



AMERICA'S PEDIATRIC DENTISTS
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THE 2017 SURVEY OF PEDIATRIC DENTAL PRACTICE

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Introduction

The Survey of Pediatric Dental Practice supplies up-to-date information on critical functions of pediatric dental practices, as well as offers an inside look at such topics as Medicaid participation, charitable care, changing demographics of the profession, perceptions of busyness, and geographic variations in the pediatric dental workforce.

In February 2017, the American Academy of Pediatric Dentistry (AAPD) contracted with the Center for Health Workforce Studies (CHWS) to conduct this survey as part of the protocol for a pediatric dentist workforce study to estimate future supply and demand for pediatric dental services.

A data collection instrument based on the 2012 Survey of Dental Practice was revised to collect additional needed data. The instrument was reviewed and edited by the AAPD Steering Committee. Once finalized, the instrument and survey procedures were reviewed and approved by the Center for Health Workforce Studies (CHWS) Institution Review Board.

Working closely with the AAPD Steering Committee, the CHWS obtained an email list of AAPD members. Through a complementary survey distribution and promotion plan, the CHWS distributed the survey via email (and mail if no email was available) to more than 6,500 AAPD members. The survey was promoted heavily at the AAPD Annual Session in June. Three rounds of follow-up emails were sent (6/16, 7/10, and 7/25). The last response was recorded on August 5, 2017.

A total of 1,801 surveys were completed. An additional 748 surveys were partially completed; 424 respondents clicked through to the survey, but did not respond to any questions. Finally, 29 potential respondents requested to be removed from the survey distribution. A conservative calculation of the response rate (only considering fully completed surveys) was 27.7% (1,801/6,505). A more liberal calculation (considering both partially and fully completed surveys) was 39.2% (2,549/6,505).

A response rate analysis was conducted using the a priori known data about the sampling frame (AAPD members), including gender, geographic location (state), and age. The analysis yielded no evidence of bias by gender and geographic location, but did show evidence of bias by age, with potential respondents age 60 and older more likely to respond than their younger counterparts. A weighting algorithm was developed to correct for the observed response bias.

Key Findings

Demographics of Pediatric Dentists

- The majority of pediatric dentists were female (51.8%) in 2016. Two thirds of pediatric residents (66.6%) in the 2016-17 academic year were also female. Change in gender mix within the profession is progressing more rapidly than in general dentistry (29.8% female).
- The average age of employed female dentists was 38.4 years. The average age of employed male pediatric dentists was 45.4 years.
- The average age of pediatric dentists (45.2 years) is declining due mainly to the large number of pediatric dental residents completing training programs each year. The bolus of younger professionals entering the workforce suggests an adequate supply of new dentists to compensate for retirements of older dentists born in the baby boom.
- Dentists in smaller population counties were younger on average than dentists in counties with very large populations. These differences were similar for both males and females, suggesting recent employment or ownership opportunities in smaller areas rather than in urban or large metropolitan regions.
- The professional workforce in counties with populations less than 275,000 was more likely to be White. Pediatric dentists who were Asian/Pacific Islander were more likely to practice in counties with populations greater than 675,000 than in smaller counties.

Employment Status of Pediatric Dentists

- Three-quarters of pediatric dentists (74.7%) work in private dental practices.
- Data suggest a move away from solo practice to group practices comprising three or more dentists. In 2016, almost half of pediatric dentists (45.2%) reported three or more dentists in their primary work setting.
- Employed dentists worked on average fewer weeks per year (44.0 weeks) than owner dentists (47.2 weeks). The benefits of employment versus ownership that are often cited in the literature as attractive to dental professionals include work life balance and flexible scheduling.
- The data revealed differences in practice choice by gender. Male dentists were more likely to own a dental practice (57.4% of owners) and female dentists were more likely to be employed (62.2% of employees) in a dental practice.
- Owner dentists treated patients more hours per week on average (30.9 hours) than employed dentists (28.2 hours).

- Male dentists treated patients on average 1.7 hours more per week than female dentists. The differences in treatment hours between male and female dentists were smallest (1.6 hours) in the youngest age cohort (under 35 years) and greatest (6.0 hours) in the oldest age cohort (65 years and older). Difference by gender in patient treatment hours is perhaps attributable to the predominance of male ownership of dental practices.
- Almost a quarter of pediatric dentists (24.5%) indicated time spent in a secondary work setting on a consistent basis (on average 8.9 hours weekly treating patients).
- Average yearly number of visits per pediatric dentist for scheduled patients decreased from 4,017.7 in 2011 to 3,844.4 in 2016. Non-solo owner dentists had the highest average number of annual scheduled patient visits (4,551.5).
- Some survey respondents provided information about the state where they attended high school; there was a 57.3% concordance between state of high school and state of current primary work setting. There was little conformance between state in which the pediatric dental residency was completed and current state of practice (4.7%).

Geographic Variation in Pediatric Dental Practices

- Pediatric dentists practicing in counties with fewer people (populations up to 275,000) were more likely to be in the Midwest region or in the South region. Dentists practicing in metropolitan areas (population between 275,001 and 1,500,000) were more likely to be in practices in the Northeast Region.
- Pediatric dentists working full-time or part-time in a private dental practice were more likely to be located in counties with populations of 675,000 or fewer people in the Midwest and the South regions.
- Dentists in large group multispecialty practices were more likely to be located in the Northeast region in counties with populations between 675,000 and 1,500,000 people.
- Dentists working in large group specialty practices were more likely to be located in the Northeast and West Regions in counties with populations between 275,001, and 675,000.
- Dentists working in academic dental centers were more likely to be located in the Northeast, Midwest, and South regions in counties with greater than 1,500,001 people.
- Dentists who were 35 years of age or younger were more likely to be practicing in counties with populations of 275,000 people or less than were older dentists. This was a surprising finding considering stakeholder concerns about replenishing an aging dental workforce in smaller population areas.

- Male dentists were more likely to be practicing in smaller counties (populations of 275,000 or under) and female dentists were more likely to be practicing in the largest counties (populations of 675,000 and over).
- Female pediatric dentists are younger on average than male pediatric dentists. Female dentists in counties of between 675,001 and 1,500,000 were older on average (42.3 years) than female pediatric dentists overall (41.6 years). Male dentists in large population counties were also older on average (49.0 years) compared to male dentists in smaller counties (48.2 years).

Perceptions of Practice Busyness

- Dentists' perceptions of their level of busyness in the primary work setting varied but suggested that pediatric dental practices may not be as busy as in the past. There was a decline in the percentage of dentists who treated all patients but felt overworked in 2016 (15.2%) from 2011 (16.2%) and a commensurate increase in those who treated all patients but were not overworked (57.9% in 2016 versus 49.3% in 2011).
- Employed dentists reported being overworked or too busy to treat all patients more often than dentists who were owners of a practice. This was an interesting finding since owner dentists appear to be busier than employed dentists. Owner dentists averaged 91.3 scheduled patient visits per week with total patient visits, including emergency visits, averaging 97.5 per week. Employed dentists averaged 71.6 scheduled visits per week and an average of 78.1 patient visits per week including emergency patients.
- Solo practice owners indicated the highest percentage of unused capacity in their dental practices, estimating that on average their practice could assume additional volume equivalent to 39.3% of their current caseload. On average, dentists with excess capacity indicated that they could accept a third more patients (34.5% of current caseloads).

Perceptions of Practice Busyness by Geographic Location

- Almost one quarter (24.5%) of pediatric dentists who reported being “not busy enough” in their practices were located in urban counties with populations greater than 1.5 million people. Dentists expressing perceptions of being “overworked” were more likely to be located in counties with populations greater than 88,000 but not exceeding 275,000 people
- Dentists practicing in counties with under 88,000 population (12.1%) or under 275,000 population (11.3%) were less likely to report not being busy enough than dentists practicing in counties with 275,001 to 675,000 people (19.9% of

dentists), or in counties with 675,001 to 1,500,000 people (18.3%), or in counties with 1,500,001 or more people (24.5%).

- Solo owner pediatric dentists practicing in smaller counties of 88,001 to 275,000 people (9,572 active patients) and counties of 275,001 to 675,000 people (7,248 active patients) had the highest average number of active patients in the primary practice.
- Pediatric dentists in counties with 675,001 to 1,500,000 people who reported additional capacity in their dental practices indicated that they could assume almost half again as much patient volume (47.5% of current caseload). In contrast, other dentists within those counties reported the highest percentage of excessive patient caseload (21.3% of current caseload). This variation in counties of the same size suggested local issues related to patient distribution and practice volume.
- More than a fifth (22.1%) of dentists with a primary practice setting in the West region indicated that in 2016, they were “not busy enough” and could have treated more patients.
- Pediatric dentists in the Midwest region were more likely than dentists in other regions to indicate they were “too busy to treat all patients” (16.4% of dentists in the region).
- Dentists in the Northeast were more likely to indicate that they “treated all patients but felt overworked” (18.8% of dentists in the Northeast).
- Six of 10 dentists in the South region (59.8%) reported providing care to all patients but not feeling overworked. Nineteen percent of dentists in the region reported not being busy enough in their practices.
- Dentists with a primary work setting in a county with 88,000 or fewer people were more likely to indicate that there was a shortage of dentists (31.4%) in the local area than were dentists in other sized counties.
- Dentists in counties with populations greater than 88,000 up to 275,000 were more likely to indicate that the current supply of pediatric dentists in the local area was adequate (57.6%).
- Dentists in larger metropolitan and urban counties were noticeably more likely to indicate there was an oversupply of dentists in their local area (62.3%).
- Dentists in the Midwest were more likely to indicate a shortage of pediatric dentists (16.1%) or that the current supply of pediatric dentists in the local area was adequate (60.9%) than were dentists in other regions of the US.
- Pediatric dentists in the West (54.4%) were more likely to indicate an oversupply of professionals in the area surrounding their primary work setting.

- Dentists with primary work settings in the Northeast region were the least likely to indicate concerns in their states about the availability of dentists in less populated areas (38.8%).
- Pediatric dentists in the Midwest were more likely to be aware of concerns about shortages in less populated areas in their state (64.6%).

Patient Population Characteristics

- The mean number of active patients in the primary practice of a pediatric dentist increased from 3,390 patients in 2011 to 5,120 patients in 2016. The median number of active patients increased from 3,000 patients in 2011 to 4,000 patients in 2016. Some of this increase may be attributable to the increase in the average number of dentists in the primary work settings of pediatric dentists.
- The average number of patients on a pediatric dentist's current caseload was 3,195. Non-solo owners indicated the highest average patient caseload (4,608 patients). Employed dentists carried a lower patient caseload (2,951) on average than owner dentists.
- Employed dentists indicated that a higher percentage of children on their caseload were 2 years and younger than did owner dentists (13.3% versus 12.2%).
- Independent contractor dentists (3.6%) and solo owner dentists (6.1%) indicated that adults 18 years and over were a smaller percentage of their patient caseloads than did non-solo owners (8.4%) or employee dentists (8.6%). This may suggest that larger dental practices have patient populations that are more age diverse than smaller practices.
- Pediatric dentists reported that a higher percentage of their current patients were covered by public insurance in 2016 (33.7%) than in 2011 (25.5%), that fewer of their patients were privately insured (55.3% in 2016 versus 59.1% in 2011), and that fewer had no insurance in 2016 (10.9%) than in 2011 (15.4%).
- Pediatric dentists practicing in counties with populations between 275,001 and 675,000 (29.1% of respondents) had, on average, a higher percentage of children with private insurance (59.1%), a higher percentage of children with no insurance (11.5%), and a lower percentage of children covered by public insurance (29.4%) on their caseloads than did pediatric dentists practicing in either larger or smaller population counties.
- The percentage of pediatric dentists treating or accepting new patients with Medicaid insurance and treating or accepting new CHIP-covered patients decreased with increasing size of the county where the dental practice was located. Among pediatric dentists in primary practice settings in counties with 88,000 or less population, 87.1% treated patients with Medicaid insurance; 80.8% were accepting new patients insured by Medicaid; 73.6% were treating

patients insured by CHIP and 71.5% were accepting new patients with CHIP coverage.

Anesthesia and Sedation Services

- The percentage of pediatric dentists who used an anesthesiologist to provide anesthesia services in-office for surgical patients changed little between 2011 (34.3% of dentists) and 2016 (35.1% of dentists).
- Pediatric dentists who were employees (24.8% of employee dentists) were less likely than owner dentists to provide any treatments for patients under IV sedation; however, employees who did offer these services, provided more IV services per month (11.8 cases on average) than other dentists. A third of non-solo dental practice owners (33.6%) provided IV services to an average of 9.6 patients per month.
- Approximately two thirds of pediatric dentists (62.0%) treated some patients either in a hospital operating room or an accredited surgical facility in 2016. Dentists treated on average 13.9 patients monthly in one of these facilities.

Patients with Special Health Care Needs

- The percentage of pediatric dentists who provided services to patients with special health care needs dropped slightly from 99.5% in 2011 to 98.7% in 2016.
- On average, pediatric dentists indicated that 12.3% of their caseload was patients with special health care needs.

Charitable Dental Care

- The percentage of pediatric dentists providing some charitable care increased from 73.6% in 2011 to 77.7% in 2016. The estimated dollar value of care provided free on an annual basis increased from \$15,700 in 2011 to \$18,260.50 in 2016.
- Almost two thirds of owner dentists (63.1%) who responded to the survey provided both free and reduced rate services to patients. The average estimated service discount rate for patients increased from 25.3% in 2011 to 29.9% in 2016.

