best personal quality of life in one study[7].

As applicants for PED grew significantly over the last nine years while the number of residency positions remained relatively unchanged, PED is one of the most competitive residency programs. Because of such competitiveness applicants felt the need to go beyond the standard dental school curriculum in terms of pediatric dentistry experience[6]. Research experiences were preferred on top of the candidate's class ranking and overall GPA, and some dental schools were valued above others in terms of reputation[8]. One report shows that among the pool of first-year students in a PED residency program, about half considered a program's ability to prepare residents for an academic career, teaching and research opportunities to be not as important[9,10,11]. This reflects the students' strong tendency for private practice over academics[10,11]. Moreover, the majority of the respondents considered the accessibility of salary to be critical in a residency program; preferences that can be accounted for because of the heavy debt with which many carry upon finishing their trainings[6,10].

Overall, the rising number of dental school graduates pursuing a residency in GPR, OMS, PED, ORTHO and other well-recognized dental specialties may be related to varying state licensure requirements. New York requires at least a one year postgraduate program. Dentists in California, Colorado, Minnesota and Ohio have the option of completing a postgraduate program instead of a clinical exam. Washington has state specific requirements. Delaware requires both an examination and a postgraduate program[12].

There are many reasons why students choose to specialize instead of being a general practitioner. Dental students that pursue different specialty programs have diverging interests and career goals. Their interest in one specific aspect on dentistry and their complete focus in one aspect can bring a more rewarding experience for the student. OMS residency programs also reflect consistently increasing competitiveness, along with PED and ORTHO. According to the ADA Health Policy Institute specialists also have higher average median income than general practitioners. OMS has the highest average annual specialist salary and ORTHO and PEDS somewhat less[13].Another contributing factor to the competitiveness of specialty programs is the length of the specialty program. OMS residency programs can be anywhere from four to six years whereas PEDS and ORTHO programs are generally two to three years.

Dental students must decide whether to get additional training or go to work in a practice following graduation. Some of the factors which may influence which pathway they choose include the enjoyment of working in that area and the amount of debt the student had[5]. For those who go into specialty training the quality of the teaching and clinical education is very important. Life style preferences are also important especially for millennials who value a work life balance.

Family issues also play an important role in determining where dental students will work[14]. Work location and the cost of living in a particular area are also factors that may influence the choosing of a specialty. The role of mentors may also influence a student to decide their path after graduation. Dental educators can relay their experiences and expertise to the dental students.

5. CONCLUSION

Competitiveness is a measure of the number of positions per applicant. When more students seek additional training and experience, then the post graduate programs are more competitive. There are many reasons why students want to specialize or pursue post-graduate training. Many students pursue GPR programs in hopes to get more experience in clinical dentistry or expose themselves to other aspects of dentistry that they lacked in dental school.

In our study, we looked at the competitiveness of specialty programs as well as GPR/AEGD programs with the number of positions available in a program per applicant to the number of positions filled. The studies showed that the total number of applicants over the 9-year period from 2007 and 2016 has increased, with more graduates pursuing post-graduate education through GPR, AEGD, and other specialty programs. While ORTHO, PED, and OMS residency programs are very competitive programs, with greater than 90% positions filled to positions offered, PED residency programs were the most competitive due to the increase in number of applicants and relatively unchanged number of positions available. The numbers in ANES were too small to determine the trends.

More students are applying for dental residencies. Students should apply for a variety of programs that they want including reach, match and safety programs. If a student is applying for a competitive residency he or she should consider ranking a preferred program in an alternate specialty in event that the student is unsuccessful in matching in the preferred specialty.

Due to the growing number of dental schools, the number of dental graduate students in the United States has also increased. Post-graduate programs started to devise an increasingly demanding selection process which often drove applicants to go beyond the standard dental school curriculum to make themselves attractive candidates. However, there should be a comprehensive system instituted which can effectively and fairly seek out students who have skills that are aligned with the requirements specific to the dental schools' practice environments.

As with other healthcare professions, dentistry is constantly changing. Newer techniques, materials, products and beliefs have an important impact on a dental student's decision to pursue further education in dentistry. The results of the study suggest that there are various reasons for continuing education after dental school. Although some specialties are more competitive than others, the results suggest that interest in specialty programs and GPR/AEGD programs will continue to rise.

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