Dental Practice Personnel

- On average, owner dentists reported 0.7 full time dental hygienists and 1.2 part-time dental hygienists in their primary practice settings. Employed dentists reported on average 0.5 full-time and 0.7 part-time dental hygienists in the primary practice setting.
- Dentists in the Northeast region indicated a noticeably higher count of dental hygienists on average per practice (2.4) than dentists in other regions of the U.S.

Dental hygienists in the Northeast region completed more patient visits per week on average (175.7) than in any other region. Dentists in the West indicated having 0.5 dental hygienists in their practices who completed on average 42.1 patient visits per week.

- The number of chairside assistants was greater in practices of owner dentists (on average 2.3 full-time and 0.9 part-time chairside assistants) than in the practices of employed dentists (on average 1.8 full-time and 0.4 part-time chairside assistants).
- Over the 5-year period, there were noticeable increases in the percentage of dentists employing dental hygienists (54.6% in 2011 versus 71.1% in 2016), dental laboratory technicians (3.3% in 2011 versus 7.6% in 2016), business personnel (25.5% in 2011 versus 60.0% in 2016), office managers (46.5% in 2011 versus 75.5% in 2016), and sterilization assistants (16.1% in 2011 versus 41.3% in 2016).

Pediatric Dentist Characteristics

Gender of Pediatric Dentists

In 2016, the majority of pediatric dentists were female (51.8%) which is a notable change from 2001 (18.0% female). According to the American Dental Association Survey of Advanced Dental Education, two-thirds (66.6%) of those enrolled in pediatric dental residency programs in 2016-2017 were female.

Gender	Percent	Total N
All pediatric dentists	100.0	2,478
Males	48.2	1,195
Females	51.8	1,283

Females in the workforce are on average younger (41.6 years) than their male counterparts (49.1 years). The large increase in production of pediatric dentists coincided with the change in the gender composition among students and residents, thus the overall younger age of female pediatric dentists.

Pediatric Dentists	1998	2001	2005	2009	2011	2016
All owners	50.3	52.7	53.2	53.9	54.3	50.2
Solo practitioners	50.3	52.5	53.8	54.5	54.3	50.6
Non-solo owner	50.4	53.1	52.3	53.3	54.3	49.3
Employed	--*	--	--	48.7	53.3	45.4
All pediatric dentists	50.1	53.2	52.8	53.7	54.4	49.1

* This category had too few responses to allow for reliable statistical analysis.

Pediatric Dentists	1998	2001	2005	2009	2011	2016
All owners	41.1	43.1	44.1	45.6	46.1	44.8
Solo practitioners	41.5	42.8	44.4	46.5	46.1	45.2
Non-solo owner	40.4	43.5	43.8	44.9	46.1	43.9
Employed	--	--	--	38.7	36.6	38.4
All pediatric dentists	39.9	41.9	42.1	43.8	43.9	41.6

Male pediatric dentists more often owned a dental practice (57.4% of owners) than female dentists (42.6%). Conversely, female pediatric dentists were proportionally more often employed (62.2% of employed dentists) than their male counterparts (37.0%). In 2016, half of pediatric dentists were female. In 2015, the ADA found that 28.9% of the overall dentist workforce was female.¹ By 2016, that percentage had increased to 29.8%.²

Table 4: Gender of Pediatric Dentists, by Employment Situation and Gender, 2016

Pediatric Dentists	Male	Female	Total N
All owners	57.4%	42.6%	1,056
Solo owner	57.1%	42.9%	739
Non-solo owner	58.0%	42.0%	317
Employed	37.8%	62.2%	643
Employee	37.0%	63.0%	543
Independent contractor	42.0%	58.0%	100
All pediatric dentists	50.0%	50.0%	1,699

Race and Ethnicity of Pediatric Dentists

Hispanic dentists were proportionally represented among both owner and employed pediatric dentists but were more likely than other dentists to be independent contractors.

Table 5: Ethnicity of Responding Pediatric Dentists, by Employment Situation, 2016

Pediatric Dentists	Hispanic	Non-Hispanic	Total N
All owners	8.3%	91.7%	1,054
Solo owner	8.1%	91.9%	738
Non-solo owner	8.5%	91.5%	316
Employed	8.5%	91.5%	637
Employee	8.0%	92.0%	537
Independent contractor	11.0%	89.0%	100
All pediatric dentists	8.3%	91.7%	1,691

¹ Munson B, Vujicic M. Number of Practicing Dentists Per Capita in the United States Will Grow Steadily. American Dental Association, Health Policy Institute. June 2016.

http://www.ada.org/~media/ADA/Science%20and%20Research/HPI/Files/HPIBrief_0616_1.pdf

² American Dental Association, Health Policy Institute. Supply of Dentists. Table 4: Supply of Dentists in the US by Practice, Research or Administration Area, Dentists Working in Dentistry, 2001-2016. January 2017.

<http://www.ada.org/en/science-research/health-policy-institute/data-center/supply-of-dentists>

The distribution of race of pediatric dentists varied by employment situation as follows:

- Black/African American pediatric dentists represented 4.6% of the workforce; these dentists were more likely to be employed (6.4% of employed dentists) and were underrepresented among owner dentists (3.4%) compared to other groups.
- Asian/ Pacific Islander dentists represented 15.5% of the workforce; these dentists were also more likely to be employed (19.7% of employed dentists) and were underrepresented among owner dentists (13.0%) compared to other groups.
- White pediatric dentists were overrepresented among owner dentists (74.8% of the workforce and 78.3% of owner dentists) compared to other groups.

Table 6: Race of Responding Pediatric Dentists, by Employment Situation, 2016

Pediatric Dentists	White	Black/ African American	American Indian/ Alaska Native	Asian/ Pacific Islander	Other	Total N
All owners	78.3%	3.4%	0.5%	13.0%	4.8%	1,045
Solo owner	76.7%	4.0%	0.7%	13.1%	5.5%	731
Non-solo owner	81.9%	2.2%	0.0%	12.7%	3.2%	315
Employed	68.9%	6.4%	0.3%	19.7%	4.7%	636
Employee	69.1%	6.7%	0.4%	19.2%	4.7%	537
Independent contractor	68.4%	5.1%	0.0%	21.4%	5.1%	98
All pediatric dentists	74.8%	4.6%	0.4%	15.5%	4.8%	1,681

Table 7: Race Ethnicity of Pediatric Dental Residents 2016-2017

Race/Ethnicity	Male	Female
White (not Hispanic or Latino)	20.6%	31.2%
Black or African American (not Hispanic or Latino)	2.1%	5.1%
Hispanic or Latino any race	2.0%	5.4%
Asian	6.6%	19.5%
American Indian, Native Hawaiian, Other Pacific Islander (Not Hispanic or Latino)	0.3%	0.8%
Two or More Races (Not Hispanic or Latino)	0.4%	0.5%
Non-Resident Alien	1.0%	2.9%
Unknown	0.4%	1.2%
Total	33.4%	66.6%

Source: ADA, Survey of Advanced Dental Education 2016-2017.

Age of Pediatric Dentists

The average age of pediatric dentists declined between 2001 (50.9 years) and 2016 (45.2 years). This is due in part to the large increase in the number of accredited pediatric dentistry residency programs (61 in 2001 to 78 in 2016)³ and the commensurate increase in the number of graduates entering the workforce (311 in 2007 to 433 in 2016) over the recent decade. This may also be due in part to delayed retirement among older professionals, a trend noted in dentistry after the most recent economic recession. Average age at retirement increased from 66.1 years in 2005 to 68.8 years in 2015.⁴

Table 8: Average Age of Responding Pediatric Dentists, 1998 – 2016

Pediatric Dentists	1998*	2001*	2005*	2009*	2011*	2016
All owners	49.1	51	51.8	52.4	51.6	48.3
Solo practitioners	48.9	51.4	49.9	50.6	52.1	47.1
Non-solo owner	40.6	47.6	40.4	42.8	44.9	40.9
Employed	48.3	50.9	49.8	50.4	50.9	45.2
All pediatric dentists	49.0	51.2	51.0	51.5	51.8	47.9

* Source: American Dental Association, Health Policy Resources Center, 2002-2012 Survey of Dental Practice.

Table 9: Age of Responding Pediatric Dentists, 2016

Pediatric Dentists	Average age	Under 35	35-44	45-54	55-64	65 and older	Total N
All owners	47.9	7.6%	38.5%	26.8%	18.0%	9.1%	1,357
Sole proprietors	48.3	8.0%	35.8%	28.5%	18.0%	9.7%	929
Partner	47.1	6.8%	44.4%	23.1%	18.0%	7.7%	428
Employed	40.9	38.6%	34.1%	12.6%	8.2%	6.5%	963
All pediatric dentists	45.2	20.5%	36.7%	20.9%	13.9%	8.0%	2,320

Females in the workforce are on average younger (41.6 years) than their male counterparts (49.1 years). The large increase in production of pediatric dentists

³ American Dental Association, Health Policy Institute. Survey of Advanced Dental Education. Table 4: Enrollment in Advanced Dental Education Programs by Gender and Race/Ethnicity, 2016-2017. July 2017.

<http://www.ada.org/en/science-research/health-policy-institute/data-center/dental-education>

⁴ American Dental Association, Health Policy Institute. The Dentist Workforce – Key Facts. July 2016.

http://www.ada.org/~media/ADA/Science%20and%20Research/HPI/Files/HPIgraphic_0716_1.pdf?la=en

coincided with the change in the gender composition among students and residents, thus the overall younger age of female pediatric dentists.

Table 10: Average Age of Responding Pediatric Dentists by Gender, 2016

Pediatric dentists	Average age
All pediatric dentists	45.2
Males	49.1
Females	41.6

The average age of pediatric dental practice owners rose from 49 years in 1998 to 51.8 years in 2011 and declined to 47.9 years in 2016. The average age of female practice owners increased from 41.1 years in 1998 to 46.1 years in 2011, declining to 44.8 years in 2016. The average age of male practice owners increased from 50.3 years in 1998 to 54.3 years in 2011 and declined to 50.2 years in 2016.

Table 11: Average Age of Pediatric Dentist Owners, 1998–2016

Pediatric Dentists	1998*	2001*	2005*	2009*	2011*	2016
All owners	49.0	51.2	51.0	51.5	51.8	47.9
Males	50.3	52.7	53.2	53.9	54.3	50.2
Females	41.1	43.1	44.1	45.6	46.1	44.8

* Source: American Dental Association, Health Policy Resources Center, 1999-2012 Survey of Dental Practice.

In 2016, the average age of employed pediatric dentists was 40.9 years, a decline from 44.9 years in 2011. In 2016, the average age of employed male pediatric dentists was 45.4 years, which represented a decline from 53.3 years in 2011. The average age of employed female pediatric dentists in 2016 was 38.4 years, an increase from 36.6 years in 2011.

Table 12: Average Age of Employed Pediatric Dentists, 2011–2016

Pediatric Dentists	2011*	2016
All employed	44.9	40.9
Males	53.3	45.4
Females	36.6	38.4

* Source: American Dental Association, Health Policy Resources Center, 2012 Survey of Dental Practice.

Employment Status of Pediatric Dentists

Primary Work Settings and Practice Activity

The majority (74.6%) of pediatric dentists work in a private dental practice either full or part-time; 6.5% work in a large group multispecialty practice; 6.6% work in a large group specialty practice; 5.7% work in an academic dental center; the remainder work in other settings. Only a small percentage of the pediatric dentists who responded to the survey (1.9%) cited dental management support organizations as a primary work setting.

Type	Percent	Total N
Private dental practice (full- or part-time)	74.6	1,733
Large group multispecialty practice	6.5	152
Large group specialty practice	6.6	153
Children's hospital	1.5	35
Academic dental center	5.7	133
Dental management/support organization	0.9	22
Federal government facility (eg, VA)	1.3	30
Indian Health Service	0.9	21
Other	1.9	45
Total	100.0	2,324

Ownership or Employment in Dental Practices by Setting

In 2016, four of ten pediatric dentists (40.4%) were sole proprietors of their dental practices, and almost 2 in 10 (18.5%) were partners in ownership of either a private practice or a large group specialty or multispecialty dental practice. Employees represented 34.6%; and 6.5% were independent contractors.

Three quarters of non-solo owners of dental practices indicated they shared ownership of a private dental practice (73.8%); another quarter of these dentists (25.3%) indicated partial ownership in either a large group multispecialty practice (9.6%) or a large group specialty practice (15.7%).

More than half of employed dentists noted a private dental practice as their primary work setting, and 28.8% indicated employment in settings other than private or large

group specialty or multispecialty practices. Most of these pediatric dentists worked in academic dental centers.

Table 14: Primary Setting of Pediatric Dentists, by Employment Situation, 2016

Pediatric Dentists	Private dental practice	Large group multispecialty practice	Large group specialty practice	Other Setting	Total N
All owners	89.6%	4.0%	5.9%	0.5%	1,357
Solo owner	97.0%	1.3%	1.4%	0.3%	929
Non-solo owner	73.8%	9.6%	15.7%	0.9%	428
Employed	53.4%	10.2%	7.6%	28.8%	959
Employee	49.0%	10.3%	8.2%	32.5%	813
Independent contractor	78.8%	8.9%	4.1%	8.2%	146
All pediatric dentists	74.7%	6.5%	6.6%	12.2%	2,316

Size of Dental Practices

The number of dentists working in practices owned by pediatric dentists increased over recent years. In the 2011 ADA survey, 75.4% of pediatric dental practice owners reported one dentist in the practice; 16.6% reported two dentists, and 7.9% reported three or more. According to data from the ADA, in 2014, 56% of dentists were the sole dentist in a dental office.⁵

In 2016, just 44.5% of practice owners reported only one dentist in the practice; 25.4% reported two dentists and 30.1% reported three or more. These changes are coincidental to an observed trend in dentistry away from solo practice. The trend towards larger practices was consistent for employed pediatric dentists, 69.1% of whom reported three or more dentists in their primary practice location. Overall, 45.2% of pediatric dentists worked in a practice with three or more dentists.

⁵ American Dental Association, Health Policy Institute. The Dentist Workforce – Key Facts. July 2016. http://www.ada.org/~media/ADA/Science%20and%20Research/HPI/Files/HPIgraphic_0716_1.pdf?la=en

Table 15: Distribution of Dentists in Practices, by Size of Dental Practice and Employment Situation, 2011

Pediatric Dentists**	Number of Dentists		
	One	Two	Three or more
All owners	75.4%	16.6%	7.9%
Solo practitioners	100.0%	--	--
Non-solo owner	--	67.7%	32.3%
Employed	--	57.0%	39.6%
All pediatric dentists	69.8%	19.6%	10.6%

** Source: American Dental Association, Health Policy Resources Center, 2012 Survey of Dental Practice.

Table 16: Distribution of Dentists in Practices, by Size of Dental Practice and Employment Situation, 2016

Pediatric Dentists	Number of Dentists			Total N
	One	Two	Three or more	
All owners	44.5%	25.4%	30.1%	1,181
Solo owner	61.5%	21.3%	17.2%	827
Non-solo owner	4.8%	35.0%	60.2%	354
Employed	6.9%	24.0%	69.1%	750
All pediatric dentists	29.9%	24.9%	45.2%	1,931

Owner dentists indicated on average 2.1 full time dentists and 0.8 part time dentists in the primary setting. Employed dentists reported, on average, 4.8 full time and 2.0 part time dentists in their primary work setting.

Table 17: Average Number of Full-Time/Part-Time Dentists, by Employment Situation, 2016

Pediatric Dentists	Full-time Dentists	Part-time Dentists
All owners	2.1	0.8
Solo owner	1.5	0.6
Non-solo owner	3.5	1.1
Employed	4.8	2.0
Employee	5.2	2.0
Independent contractor	2.4	1.8
All pediatric dentists	3.1	1.0

Practice owners reported an average of 9.1 operatories in the primary work setting. Employed dentists worked in practice settings with 22.0 dental operatories on average.

Table 18: Average Number of Operatories in Primary Care Setting, by Employment Situation, 2016

Pediatric Dentists	Number of Operatories	Total N
All owners	9.1	1,175
Solo owner	9.1	826
Non-solo owner	8.9	349
Employed	22.0	742
Employee	25.1	621
Independent contractor	6.2	121
All pediatric dentists	14.1	1,916

Employment or Ownership by Years of AAPD Membership

Years of membership in AAPD may be a relatively accurate proxy for dentists' age groups. Ownership of pediatric dental practices was highest among members of AAPD with a term of membership that was at least 10 years and up to 29 years. While two thirds of dentists with 30 or more years of membership in AAPD owned a dental practice (69.6%), 30.4% with this longevity indicated they were employed at the time of the survey. This finding is consistent with an emerging trend in dentistry among some older dentists who are selling their private practices to reduce workload and administrative burdens on the path to eventual retirement.

Pediatric dentists with less than 10 years membership (likely younger dentists) were noticeably less likely to own a dental practice and were more likely to be employed. There is concern in dentistry generally about the impact of student loan debt on practice choices after dental school or residency completion. Employment may be the most reasonable practice option when debt burden is high.

Table 19: Current Employment Status of Pediatric Dentists by Years since Joining AAPD, 2016

Pediatric Dentists	Less than 10	10 to 19	20 to 29	30+	All years	Total N
All owners	31.4%	73.1%	80.5%	69.6%	58.5%	1,359
Solo owner	21.5%	49.1%	57.3%	47.5%	40.1%	930
Non-solo owner	9.9%	23.9%	23.2%	22.4%	18.5%	429
Employed	68.6%	26.9%	19.5%	30.4%	41.5%	963
Employee	58.1%	23.1%	16.5%	24.7%	35.2%	816
Independent contractor	10.5%	3.8%	3.0%	5.4%	6.3%	146
All pediatric dentists	100.0%	100.0%	100.0%	100.0%	100.0%	2,321

Average Net Income for Pediatric Dentists

The average net incomes for pediatric dentists in inflation-adjusted 2015 dollars appear to have stabilized after years of decline. (The lowest earnings of \$271,552 were seen in 2012.) The years 2014 and 2015 indicate incomes are rebounding from the lows during the Great Recession.⁶

⁶ Gupta N, Vujcic M, Munson B, Nasseh K. Recent trends in the market for oral surgeons, endodontists, orthodontists, periodontists, and pediatric dentists. Health Policy Institute Research Brief. American Dental Association. February 2017. Available from: http://www.ada.org/~media/ADA/Science%20and%20Research/HPI/Files/HPIBrief_0217_1.pdf.

Table 20: Average Inflation-Adjusted Net Income for Pediatric Dentists, 2000 – 2015

Year	Average Inflation-Adjusted Net Income*
2000	\$ 339,317
2001	342,280
2002	369,743
2003	411,185
2004	366,460
2005	342,629
2006	384,184
2007	384,401
2008	340,727
2009	313,669
2010	314,079
2011	317,581
2012	271,552
2013	293,489
2014	347,724
2015	284,670

*Source: ADA Health Policy Institute Survey of Dental Practice data for 2000-2015.

Note: Incomes are adjusted using the Consumer Price Index for All Items to represent 2015 dollars.

Retirement Plans of Pediatric Dentists

The survey asked dentists about intention to retire or reduce workload. Expected retirement varied by ownership or employment situation. Non-solo owners (36.2%) and independent contractor employees (39.0%) were more likely to report plans to become clinically inactive than solo owners (30.0%) and other employed pediatric dentists (32.1%). Pediatric dentist who were owners (39.3%) were more likely to indicate plans to reduce weekly work hours compared to employed pediatric dentists (33.2%).

Table 21: Plans of Pediatric Dentists to Become Clinically Inactive or Reduce Work Hours, by Employment Situation, 2016

Pediatric Dentists	Plan to become permanently inactive	No plans to become permanently inactive	No plans to become inactive, but plan to reduce work hours	Total N
All owners	31.8%	28.9%	39.3%	1,053
Solo owner	30.0%	30.5%	39.5%	741
Non-solo owner	36.2%	25.0%	38.8%	312
Employed	33.2%	33.5%	33.2%	627
Employee	32.1%	35.3%	32.6%	527
Independent contractor	39.0%	25.0%	36.0%	100
All pediatric dentists	32.3%	30.7%	37.0%	1,680

The average age at which pediatric dentists plan to become clinically inactive (62.4 years) was similar for owners (62 years) and employed dentists (63 years).

Table 22: Average Age at Which Pediatric Dentists Plan to Become Clinically Inactive, by Employment Situation, 2016

Pediatric Dentists	Age at which planned to become inactive	Total N
All owners	62.0	335
Solo owner	61.8	222
Non-solo owner	62.3	113
Employed	63.0	208
Employee	63.0	169
Independent contractor	62.6	39
All pediatric dentists	62.4	544

The average age at which pediatric dentists plan to reduce weekly work hours (59.1 years) was higher for owner dentists (60.1 years) compared to employed dentists (57.2 years). The average number of reduced weekly work hours (19.3) varied little by ownership or employment situation.

Table 23: Average Age of Pediatric Dentists to Reduce Work Hours and Expected Average Work Hours Post Reduction, 2016

Pediatric Dentists	Age at which planned to reduce work hours	Weekly work hours reduced to	Total N
All owners	60.1	19.1	410
Solo owner	60.5	19.4	290
Non-solo owner	59.2	18.5	120
Employed	57.2	19.6	208
Employee	57.3	19.7	172
Independent contractor	56.9	19.3	36
All pediatric dentists	59.1	19.3	618

Retirement Plans by Geographic Location

Expected retirement patterns varied by county size in which the current dental practice was located. Pediatric dentists who were practicing in counties with 675,000 or less people (31.8%-38.2%) were more likely to indicate plans to becoming permanently clinically inactive in pediatric dentistry than dentists practicing in counties that were more populous (29.7%-30.3%). Pediatric dentists practicing in the most populous counties of 675,001 or more people (31.4%-35.6%) were more likely than other dentists to report no plans to becoming clinically inactive in pediatric dentistry. The highest percentage of dentists who reported no plans to becoming clinically inactive in pediatric dentistry, but planned to reduce weekly work hours, was in counties with 675,001 to 1,500,000 people (39.0%).

Table 24: Plans of Pediatric Dentists to Becoming Clinically Inactive or Reducing Work Hours, By County Size, 2016

Plans to become permanently clinically inactive in pediatric dentistry	88,000 or less	88,001 to 275,000	275,001 to 675,000	675,001 to 1,500,000	1,500,001 or more
I plan to become permanently inactive in pediatric dentistry	31.8%	38.2%	33.3%	29.7%	30.3%
I have no plans to become permanently inactive in pediatric dentistry	30.1%	27.1%	29.2%	31.4%	35.6%
I have no plans to become permanently inactive in pediatric dentistry, but plan to reduce my work hours	38.1%	34.8%	37.4%	39.0%	34.1%
Total N	130	296	341	444	348

The average at which pediatric dentists plan to become clinically inactive (62-64 years) as well as the average age at which they plan to reduce weekly work hours (59-60 years) were similar across counties of different population size. The average number of reduced weekly work hours was also similar across counties.

Table 25: Average Age of Pediatric Dentists to Become Clinically Inactive or Reduce Work Hours and Average Reduced Work Hours, By County Size, 2016

Pediatric Dentists	88,000 or less		88,001 to 275,000		275,001 to 675,000		675,001 to 1,500,000		1,500,001 or more	
	Mean	n	Mean	n	Mean	n	Mean	n	Mean	n
Plan to become inactive at the age of:										
Plan to reduce work hours at the age of:	64	<i>37</i>	63	<i>112</i>	63	<i>116</i>	62	<i>131</i>	64	<i>110</i>
Plan to reduce your weekly work hours to:	59	<i>50</i>	59	<i>99</i>	60	<i>118</i>	60	<i>167</i>	59	<i>112</i>
	21	<i>50</i>	19	<i>101</i>	20	<i>123</i>	19	<i>168</i>	19	<i>115</i>

Service Capacity and Access to Care

Hours Worked Per Year

In 2016, average hours per year in the dental office (1,560.5) and average hours per year treating patients (1,370.2) declined from 2011 when average hours per year in the dental office was 1,612.3 and average hours per year treating dental patients was 1,424.3. This represented a decline of average hours in the dental office per year of 51.8 hours and average yearly hours treating dental patients of 54.1.

Owner hours per year in the dental office decreased slightly from 1668.1 in 2011 to 1667.4 in 2016 and the average yearly portion of those hours devoted to patient treatment decreased from 1465.1 in 2011 to 1,458.6. Non-treatment hours increased for practice owners from 203 in 2011 to 208.8, perhaps suggesting increased administrative burden related to practice. Average non-treatment hours on an annual basis also increased for employed pediatric dentists from 114.7 hours in 2011 to 164.2 in 2016.

Table 26: Average Number of Hours per Year Worked by Pediatric Dentists, by Employment Situation, 2011-2016

Pediatric Dentists	2011*		2016	
	In the dental office	Treating patients	In the dental office	Treating patients
All owners	1,668	1,465	1,667	1,459
Solo practitioners	1,708	1,496	1,690	1,463
Non-solo owner	1,624	1,431	1,616	1,449
Employed	1,383	1,268	1,403	1,239
All pediatric dentists	1,612	1,424	1,561	1,370

* Source: American Dental Association, Health Policy Resources Center, 2012 Survey of Dental Practice.

Hours Worked Per Week

While weeks per year providing services declined, hours per week in the dental office increased slightly on average for practice owners from 35 hours in 2011 to 35.3 hours in 2016 and for employed dentists from 29.8 hours to 31.9 hours. Average weekly hours in the dental office increased for all pediatric dentists only slightly from 33.9 hours in 2011 to 34 hours in 2016.

Average hours per week treating patients in the primary work setting varied by employment situation as follows:

- Average hours per week treating patients in the primary work setting declined slightly among pediatric dentists from 30.0 hours to 29.8 hours.
- Owner dentists showed a slight increase in number of weekly hours treating patients from an average of 30.8 hours per week in 2011 to an average of 30.9 hours per week in 2016.
- Employed dentists in 2016 treated patients on average 28.2 hours per week, an increase from 27.4 hours on average in 2011.
- Non-treatment hours increased from 4.2 for owner dentists in 2011 to 4.6 in 2016 and for employed dentists from 2.4 hours per week in 2011 to 3.7 hours in 2016.

Table 27: Average Number of Hours per Week Worked Treating Patients by Pediatric Dentists, by Employment Situation, 2011-2016

Pediatric Dentists	2011*	2016
All owners	30.8	30.9
Solo practitioners	31.3	31.1
Non-solo owner	30.2	30.6
Employed	27.4	28.2
All pediatric dentists	30.0	29.8

* Source: American Dental Association, Health Policy Resources Center, 2012 Survey of Dental Practice.

Males spent more time in the dental office weekly than females in 2011 (34.3 versus 33.1 hours) and more time treating patients (30.7 hours) than females (28.6 hours). In 2016, male dentists also spent slightly more hours per week in the dental office (34.7 hours) than female dentists (33.3 hours) and more hours per week treating patients (30.7 hours) than female dentists (29.0 hours). The average number of hours treating patients for all male pediatric dentists and the average for female dentists varied by 1.7 hours per week.

Table 28: Average Number of Hours per Week Worked Treating Patients by Pediatric Dentists, by Gender, 2011-2016

Pediatric Dentists	2011*		2016	
	In the dental office	Treating patients	In the dental office	Treating patients
All pediatric dentists	33.9	30.0	34.0	29.8
Males	34.3	30.7	34.7	30.7
Females	33.1	28.6	33.3	29.0

* Source: American Dental Association, Health Policy Resources Center, 2012 Survey of Dental Practice.

Male dentists in the under 35 year age group treated patients 1.6 hours more per week, on average, than female dentists in the same age cohort; in the 35-44 year age group the difference was 2.8 hours more for males; in the 45-54 year cohort the difference was 3.2 hours more for males; in the 55-64 cohort the difference was 2.4 hours more for males; in the 65 and older group the difference was 6.0 hours more for males. The smaller difference in average patient treatment hours among younger dentists by gender (versus older cohorts) is perhaps driven by the large number of female dentists in the youngest age group. Male pediatric dentists are more likely to own dental practices; owners tend to provide more patient treatment hours than do employed pediatric dentists.

Table 29: Average Number of Hours per Week Worked Treating Patients by Pediatric Dentists, by Age and Gender, 2016

Pediatric Dentists	Male	Female	Difference (Male versus Female)
Under 35	32.6	31.0	1.6
35-44	31.7	28.9	2.8
45-54	31.3	28.1	3.2
55-64	30.2	27.8	2.4
65 and older	26.7	20.7	6.0
All pediatric dentists	30.7	29.0	1.7

Weeks Worked per Year

The average number of weeks per year worked by pediatric dentists declined slightly from 47.2 weeks in 2011 to 45.9 weeks in 2016. This decline was mainly among employed dentists who worked on average 45.9 weeks in 2011 but only 44 weeks in 2016. Owner dentists worked on average 47.4 weeks in 2011 and 47.2 weeks in 2016.

Table 30: Average Number of Weeks per Year Worked in the Dental Office by Pediatric Dentists, by Employment Situation, 2011-2016

Pediatric Dentists	2011*	2016
All owners	47.4	47.2
Solo practitioners	47.6	47.1
Non-solo owner	47.3	47.4
Employed	45.9	44.0
All pediatric dentists	47.2	45.9

* Source: American Dental Association, Health Policy Resources Center, 2012 Survey of Dental Practice.

While male and female dentists each practiced on average 47.2 weeks per year in 2011, in 2016, male pediatric dentists practiced on average 46.5 weeks and female dentist practiced on average 45.3 weeks per year.

Table 31: Average Number of Weeks per Year Worked in the Dental Office by Pediatric Dentists, by Gender, 2011-2016

Pediatric Dentists	2011*	2016
Males	47.2	46.5
Females	47.2	45.3
All pediatric dentists	47.2	45.9

* Source: American Dental Association, Health Policy Resources Center, 2012 Survey of Dental Practice

Secondary Work Settings

Some survey respondents reported practice in a secondary work setting where they contributed additional hours to patient care. Of the approximately 2,478 survey respondents, 609 (24.5%) indicated more than one work setting. All dentists working in secondary settings provided services in these settings for more than 40 weeks in the year, suggesting persistent contributions to treatment of patients in those settings.

Table 32: Time Spent in Secondary Setting(s) by Pediatric Dentists, by Employment situation, 2016

Pediatric Dentists	Weeks per year providing clinical services	Hours per week in the dental office	Hours per week treating patients	Hours per year in the dental office	Hours per year treating patients	Total N
All owners	47.2	10.0	8.0	473.4	377.2	326
Solo owner	47.1	10.1	8.0	476.5	377.0	211
Non-solo owner	47.4	9.9	8.0	468.2	377.9	115
Employed	44.0	12.1	10.0	531.8	438.4	283
Employee	44.3	12.4	9.9	549.4	439.7	233
Independent contractor	42.1	10.7	10.2	449.6	429.2	50
All pediatric dentists	45.9	11.0	8.9	504.7	410.1	609

Geographic Distribution of Pediatric Dental Practices

Primary work settings of pediatric dentists were analyzed by the size of the counties in which the practices were situated and the regions in the U.S. in which counties were located. Pediatric dentists practicing in smaller counties (populations up to 275,000) were more likely to be in the Midwest region or in the South region. Dentists practicing in metropolitan areas (population between 275,001 and 1,500,000) were more likely to be in practices in the Northeast Region. The West region had a larger share of dentists practicing in large urban counties (population >1,500,000).

Table 33: Location of Primary Work Setting of Pediatric Dentists by Size of County and Region in the US, 2016

County Population Group	Northeast Region	Midwest Region	South Region	West Region	Nationwide
88,000 or less	2.2%	12.0%	10.1%	6.0%	7.7%
88,001 to 275,000	9.4%	26.4%	25.0%	12.3%	18.7%
275,001 to 675,000	26.8%	24.4%	21.0%	18.0%	22.1%
675,001 to 1,500,000	42.2%	25.5%	27.8%	20.6%	28.6%
1,500,001 or more	19.3%	11.8%	16.1%	43.1%	23.0%
Total N	454	383	758	557	2,152

Primary work setting of pediatric dentists varied by type and size of county population as follows:

- Pediatric dentists working full-time or part-time in a private dental practice were more likely to be located in counties with populations of 675,000 or fewer people in the Midwest and the South regions.
- Dentists in large group multispecialty practices were more likely to be located in the Northeast region in counties with populations between 675,000 and 1,500,000 people.
- Dentists working in large group specialty practices were more likely to be located in the Northeast and West Regions in counties with populations between 275,001, and 675,000.
- Dentists working in academic dental centers were more likely to be located in the Northeast, Midwest, and South regions in counties with greater than 1,500,001 people.

Table 34: Primary Work Setting of Pediatric Dentists by Type and Size of County Population, US, 2016

Primary Practice Setting	88,000 or less	88,001–275,000	275,001 – 675,000	675,001 – 1,500,000	1,500,001 or more
Private dental practice (full- or part-time)	77.6%	78.1%	78.5%	69.1%	72.1%
Large group multispecialty practice	4.1%	5.1%	5.4%	9.9%	5.6%
Large group specialty practice	5.4%	6.3%	8.5%	7.6%	5.3%
Children’s hospital	1.2%	0.0%	0.6%	3.4%	1.6%
Academic dental center	0.0%	4.7%	3.4%	6.7%	10.0%
Dental management/ support organization	0.0%	1.4%	1.2%	0.5%	1.4%
Federal government facility (eg, VA)	1.8%	1.8%	0.4%	0.5%	2.0%
Indian Health Service	7.7%	1.0%	0.2%	0.0%	0.2%
Other	2.2%	1.7%	1.9%	2.3%	1.8%
Total N	165	401	475	613	494

Table 35: Primary Work Setting of Pediatric Dentists by Type and Size of County Population, US, 2016

Primary Practice Setting	Northeast Region	Midwest Region	South Region	West Region	Nationwide
Private dental practice (full- or part-time)	72.2%	75.8%	77.8%	71.9%	74.8%
Large group multispecialty practice	9.8%	5.2%	5.6%	6.2%	6.6%
Large group specialty practice	7.1%	5.4%	6.0%	7.8%	6.6%
Children’s hospital	1.6%	3.0%	1.1%	0.9%	1.5%
Academic dental center	6.5%	5.9%	6.0%	4.6%	5.7%
Dental management/ support organization	0.4%	1.4%	0.9%	1.2%	0.9%
Federal government facility (eg, VA)	0.2%	0.8%	1.0%	2.0%	1.0%
Indian Health Service	0.0%	0.5%	0.5%	2.4%	0.9%
Other	2.1%	2.1%	1.1%	3.0%	2.0%
Total N	487	407	821	603	2,318

Researchers used the masterfile supplied by the AAPD to locate pediatric dentists in the U.S. It was uncertain if the state of the address for each dentist in the masterfile accurately represented the state of practice for that pediatric dentist. As previously discussed in this report, researchers were able to ascertain that the state of practice supplied by respondents to the survey was concordant with the state of the address in the AAPD masterfile in 95% of cases. Therefore, the use of the masterfile seemed a reasonable method for locating the universe of pediatric dentists across the U.S. Ratios of pediatric dentists by state were developed using 2016 data from the U.S. census describing the population of children under age 18 by state.

This map describes the percentage of each state’s population that is rural. It indicates that many of the rural states in the U.S. have low ratios of pediatric dentists to children.

Figure 1: Ratios of Pediatric Dentists per 100,000 Population of Children and Percent of State Population Living in a Rural Area

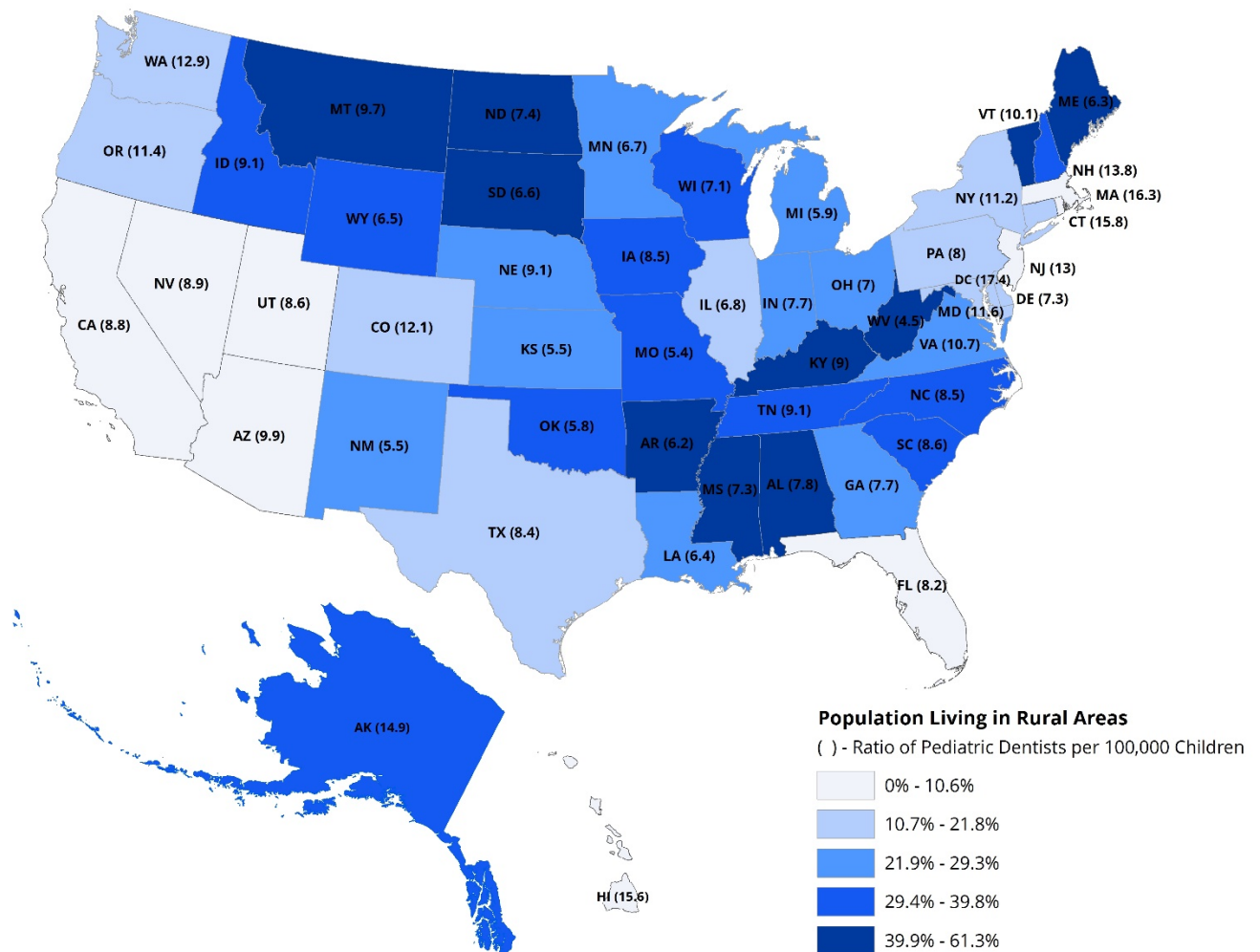


Figure 2: Number and Ratio of Pediatric Dentists, General Dentists and Children, by State, 2000 and 2016

State	Number of Pediatric Dentists 2016	2016 Population for Children <18 Years of Age	Ratio of Pediatric Dentists per 100,000 Children 2016	Ratio of Pediatric Dentists per 100,000 Children 2000	Number of General Dentists Per 100,000 Population (ADA) 2016	Percent of EPSDT Eligible Children Who Received any Dental or Oral Health Service, 2016
Alabama	86	1,096,823	7.8	4.54	43.69	50.4%
Alaska	28	187,327	14.9	7.34	74.13	48.5%
Arizona	161	1,631,492	9.9	3.29	53.89	45.0%
Arkansas	44	705,053	6.2	3.09	41.16	49.7%
California	797	9,092,863	8.8	3.60	76.79	44.5%
Colorado	152	1,261,372	12.1	5.09	69.69	55.7%
Connecticut	119	753,294	15.8	7.72	76.05	66.5%
Delaware	15	204,274	7.3	6.00	44.32	48.8%
District of Columbia	21	120,893	17.4	5.2	88.52	55.0%
Florida	340	4,146,712	8.2	4.47	52.30	41.4%
Georgia	194	2,511,544	7.7	4.15	46.66	52.5%
Hawaii	48	308,016	15.6	5.75	76.44	65.8%
Idaho	40	437,173	9.1	3.52	55.85	57.5%
Illinois	199	2,926,109	6.8	3.70	67.39	45.3%
Indiana	121	1,575,452	7.7	4.38	46.83	48.6%
Iowa	62	730,731	8.5	3.27	51.93	52.6%
Kansas	39	714,951	5.5	2.81	50.53	47.0%
Kentucky	91	1,010,629	9.0	4.52	54.59	50.0%
Louisiana	71	1,113,949	6.4	3.44	48.21	47.8%
Maine	16	254,714	6.3	1.00	50.02	58.5%
Maryland	157	1,348,728	11.6	4.87	70.72	57.5%
Massachusetts	225	1,378,102	16.3	7.73	80.73	56.9%
Michigan	130	2,191,057	5.9	2.43	61.46	45.0%
Minnesota	86	1,288,333	6.7	2.88	59.53	42.2%
Mississippi	53	721,288	7.3	3.23	42.19	54.6%
Missouri	75	1,386,863	5.4	2.87	48.47	36.7%
Montana	22	227,611	9.7	3.91	60.53	53.3%
Nebraska	43	473,325	9.1	2.44	65.07	54.5%
Nevada	60	677,427	8.9	2.93	52.89	44.1%

State	Number of Pediatric Dentists 2016	2016 Population for Children <18 Years of Age	Ratio of Pediatric Dentists per 100,000 Children 2016	Ratio of Pediatric Dentists per 100,000 Children 2000	Number of General Dentists Per 100,000 Population (ADA) 2016	Percent of EPSDT Eligible Children Who Received any Dental or Oral Health Service, 2016
New Hampshire	36	260,588	13.8	5.17	63.38	57.4%
New Jersey	259	1,984,752	13.0	5.37	80.72	100.0%
New Mexico	27	490,663	5.5	3.54	51.37	56.5%
New York	469	4,180,559	11.2	4.31	73.48	42.9%
North Carolina	195	2,298,720	8.5	3.31	51.23	57.0%
North Dakota	13	176,311	7.4	2.49	55.41	N/A
Ohio	183	2,612,172	7.0	3.36	51.97	45.7%
Oklahoma	56	961,628	5.8	3.25	49.60	50.3%
Oregon	99	868,727	11.4	6.32	67.94	44.2%
Pennsylvania	215	2,674,805	8.0	4.45	60.71	50.2%
Rhode Island	18	208,381	8.6	3.63	54.24	50.2%
South Carolina	94	1,097,621	8.6	4.26	48.15	49.9%
South Dakota	14	213,287	6.6	3.95	52.34	45.9%
Tennessee	136	1,501,795	9.1	4.43	49.22	50.1%
Texas	612	7,294,587	8.4	4.04	52.32	66.9%
Utah	79	921,773	8.6	4.45	61.71	50.4%
Vermont	12	118,528	10.1	6.10	57.00	57.0%
Virginia	201	1,870,123	10.7	4.20	63.60	52.6%
Washington	210	1,629,498	12.9	4.36	71.56	59.4%
West Virginia	17	375,068	4.5	2.49	47.95	54.1%
Wisconsin	91	1,287,693	7.1	3.87	55.95	42.0%
Wyoming	9	138,901	6.5	4.66	53.12	51.5%
US Total	6,540	73,642,285	8.9	4.03	60.79	

Sole proprietorship of a dental practice was more common in the South (39.5% of pediatric dentists) than in other regions. More than a third of pediatric dentists indicated a primary work setting in the South (35.4%). Pediatric dentists in the

Northeast were more likely be a non-solo owner (22.9%) or an employee (26.4%). Working as an independent contractor was more prominent in the West (37.6%).

Table 36: Regional Location of Primary Work Setting of Pediatric Dentists, 2016

Pediatric Dentists	Northeast	Midwest	South	West	Total N
All owners	19.4%	18.2%	37.0%	25.4%	1,237
Solo owner	17.7%	17.7%	39.5%	25.1%	848
Non-solo owner	22.9%	19.3%	31.6%	26.2%	389
Employed	23.8%	16.2%	33.3%	26.8%	778
Employee	26.4%	16.2%	32.6%	24.8%	770
Independent contractor	9.9%	15.6%	36.9%	37.6%	141
All pediatric dentists	21.2%	17.3%	35.4%	26.0%	2,148

Dentists who were 35 years of age or younger were more likely to be practicing in counties with populations of 275,000 people or less than were older dentists. This was a surprising finding considering stakeholder concerns about replenishing an aging dental workforce in smaller population areas.

Table 37: Percentage of Pediatric Dentists by Age and Size of County in Which Primary Work Setting is Located, 2016

Age	88,000 or less	88,001 – 275,000	275,001 – 675,000	675,001 – 1,500,000	1,500,001 or more
Under 35	22.1%	23.5%	20.7%	20.2%	20.6%
35-44	35.6%	34.4%	38.7%	35.4%	36.3%
45-54	19.9%	18.3%	18.3%	23.3%	22.2%
55-64	11.7%	16.9%	14.7%	13.8%	13.0%
65 and older	10.7%	6.8%	7.6%	7.4%	7.9%
Total N	165	402	475	615	497

Male dentists were more likely to be practicing in smaller counties (populations of 275,000 or under) and female dentists were more likely to be practicing in the largest counties (populations of 675,000 and over).

Table 38: Percentage of Pediatric Dentists by Gender and Size of County in Which Primary Work Setting is Located, 2016

Gender	88,000 or less	88,001–275,000	275,001–675,000	675,001–1,500,000	1,500,001 or more
Male	58.2%	53.9%	49.8%	42.9%	44.6%
Female	41.8%	46.2%	50.2%	57.2%	55.4%
Total N	165	402	475	614	497

The average age of pediatric dentists by gender and county size did not substantially vary from the mean. Female pediatric dentists are younger on average than male pediatric dentists. Female dentists in counties with populations between 675,001 and 1,500,000 were older on average (42.3 years) than female pediatric dentists overall. Male dentists in large population counties were also older on average (49.0 years) compared to male dentists in smaller counties.

Table 39: Mean Age of Pediatric Dentists by Gender and Size of County in Which Primary Work Setting is Located, 2016

Gender	88,000 or less		88,001–275,000		275,001–675,000		675,001–1,500,000		1,500,001 or more	
	Mean	n	Mean	n	Mean	n	Mean	n	Mean	n
All pediatric dentists	44.9	164	44.7	403	44.6	476	45.2	608	44.8	491
Male	48.2	95	48.2	216	48.4	240	49.0	266	48.6	217
Female	40.3	69	40.7	187	40.8	236	42.3	342	41.8	274

White dentists (74.4% of all pediatric dentists) were more likely to practice in a primary work setting in counties with populations of 275,000 or less. Black African American pediatric dentists (4.6% of all pediatric dentists) were more likely to practice in a primary work setting in counties with populations of 675,001 to 1,500,000 and 88,000 or less. Asian/Pacific Islander dentists (15.6% of the workforce) were more likely to practice in a county with more than 675,000 people.

Table 40: Percentage of Pediatric Dentists by Race and Size of County in Which Primary Work Setting is Located, 2016

Race	88,000 or less	88,001 – 275,000	275,001 – 675,000	675,001 – 1,500,000	1,500,001 or more
White	85.0%	87.0%	81.4%	67.7%	61.3%
Black/African American	6.4%	4.0%	4.3%	6.8%	2.2%
American Indian/Alaska Native	3.2%	0.3%	0.2%	0.0%	0.3%
Asian/Pacific Islander	2.3%	6.1%	9.9%	20.2%	28.5%
Other	3.1%	2.7%	4.3%	5.3%	7.7%
Total N	127	298	346	442	344

Survey respondents were asked to provide the state in which they attended high school. Analysts used these data to describe any concordance between current state of practice, as described in the survey responses, with either or both of state of origin (high school location) and/or the state in which the pediatric dentistry program was located. All three data points (state of high school, state of residency, and state of current practice) were available for 1,570 pediatric dentists in the US. Forty of these dentists went to high school, completed residency, and practiced in their state of origin. More than half (57.3%) indicated they were in current practice in the state in which they had attended high school. This was especially predominant among dentists who were currently practicing in the Midwest region; 62.9% indicated that they were practicing in the same state in which they attended high school.

Table 41: Concordance between Current State Of Practice and State Of Origin, by Region, 2016

	Northeast Region	Midwest Region	South Region	West Region	Nationwide
No	47.0%	37.1%	43.6%	42.0%	42.7%
Yes	53.1%	62.9%	56.4%	58.1%	57.3%
Total N	346	299	616	435	1,696

The state of current practice and the state in which the pediatric dentistry program was located were concordant in only 4.7% of the cases, suggesting that only a small percentage of pediatric dentists selects practice location based on place of training. The data did not provide information such as state of origin of partners, which may also impact practice site selection.

Table 42: Concordance between Current State of Practice and the State in Which the Pediatric Dentistry Program was Located, by Region, 2016

	Northeast Region	Midwest Region	South Region	West Region	Nationwide
No	92.5%	96.9%	95.9%	95.7%	95.3%
Yes	7.5%	3.1%	4.1%	4.3%	4.7%
Total N	477	402	808	590	2,277

Practice Workload and Perceptions of Busyness

The percentage of pediatric dentists who treated all patients but felt overworked decreased from 16.2% in 2011 to 15.2% in 2016, while those who treated all patients but were not overworked increased from 49.3% in 2011 to 57.9% in 2016. In 2016, female dentists were more likely than males to report treating all patients but feeling overworked or treating all patients but not feeling overworked.

Table 43: Perceptions of Busyness among Pediatric Dentists, by Employment Situation and Gender, 2011-2016

Pediatric Dentists	2011*		2016	
	Treated all but overworked	Treated all but not overworked	Treated all but overworked	Treated all but not overworked
All owners	16.6%	48.8%	14.7%	56.9%
Solo practitioners	15.1%	46.5%	15.4%	53.5%
Non-solo owner	18.2%	51.4%	13.2%	64.7%
Employed	--	47.9%	15.9%	59.6%
Male	16.3%	49.9%	14.4%	56.8%
Female	16.1%	48.2%	15.9%	59.0%
All pediatric dentists	16.2%	49.3%	15.2%	57.9%

* Source: American Dental Association, Health Policy Resources Center, 2012 Survey of Dental Practice.

-- This category had too few responses to allow for reliable statistical analysis.

Pediatric dentists who indicated that they were overworked provided an estimate of the percentage of patient caseload that was excessive in 2016. On average, these dentists indicated that about 20.5% of the caseload was excessive. Employed dentists described a higher percentage of their present caseload as excessive (on average 24.1% of current caseload) than did owners of dental practices (18.0% of current caseload).

Table 44: Percentage of Workload Considered Excessive by Pediatric Dentists who were Overworked, by Employment Situation, 2016

Pediatric Dentists	Percentage excess workload	Total N
All owners	18.0%	163
Solo owner	18.7%	117
Non-solo owner	16.1%	46
Employed	24.1%	115
All pediatric dentists	20.5%	277

The percentage of pediatric dentists indicating they were not busy enough decreased from 27.3% in 2011 to 18.2%. In 2016, owners of dental practices (21.3%) and owners who were solo practitioners (23.6%) were more likely than non-solo owners (16.0%) or employed dentists (13.5%) to report not being busy enough. Dentists who were employees were less likely (12.5%) than independent contractors (18.7%) to report not being busy enough. Female dentists were less likely to report not being busy enough (15.8%) in contrast to their male colleagues (20.7%).

Table 45: Perceptions of Workload Considered “Not Busy Enough” among Pediatric Dentists, by Employment Situation and Gender, 2011-2016

Pediatric Dentists	2011*	2016
All owners	27.4%	21.3%
Solo practitioners	30.5%	23.6%
Non-solo owner	24.0%	16.0%
Employed	--	13.5%
Male	27.8%	20.7%
Female	26.1%	15.8%
All pediatric dentists	27.3%	18.2%

* Source: American Dental Association, Health Policy Resources Center, 2012 Survey of Dental Practice.

-- This category had too few responses to allow for reliable statistical analysis

Dentists who were underworked also provided estimates of additional capacity, described in terms of their current caseload. Solo owners indicated the highest percentage of unused capacity, estimating that on average their practice could assume an additional number of patients equivalent to 39.3% of their current caseload. On average, dentists with excess capacity indicated that they could accept a third more patients (34.5% of current caseloads).

Table 46: Percentage of Additional Capacity by Pediatric Dentists who Felt Underworked, by Employment Situation, 2016

Pediatric Dentists	Percentage of additional capacity	Total N
All owners	35.9	254
Solo owner	39.3	196
Non-solo owner	24.4	58
Employed	31.1	102
All pediatric dentists	34.5	356

In 2011, 7.2% of pediatric dentists reported being “too busy to treat all patients that requested care.” The percentage of pediatric dentists that were “too busy” increased to 8.6% in 2016. Female dentists more often reported being “too busy to treat all patients” (9.3%) than did male dentists (8.1%).

Table 47: Perceptions of Workload Considered “Too Busy To Treat All Patients” among Pediatric Dentists, by Employment Situation and Gender, 2011-2016

Pediatric Dentists	2011*	2016
All owners	7.2%	7.1%
Solo practitioners	--	7.6%
Non-solo owner	--	6.1%
Employed	--	10.9%
Male	6.0%	8.1%
Female	--	9.3%
All pediatric dentists	7.2%	8.6%

* Source: American Dental Association, Health Policy Resources Center, 2012 Survey of Dental Practice.

-- This category had too few responses to allow for reliable statistical analysis

Pediatric dentists were asked to estimate the percentage of patient volume (based on current caseload size) that was denied an appointment because the dentist was “too busy” to treat all patients. Employed dentists estimated that an additional 19.3% of their current caseload was denied an appointment because the dentist was “too busy” to provide care.

Table 48: Percentage of Patients Denied an Appointment by Pediatric Dentists Too Busy to Treat All Patients, by Employment Situation, 2016

Pediatric Dentists	Percentage denied an appointment	Total N
All owners	13.5	79
Solo practitioners	13.3	60
Non-solo owner	14.2	19
Employed	19.3	74
Employee	19.7	69
Independent contractor	13.1	5
All pediatric dentists	16.3	153

Perceptions of Practice Busyness by Geographic Location

Perceptions of being busy were highest among pediatric dentists in practices located in counties with fewer people. Pediatric dentists practicing in counties where the population was 88,000 or less were more likely to indicate they were too busy to treat all patients (15.7%) than dentists in more populated counties. Pediatric dentists in counties with population greater than 88,001 but less than 275,000 (11.8%) were also more likely to indicate being too busy than were dentists practicing in counties with populations exceeding 1,500,001 or more (5.5%).

Dentists practicing in counties with under 88,000 population (12.1%) or under 275,000 population (11.3%) were less likely to report not being busy enough than dentists practicing in counties with 275,001 to 675,000 people (19.9%), in counties with 675,001 to 1,500,000 people (18.3%), or in counties with 1,500,001 or more people (24.5%). These data may describe the implication of concentrated distribution of pediatric dentists in metropolitan areas.

Almost one quarter (24.5%) of the dentists reporting they were “not busy enough” were located in urban counties with populations greater than 1.5 million people. Dentists expressing perceptions of being “overworked” were more likely to be located in counties with populations greater than 88,000 but not exceeding 275,000 people (17.2%).

Table 49: Perceived Workload of Pediatric Dentists, by County Population, 2011

Pediatric Dentists	Too busy to treat all	Treated all but overworked	Treated all but not overworked	Not busy enough
88,000 or less	--	--	--	--
88,001 to 275,000	--	--	43.7%	25.3%
275,001 to 675,000	--	--	52.8	26.4
675,001 to 1,500,000	--	--	51.4	29.3
1,500,001 or more	--	--	51.4	34.0
All pediatric dentists	7.2%	16.2%	49.3	27.3

Source: American Dental Association, Health Policy Resources Center, 2012 Survey of Dental Practice.

-- This category had too few responses to allow for reliable statistical analysis

Table 50: Perceived Workload of Pediatric Dentists, by County Population, 2016, Weighted

Pediatric Dentists	Too busy to treat all	Treated all but overworked	Treated all but not overworked	Not busy enough	Total N
88,000 or less	15.9%	14.6%	57.6%	11.9%	151
88,001–275,000	11.9%	17.1%	59.7%	11.3%	345
275,001–675,000	6.5%	15.3%	58.3%	19.9%	417
675,001–1,500,000	9.4%	14.8%	57.5%	18.3%	508
1,500,001 or more	5.5%	13.9%	56.0%	24.5%	416
All pediatric dentists	8.9%	15.1%	57.8%	18.2%	1,837

More than a fifth (22.1%) of dentists with a primary practice setting in the West region indicated that in 2016, they were “not busy enough” and could have treated more patients. Pediatric dentists in the Midwest region were more likely than dentists in other regions to indicate they were “too busy to treat all patients” (16.4% of dentists in the region). Dentists in the Northeast were more likely than other dentists to indicate that they “treated all patients but felt overworked” (18.8% of dentists in the Northeast).

Table 51: Perceptions of Busyness among Pediatric Dentists by Region in the U.S. in Which Primary Work Setting is Located, 2016

Which of the following best describes you in your primary setting during 2016?	Northeast Region	Midwest Region	South Region	West Region	Nationwide
Provided care to all who requested appointments but was not overworked	57.2%	57.0%	59.8%	56.6%	57.9%
Provided care to all who requested appointments but was overworked	18.8%	16.1%	14.0%	13.4%	15.2%
Too busy to treat all people requesting appointments	5.4%	16.4%	7.2%	7.9%	8.7%
Not busy enough, could have treated more patients	18.6%	10.4%	19.0%	22.1%	18.2%
Total N	404	355	713	508	1,980

Pediatric dentists in counties with 675,001 to 1,500,000 people who reported additional capacity in their dental practices indicated that they could assume almost half again as many of their current patients (47.5% of current caseload) due to extra capacity. In contrast, dentists in these counties also reported the highest percentage of excessive patient caseload (21.3% of current caseload). This suggests local variation within counties of this size relative to patient volume.

Table 52: Percentage of Current Caseload Considered Excessive or Deficient by Pediatric Dentists, 2016

Percentage of Caseload Considered Excessive or Deficient	88,000 or less		88,001–275,000		275,001–675,000		675,001–1,500,000		1,500,001 or more	
	Mean	<i>n</i>	Mean	<i>n</i>	Mean	<i>n</i>	Mean	<i>n</i>	Mean	<i>n</i>
Percentage of your patient caseload overworked in 2016	17.9	22	16.7	56	20.4	61	21.3	72	18.6	57
Percentage of patients that were denied an appointment	15.3	23	12.5	38	16.7	26	20.6	44	11.1	21
Percentage of additional capacity	38.0	17	25.4	39	31.8	83	47.5	90	29.4	99

Survey respondents were asked to provide their opinions about the current supply of pediatric dentists in the local area of their practice. Dentists with a primary work setting in a county with 88,000 or fewer people were much more likely to indicate that there was a shortage of dentists in the local area than other dentists. Dentists in counties with populations greater than 88,000 up to 275,000 were more likely to indicate that the current supply of pediatric dentists in the local area was adequate. Dentists in larger metropolitan and urban counties were noticeably more likely to indicate there was an oversupply of dentists in their local area.

Table 53: Dentists' Rating of the Current Supply of Pediatric Dentists in the Local Area by Size of County, 2016

Dentists' ratings of the current supply of pediatric dentists in their local area	88,000 or less	88,001–275,000	275,001–675,000	675,001–1,500,000	1,500,001 or more
There is a shortage	31.4%	17.0%	9.5%	5.2%	4.1%
The current supply is adequate	51.3%	57.6%	50.0%	39.3%	33.6%
There is an oversupply	17.3%	25.5%	40.6%	55.5%	62.3%
Total N	128	297	348	447	354

Dentists in the Midwest were more likely to indicate a shortage of pediatric dentists or that the current supply of pediatric dentists in the local area was adequate than were dentists in other regions of the U.S. Pediatric dentists in the West and the Northeast were more likely to indicate an oversupply of professionals in the area local to their primary work setting.

Table 54: Dentists Rating of the Current Supply of Pediatric Dentists in the Local Area by Region, 2016

Dentists' ratings of the current supply of pediatric dentists in their local area	Northeast Region	Midwest Region	South Region	West Region	Nationwide
There is a shortage	11.9%	16.1%	8.9%	6.1%	10.1%
The current supply is adequate	39.9%	60.9%	44.7%	39.5%	45.2%
There is an oversupply	48.2%	23.0%	46.4%	54.4%	44.7%
Total N	347	299	619	437	1,701

Survey respondents were asked to indicate if they were aware of concerns about the availability of pediatric dentists in less populated areas of their state of practice. Pediatric dentists with primary work settings in counties with populations of 275,000 or fewer people were more likely to indicate being aware of such concerns than were dentists in larger counties. Still, a high percentage of dentists in all counties acknowledged concerns about supply of dentists in less populated areas.

Table 55: Dentists with Concerns within Their State of the Availability of Pediatric Dentists in Less Populated Areas by Size of County, 2016

Concerns about the availability of pediatric dentists in less populated areas	88,000 or less	88,001– 275,000	275,001– 675,000	675,001– 1,500,000	1,500,001 or more
Yes	68.6%	56.9%	53.5%	46.9%	54.9%
No	20.8%	26.0%	30.0%	28.3%	19.6%
Don't know	10.6%	17.2%	16.5%	24.8%	25.6%
Total N	127	297	347	444	353

Dentists with primary work settings in the Northeast region were the least likely to indicate concerns in their states of practice about the availability of dentists in less populated areas. Pediatric dentists in the Midwest were more likely to be aware of these concerns, although many dentists in the South and West regions also acknowledged awareness of these concerns.

Table 56: Dentists with Concerns within Their State of the Availability of Pediatric Dentists in Less Populated Areas by Region, 2016

Concerns about the availability of pediatric dentists in less populated areas	Northeast Region	Midwest Region	South Region	West Region	Nationwide
Yes	38.8%	64.6%	53.9%	56.3%	53.3%
No	35.9%	17.7%	24.3%	26.4%	26.1%
Don't know	25.3%	17.8%	21.7%	17.4%	20.6%
Total N	346	298	616	434	1,693

Perceptions of Busyness and Public Assistance Programs

Children covered by a public assistance program are of particular interest as this population often faces barriers to accessing health care services. Overall, pediatric dentists who indicated in their survey responses that they felt overworked or were too busy to treat all patients tended to have higher percentages of publicly insured patients, on average, in their caseloads than pediatric dentists who treated all patients but were not overworked or those who indicated not being busy enough (Table 62). This finding persisted in separate analyses by age, by gender, or by owner/employee status of pediatric dentists.

Table 57: Perceptions of Busyness among Pediatric Dentists and Percentage of Patients Covered by a Public Assistance Program, 2016

Pediatric Dentists	Not busy enough and could have treated more patients	Provided care to all who requested appointments but was not overworked	Provided care to all who requested appointments but was overworked	Too busy to treat all people requesting appointments
Average Percentage of Patients Covered by a Public Assistance Program				
Male				
Under 35	28.0	40.6	56.3	55.7
35-44	25.7	37.3	39.9	37.1
45-54	18.0	25.3	44.7	43.1
55-64	20.2	24.5	29.5	58.7
65 and older	15.0	35.1	43.5	52.7
Female				
Under 35	32.0	39.0	48.0	57.3
35-44	20.0	29.2	43.3	30.2
45-54	23.5	21.3	37.2	47.4
55-64	21.1	29.0	23.2	64.2
65 and older	--	33.4	--	--
Owner				
Under 35	21.7	30.4	47.4	50.7
35-44	18.7	28.3	30.3	23.2
45-54	16.1	19.9	34.6	38.0
55-64	19.9	21.5	24.5	45.1
65 and older	10.3	29.0	35.7	60.3
Employed				
Under 35	35.8	42.2	50.3	59.3
35-44	31.8	40.5	59.7	48.6
45-54	48.7	33.6	56.6	63.5
55-64	23.2	42.2	40.6	80.0
65 and older	34.7	48.9	72.5	55.3
All				
Under 35	30.2	39.5	49.8	57.5
35-44	22.8	32.6	41.6	33.1
45-54	20.9	23.2	40.5	44.4
55-64	20.4	26.3	27.8	62.0
65 and older	14.5	34.9	48.1	57.5
Total N	339	1023	273	159

-- Less than five survey respondents.

Active Patients and Oral Health Visits

Active Patients

The definition of active patients in pediatric dental practices changed over the five-year period. In 2011, 35.4% of pediatric dentists defined active patients as those treated within the last 12 months; 24.2% included those treated within the last 18 months; 24.4% included those treated within the last 24 months; 13.6% did not define active patients. In 2016, 42.0% of pediatric dentists defined an active patient as any seen within the last 12 months; 19.7% defined active as a patient treated within the last 18 months; 21.2% of pediatric dentists defined active as those treated within the last 24 months; 14.9% did not define active patients.

Table 58: Primary Practice's Definition of Active Patient among Pediatric Dentists, 2011

Pediatric Dentists	Patients treated within the last...				Other
	12 months	18 months	24 months	Does not define it	
All owners	35.1%	25.0%	24.8%	12.6%	--
Solo practitioners	34.3%	24.0%	26.0%	12.8%	--
Non-solo owner	37.5%	28.0%	21.4%	12.1%	--
Employed	40.9%	--	--	--	--
All pediatric dentists	35.4%	24.2%	24.4%	13.6%	--

Source: American Dental Association, Health Policy Resources Center, 2012 Survey of Dental Practice

Table 59: Primary Practice's Definition of Active Patient among Pediatric Dentists, 2016

Pediatric Dentists	Patients treated within the last...				Other
	12 months	18 months	24 months	Does not define it	
All owners	43.2%	22.6%	20.9%	11.3%	2.1%
Solo practitioners	41.8%	22.1%	21.4%	12.3%	2.4%
Non-solo owner	46.5%	23.6%	19.8%	8.8%	1.3%
Employed	40.1%	14.8%	21.8%	21.0%	2.4%
All pediatric dentists	42.0%	19.7%	21.2%	14.9%	2.2%

The mean number of active patients increased from 3,390 patients in 2011 to 5,120 patients in 2016. The median number of active patients increased from 3,000 patients in 2011 to 4,000 patients in 2016. Non-solo owner dentists indicated the highest number of active patients in the dental practice in both 2011 (4,850) and 2016 (6,937) at the same time the percentage of non-solo dentist owners increased. Employed dentists reported more active patients on average in their dental practices than owners in 2011 (a mean of 4,290 patients for employed dentists versus a mean of 3,360 patients for owners) and in 2016 (5,685 patients versus 4,893 patients).

Table 60: Number of Active Patients on Record in the Primary Practice of Pediatric Dentists, by Employment Situation, 2011-2016

Pediatric Dentists	2011*			2016		
	Mean	Median	N	Mean	Median	N
All owners	3,360	3,000	458	4,893	3,503	918
Solo practitioners	2,850	2,530	240	4,086	3,200	658
Non-solo owner	4,850	4,000	218	6,937	5,000	260
Employed	4,290	3,800	35	5,685	4,000	369
Employee	NA	NA	NA	6,076	4,500	305
Independent contractor	NA	NA	NA	3,809	3,000	64
All pediatric dentists	3,390	3,000	498	5,120	4,000	1,286

* Source: American Dental Association, Health Policy Resources Center, 2012 Survey of Dental Practice.

Active Patients by Geographic Location

The average number of active patients on record in the primary practice of pediatric dentists varied by county size. The average number of active patients on record in the primary practice decreased from counties of 88,001 to 275,000 people (5,818 active patients) to counties of 275,001 to 675,000 people (5,593 active patients), counties of 675,001 to 1,500,000 people (4,565 active patients) and counties of 1,500,001 or more people (4,536 active patients). Solo owner pediatric dentists practicing in smaller counties of 88,001 to 275,000 people (9,572 active patients) and counties of 275,001 to 675,000 people (7,248 active patients) had the highest average number of active patients on record in the primary practice.

Table 61: The Average Number of Active Patients on Record in the Primary Practice of Pediatric Dentists, by Employment Situation, 2016

Pediatric Dentists	88,000 or less		88,001–275,000		275,001–675,000		675,001–1,500,000		1,500,001 or more	
	Mean	n	Mean	n	Mean	n	Mean	n	Mean	n
All owners	4,405	75	5,718	159	5,211	195	4,148	245	4,752	176
Solo practitioners	4,104	61	4,425	117	4,430	142	3,292	168	4,110	123
Non-solo owner	5,721	14	9,572	42	7,248	53	6,020	77	6,254	53
Employed	4,252	25	6,048	66	6,588	71	5,476	104	4,081	90
All pediatric dentists	4,366	100	5,818	225	5,593	266	4,565	349	4,536	266

Dental Homes

Survey respondents were asked to describe the percentage of their current caseload that had established a dental home in the primary work setting. Employee dentists indicated that, on average, 77.3% of the caseload was established patients. Owner dentists indicated that, on average, 74.0% of the caseload was established patients.

Table 62: Number and Percentage of Patients that Have Established a Dental Home, by Employment Situation, 2016

Pediatric Dentists	Patients on caseload	Patients on caseload who have established a dental home	Percentage that have established a dental home	Total N
All owners	3,310	2,448	74.0	579
Solo practitioners	2,814	2,064	73.3	419
Non-solo owner	4,608	3,439	74.6	160
Employed	2,951	2,280	77.3	272
All pediatric dentists	3,195	2,394	74.9	851

Appointment Wait Times

Average wait time for an appointment for an established patient with a pediatric dentist rose from 8.2 days in 2011 to 10.0 days in 2016 and for a new patient from 10.1 days in 2011 to 12.2 days in 2016. Wait times to see the dentist after arrival (8 minutes) did not

vary between 2011 and 2016. Employed dentists indicated the longest wait times for an appointment for a patient of record (13.1 days) or for an appointment for a new patient (17.2 days). Average wait time for an appointment for a patient of record was 10 days for all pediatric dentists and average wait time for a new patient appointment was 12.2 days.

Table 63: Patient Wait for Scheduled Appointments and After Arriving, by Employment Situation, 2016

Pediatric Dentists	For Initial Appointment (Days)		After Arrival (Minutes)	
	Patient of Record	New Patient	Patient of Record	New Patient
All owners	8.6	9.9	6.6	7.5
Solo practitioners	8.5	10.0	6.6	7.6
Non-solo owner	8.6	9.9	6.6	7.4
Employed	12.5	16.2	9.1	10.3
All pediatric dentists	10.0	12.2	7.5	8.5

Oral Health Visits

While the average number of scheduled patient visits per pediatric dentist per hour increased between 2011 (2.8 visits) and 2016 (2.91), the number per week decreased from 85.5 in 2011 to 83.7 in 2016. The average number of walk-in emergency patients increased from 5.4 per week in 2011 to 6.3 per week in 2016. Average yearly number of visits per pediatric dentist for scheduled patients decreased from 4,017.7 in 2011 to 3,844.4 in 2016. Non-solo owner dentists had the highest average number of annual scheduled patient visits in 2016 (4,551.5) and the highest average number of walk-in/emergency patients (331) among all pediatric dentists.

Table 64: Number of Patient Visits per Pediatric Dentist Excluding Hygienist Appointments, by Employment Situation, 2011

Pediatric Dentists	Patient visits per pediatric dentist per hour			Patient visits per pediatric dentist per week			Patient visits per pediatric dentist per year		
	Walk-in / Emergency	Scheduled	Total	Walk-in / Emergency	Scheduled	Total	Walk-in / Emergency	Scheduled	Total
All owners	0.2	2.8	3.0	5.4	89.1	94.5	259.0	4,212.4	4,468.6
Solo practitioners	0.2	2.8	3.0	5.2	89.7	94.9	252.3	4,226.7	4,476.0
Non-solo owner	0.2	2.9	3.1	5.6	88.5	94.1	266.8	4,195.7	4,460.0
Employed	0.2	2.4	2.6	5.7	68.8	74.5	256.4	3,055.6	3,312.0
All pediatric dentists	0.2	2.8	3.0	5.4	85.5	90.8	257.1	4,017.7	4,271.9

Source: American Dental Association, Health Policy Resources Center, 2012 Survey of Dental Practice.

Table 65: Number of Patient Visits per Pediatric Dentist Excluding Hygienist Appointments, by Employment Situation, 2016

Pediatric Dentists	Patient visits per pediatric dentist per hour			Patient visits per pediatric dentist per week			Patient visits per pediatric dentist per year		
	Walk-in / Emergency	Scheduled	Total	Walk-In / Emergency	Scheduled	Total	Walk-in / Emergency	Scheduled	Total
All owners	0.20	3.05	3.25	6.2	91.3	97.5	293.2	4,306.5	4,599.7
Solo practitioners	0.20	2.97	3.16	5.9	89.2	95.1	277.4	4,203.3	4,480.7
Non-solo owner	0.23	3.24	3.47	7.0	96.1	103.1	331.0	4,551.5	4,882.4
Employed	0.24	2.69	2.93	6.5	71.6	78.1	284.5	3,148.1	3,432.7
All pediatric dentists	0.22	2.91	3.13	6.3	83.7	90.0	289.9	3,844.4	4,134.2

Patient Visits

Employed pediatric dentists reported fewer patients on average per hour, per week, and per year than dentists with ownership status. Employed dentists also reported being overworked or too busy to treat all patients more often than dentists who were owners of a practice. Scheduled patient visits per week for owner dentists averaged 91.3. Total patient visits per week, including emergency visits, averaged 97.5. Employed dentists averaged 71.6 scheduled visits per week and an average of 78.1 patient visits per week including emergency patients.

Employed dentists worked in practices where average visits per week for all dentists in the practice were high (244.0 patient visits per week). Dentists in practices with non-

solo owners (large specialty or multi-specialty practices) reported an average of 270.7 patient visits per week for all dentists.

Table 66: Average Number of Patient Visits per Pediatric Dentist Excluding Hygienist Appointments, by Employment Situation, 2016

Pediatric Dentists	Respondent Pediatric Dentists			All Dentists in The Practice Setting		
	Scheduled visits per week	Emergency and walk-in visits per week	Total patient visits per week	Scheduled visits per week	Emergency and walk-in visits per week	Total patient visits per week
All owners	91.3	6.2	97.5	175.2	12.3	187.5
Solo owner	89.2	5.9	95.1	118.1	8.4	126.5
Non-solo owner	96.1	7.0	103.1	253.2	17.5	270.7
Employed	71.6	6.5	78.1	223.2	20.7	244.0
All pediatric dentists	83.7	6.3	90.0	196.3	16.0	212.3

Employed pediatric dentists reported fewer patients on average per hour, per week, and per year than dentists with ownership status. Employed dentists also reported being overworked or too busy to treat all patients more often than dentists who were owners of a practice. Scheduled patient visits per week for owner dentists averaged 91.3, and total patient visits per week, including emergency visits, averaged 97.5. Employed dentists averaged 71.6 scheduled visits per week and an average of 78.1 patient visits per week including emergency patients.

Employed dentists worked in practices where average visits per week for all dentists in the practice were high (244.0 patient visits per week). Dentists in practices with non-solo owners (large specialty or multi-specialty practices) reported an average of 270.7 patient visits per week for all dentists.

Patient Population Characteristics

Patient Ages

In 2016, pediatric dentists reported that on average, 12.6% of the patient population was 2 years old or younger; 25.1% of patients were 3 to 4 years of age; 36.4% were between the ages of 5 and 12 years; 18.5% were between 13 years and 17 years; and 7.4% were 18 years and older. Employed dentists were more likely than owner dentists to indicate a higher percentage of children 2 years and younger in their caseloads (13.3% versus 12.2%).

The percentage of the patient caseload represented by adults 18 years and older was lower for solo practitioners (6.1%) than for non-solo owners (8.4%) or employed dentists (8.0%), suggesting that larger dental practices may have patient populations that are more age diverse than smaller practices.

Table 67: Distribution of Patient Ages in the Primary Private Practice of Pediatric Dentists, by Employment Situation, 2011

Pediatric Dentists*	Under 5 years	5 to 17 years	18 to 34 years	35 to 54 years	55 to 64 years	65 years or older	Total N
All owners	41.2%	54.3%	3.7%	0.5%	0.3%	0.1%	574
Solo practitioners	42.1%	53.8%	3.4%	0.4%	0.2%	0.1%	310
Non-solo owner	38.4%	55.8%	4.4%	0.8%	0.4%	0.2%	264
Employed	42.5%	51.4%	4.7%	0.6%	0.5%	0.3%	73
All pediatric dentists	41.4%	54.0%	3.7%	0.5%	0.3%	0.1%	666

Source: American Dental Association, Health Policy Resources Center, 2012 Survey of Dental Practice.

Table 68: Distribution of Patient Ages in the Primary Practice of Pediatric Dentists, by Employment Situation, 2016

Pediatric Dentists	Birth to 2 years	3 to 4 years	5 to 12 years	13 to 17 years	18 or older	Total N
All owners	12.2%	25.5%	36.6%	18.6%	7.1%	1,006
Solo practitioners	12.6%	26.2%	36.8%	18.3%	6.1%	716
Non-solo owner	11.7%	24.5%	36.3%	19.0%	8.4%	289
Employed	13.3%	24.2%	36.1%	18.3%	8.0%	504
All pediatric dentists	12.6%	25.1%	36.4%	18.5%	7.4%	1,510

Patient Insurance Status

Pediatric dentists reported that a higher percentage of patients were covered by public insurance in 2016 (33.7%) than in 2011 (25.5%), that fewer patients were privately insured (55.3% in 2016 versus 59.1% in 2011), and that fewer were not covered by insurance in 2016 (10.9%) than in 2011 (15.4%). This contrasts with general dentists who reported in the ADA Survey of Dental Practice in 2016 that 65.0% of their patients were covered by private insurance; 8.7% were publicly insured; and 26.3% had no insurance. Some of these differences are attributed to the differences in patient populations. General dentists predominately treat adults whose access to public insurance is more limited. Many state Medicaid programs do not include an adult dental benefit, and Medicare provides coverage only for traumatic or acute oral health conditions.

Table 69: Distribution of Patient Insurance Coverage in the Practice of Pediatric Dentists and General Practitioners, by Employment Situation, 2011

	Private Insurance	Public Assistance	Not covered by insurance
Pediatric Dentists			
All owners	59.3%	25.3%	15.4%
Solo practitioners	58.8%	26.2%	15.0%
Non-solo owner	61.1%	22.6%	16.4%
Employed	58.8%	25.0%	16.2%
All pediatric dentists	59.1%	25.5%	15.4%
General Practitioners*			
All owners	65.2%	5.0%	29.8%
Solo practitioners	65.5%	4.9%	29.6%
Non-solo owner	63.2%	5.7%	31.2%
Employed	67.5%	9.9%	22.6%
All general practitioners	65.2%	5.4%	29.4%

Source: American Dental Association, Health Policy Resources Center, 2012 Survey of Dental Practice.

* The percentages and averages in this group have been weighted by the inverse of the number of dentists in the practice.

Table 70: Distribution of Patient Insurance Coverage in the Practice of Pediatric Dentists and General Practitioners, by Employment Situation, 2016

	Private Insurance	Public Assistance	Not covered by insurance
Pediatric Dentists			
All owners	62.2%	25.8%	12.0%
Solo practitioners	61.6%	26.3%	12.1%
Non-solo owner	63.5%	24.6%	11.8%
Employed	43.7%	47.2%	9.2%
Employee	42.8%	48.0%	9.2%
Independent contractor	48.1%	42.7%	9.2%
All pediatric dentists	55.3%	33.7%	10.9%
General Practitioners (2015)*			
All general practitioners	65.0%	8.7%	26.3%

* Source: American Dental Association, Health Policy Resources Center, 2016 Survey of Dental Practice.

In 2016, 94.6% of pediatric dentists served patients covered by private insurance, 69.9% served patients covered by public insurance and 86.9% served patients with no insurance. Pediatric dentists who were employed (77.7%) were less likely than other dentists to serve patients not covered by insurance and more likely to have patients covered by public insurance (75.6%) than owner pediatric dentists (67.3%). This varied from 2011, when 96.6% of pediatric dentists and 96.8% of employed dentists served patients with no insurance, and 69.1% of pediatric dentists and 73.3% of employed dentists served patients with public insurance.

Table 71: Percentage of Pediatric Dentists Who Had Patients Covered by Various Types of Insurance, by Employment Situation, 2011

Pediatric Dentists*	Private insurance	Public assistance	Not covered by insurance
All owners	99.4%	68.6%	96.8%
Solo practitioners	99.3%	67.3%	96.4%
Non-solo owner	99.5%	72.6%	98.1%
Employed	97.8%	73.3%	96.8%
All pediatric dentists	99.3%	69.1%	96.6%

Source: American Dental Association, Health Policy Resources Center, 2012 Survey of Dental Practice.

Table 72: Percentage of Pediatric Dentists Who Had Patients Covered by Various Types of Insurance, by Employment Situation, 2016

Pediatric Dentists	Private insurance	Public assistance	Not covered by insurance
All owners	97.3%	67.3%	92.6%
Solo practitioners	96.8%	64.3%	91.8%
Non-solo owner	98.4%	74.4%	94.6%
Employed	90.3%	74.0%	77.7%
All pediatric dentists	94.6%	69.9%	86.9%

In 2011, 58.0% of pediatric dentists treated patient with Medicaid; 51.3% accepted new patients insured by Medicaid, 46.7% treated CHIP-insured patients, and 44.8% accepted new patients insured by a CHIP plan into their practices. In 2016, 68.0% of pediatric dentists treated patients with Medicaid insurance, 62.0% were accepting new patients insured by Medicaid, 53.4% were treating patients insured by CHIP and 51.1% were accepting new patients with CHIP coverage. Employed dentists were more likely than owner dentists to treat Medicaid-insured patients (74.9% versus 63.8%), to be accepting new Medicaid-insured patients (72.5% versus 55.5%), to treat CHIP-insured patients (62.2% versus 48.1%), and to be accepting new patients covered by a CHIP plan (61.4% versus 44.9%).

Table 73: Pediatric Dentists Treating and Accepting Medicaid- and CHIP-Insured Patients, 2011

Pediatric Dentists*	Treat Medicaid-insured patients	Accept new Medicaid-insured patients	Treat CHIP-covered patients	Accept new CHIP-covered patients
All owners	57.5%	50.4%	46.3%	44.2%
Solo practitioners	56.6%	49.8%	46.6%	44.8%
Non-solo owner	60.3%	52.0%	45.2%	42.4%
Employed	64.0%	61.8%	50.0%	49.6%
All pediatric dentists	58.0%	51.3%	46.7%	44.8%

Source: American Dental Association, Health Policy Resources Center, 2012 Survey of Dental Practice.

* The percentages and averages in this group have been weighted by the inverse of the number of dentists in the practice.

Table 74: Pediatric Dentists Treating and Accepting Medicaid- and CHIP-insured Patients, by Employment Situation, 2016

Pediatric Dentists	Treat Medicaid-insured patients	Accept new Medicaid-insured patients	Treat CHIP-covered patients	Accept new CHIP-covered patients
All owners	63.8%	55.5%	48.1%	44.9%
Solo practitioners	61.6%	53.1%	47.3%	43.2%
Non-solo owner	69.1%	61.1%	49.8%	48.9%
Employed	74.9%	72.5%	62.2%	61.4%
All pediatric dentists	68.0%	62.0%	53.4%	51.1%

Patient Insurance Status by Geographic Location

The percentage of the patient caseload with private insurance in pediatric dental practices decreased from 45.2% in 2011 to 44.0% in 2016 in counties with populations of 88,000 people or less, as did the percentage of patients with no insurance (9.6% in 2016 from 12.9% in 2011). Over the same period, the percentage of the patient population with public insurance in these low population areas increased from 41.9% in 2011 to 46.4% in 2016.

Pediatric dentists practicing in counties with populations between 275,001 and 675,000 (29.1% of respondents) had, on average, a higher percentage of people with private insurance (59.1%), a higher percentage of people with no insurance (11.5%), and a lower percentage of patients covered by public insurance (29.4%) than pediatric dentists practicing in either larger or smaller counties by population. Pediatric dentists in high population counties (275,001 population or greater) had higher percentages of patients with private insurance or no insurance and lower percentages of patients with public insurance than dentists practicing in counties with 275,000 or less population.

Table 75: Patient Insurance Coverage, by County Population, 2016				
Pediatric Dentists	Private insurance	Public assistance	Not covered by insurance	Total N
88,000 or less	44.0%	46.4%	9.6%	142
88,001 to 275,000	50.3%	39.8%	9.9%	317
275,001 to 675,000	59.1%	29.4%	11.5%	369
675,001 to 1,500,000	56.6%	32.8%	10.6%	475
1,500,001 or more	56.5%	32.1%	11.4%	375
All pediatric dentists	54.9%	34.4%	10.8%	1,678

The percentage of pediatric dentists treating or accepting new patients with Medicaid insurance and treating or accepting new CHIP-covered patients decreased with increasing size of the county where the dental practice was located. Among pediatric dentists in primary practice settings located in counties with 88,000 or less population, 87.1% treated patients with Medicaid insurance, 80.8% were accepting new patients insured by Medicaid, 73.6% were treating patients insured by CHIP, and 71.5% were accepting new patients with CHIP coverage. The percentage of pediatric dentists treating or accepting new patients with commercial dentist insurance was similar across counties.

Table 76: Pediatric Dentists Treating and Accepting Medicaid- and CHIP-insured Patients, by County Size, 2016

Pediatric Dentists	88,000 or less	88,001–275,000	275,001–675,000	675,001–1,500,000	1,500,001 or more
Treat Medicaid-insured patients					
No	13.0%	18.3%	31.2%	36.1%	41.7%
Yes	87.1%	81.7%	68.9%	63.9%	58.3%
Total N	145	318	377	472	377
Accept new Medicaid-insured patients					
No	19.2%	27.4%	37.2%	43.0%	44.2%
Yes	80.8%	72.7%	62.8%	57.0%	55.8%
Total N	145	315	377	472	377
Treat CHIP-covered patients					
No	26.4%	37.8%	45.8%	48.6%	56.8%
Yes	73.6%	62.2%	54.2%	51.4%	43.3%
Total N	143	317	373	462	371
Accept new CHIP-covered patients					
No	28.5%	40.7%	48.1%	52.0%	57.3%
Yes	71.5%	59.3%	51.9%	48.0%	42.7%
Total N	143	316	373	463	371
Treat patients covered by commercial dental insurance					
No	1.4%	1.3%	1.6%	1.8%	4.7%
Yes	98.6%	98.7%	98.4%	98.2%	95.3%
Total N	144	318	376	472	377
Accept new patients covered by commercial dental insurance					
No	2.1%	1.8%	1.6%	2.7%	5.1%
Yes	97.9%	98.2%	98.4%	97.3%	94.9%
Total N	143	318	375	471	374

Anesthesia and Sedation Services

General anesthesia (GA) is a medical procedure that renders the patient unconscious, allowing for the safe and humane provision of medical and dental diagnostic and surgically invasive procedures. Dental treatment under GA is an effective way to provide medically necessary care to those children who may be cognitively immature, highly anxious or fearful, have special needs, or be medically compromised and unable to receive treatment in a traditional office setting. Delivering dental treatment under GA can have significant positive effects on the quality of life for children and their families and can improve access to dental care. GA may be medically necessary when treating some dental patients and, therefore, should be included as an essential health benefit under both public and private medical insurance coverage for children.⁷

While most dental care is provided in a traditional office setting utilizing local anesthesia and, when indicated, a variety of adjunctive pharmacologic and behavioral guidance techniques, a subset of patients cannot benefit from routine approaches. The American Academy of Pediatric Dentistry recognizes that non-pharmacological behavior guidance techniques are not viable for some pediatric dental patients. Some children and patients with special healthcare needs have treatment conditions, acute situational anxiety, uncooperative age-appropriate behavior, immature cognitive functioning, disabilities, or medical conditions that require deep sedation/GA to undergo dental procedures in a safe and humane fashion. For many of these patients, treatment under GA in a hospital, outpatient facility, dental office or clinic represents the optimum or only venue to deliver necessary oral healthcare.⁸

IV Sedation

Independent contractor pediatric dentists were more likely than other pediatric dentists to be supplying patient treatments under IV sedation (42.4% of independent contractor dentists) but the average patient volume treated under IV monthly was lower among independent contractors (7.9 patients per month on average) than among other dentists.

Pediatric dentists who were employees were less likely than owner dentists to provide any treatments for patients under IV sedation (24.8% of employee dentists), but those

⁷ American Academy of Pediatric Dentistry. Policy on Hospitalization and Operating Room Access for Oral Care of Infants, Children, Adolescents, and Individuals with Special Health Care Needs. *Pediatr Dent* 2017;39(6):104-5.

⁸ American Academy of Pediatric Dentistry. Monitoring and Management of Pediatric Patients Before, During, and After Sedation for Diagnostic and Therapeutic Procedures: Update 2016. *Pediatr Dent* 2017;39(6): 278-307.

who did provided more IV services per month (11.8 cases on average) than other dentists. A third of non-solo dental practice owners (33.6%) provided IV services to an average of 9.6 patients per month.

Table 77: Percentage of Pediatric Dentists Providing Treatments under IV Sedation, by Employment Situation, 2016

Pediatric Dentists	Percentage Providing Treatments Under IV Sedation	Average Number of Cases Treated under IV per Month	Total N
All owners	33.6	8.6	1,194
Solo practitioners	33.6	8.1	833
Non-solo owner	33.4	9.6	361
Employed	27.6	10.8	770
Employee	24.8	11.8	648
Independent contractor	42.4	7.9	122
All pediatric dentists	31.2	9.3	1,964

Anesthesiologists in the Pediatric Dental Office

The percentage of pediatric dentists who used an anesthesiologist to provide anesthesia services in-office for surgical patients changed little between 2011 (34.3% of dentists) and 2016 (35.1% of dentists). Non-solo dental practice owners worked with anesthesiologists more often on average than dentists in other employment situations (14.0 patient cases per month). Employee dentists worked with anesthesiologists to treat an average of 12.1 patient cases per month.

Table 78: Average Number of Patient Cases per Month Involving an Anesthesiologist in the Pediatric Dental Office, 2016

Pediatric Dentists	Number of patient cases per month provided in office with an anesthesiologist	Total N
All owners	10.4	182
Solo practitioners	8.9	129
Non-solo owner	14.0	53
Employed	10.7	74
Employee	12.1	48
Independent contractor	8.0	26
All pediatric dentists	10.5	256

Treatment in Hospital Operating Rooms

Approximately two thirds of pediatric dentists (62.0%) treated some patients either in a hospital operating room or an accredited surgical facility in 2016. Dentists treated on average 13.9 patients monthly in one of these facilities. These averages were noticeably higher than in 2011, when 59.5% of pediatric dentists indicated use of a hospital or surgical facility for patient care to treat on average 9.3 patients monthly.

Table 79: Pediatric Dentists Using an Operating Room in a Hospital or Accredited Surgical Facility, 2011

Pediatric Dentists	Percentage Using an Operating Room	Average Number of Cases Treated in an Operating Room per Month in 2011
All owners	60.1	9.6
Solo practitioners	61.5	8.2
Non-solo owner	58.6	11.1
Employed	56.7	7.0
All pediatric dentists	59.5	9.3

Source: American Dental Association, Health Policy Resources Center, 2012 Survey of Dental Practice.

Table 80: Pediatric Dentists Using an Operating Room in a Hospital or Accredited Surgical Facility, 2016

Pediatric Dentists	Percentage Using an Operating Room	Average Number of Cases Treated in an Operating Room per Month in 2016
All owners	62.4	12.8
Solo practitioners	60.1	13.0
Non-solo owner	67.6	12.5
Employed	61.4	15.5
All pediatric dentists	62.0	13.9

There was an associated decrease from 46.0% in 2011 to 37.8% in 2016 in the percentage of pediatric dentists who indicated that they referred patients who needed care in an operating suite to another dentist. This decline suggests a higher proportion of pediatric dentists are now providing inpatient and outpatient surgical services.

Table 81: Reasons for Pediatric Dentists Not Using an Operating Room in a Hospital of Accredited Surgical Facility, 2016

Pediatric Dentists	Never have cases that require treatment in an operating room	Refer to another dentist	Do not qualify for, or choose not to, seek hospital privileges	Community's hospital or surgical facility does not allow dental cases	I have an anesthesiologist who provides services in my office	Other
All owners	4.9%	35.9%	5.6%	2.0%	41.1%	10.5%
Solo practitioners	5.7%	36.6%	6.3%	2.1%	39.6%	9.7%
Non-solo owner	2.6%	34.2%	3.4%	1.7%	45.3%	12.8%
Employed	2.4%	40.4%	11.4%	3.4%	25.9%	16.5%
All pediatric dentists	3.9%	37.8%	7.9%	2.6%	35.1%	12.8%

Patients with Special Health Care Needs

More than 15 million children, representing nearly 20 percent of the U.S. population under age 18, have special health care needs. The number of children with activity limitations has more than tripled over the last four decades.⁹ The AAPD defines special health care needs as “any physical, developmental, mental, sensory, behavioral, cognitive, or emotional impairment or limiting condition that requires medical management, health care intervention, and/or use of specialized services or programs. The condition may be congenital, developmental, or acquired through disease, trauma, or environmental cause and may impose limitations in performing daily self-maintenance activities or substantial limitations in a major life activity.”¹⁰

Patients with special needs are at high risk for developing oral disease, and access to dental care has been recognized nationally as a major unmet health need for these groups. In fact, dental care is the most prevalent unmet health care need for children with special health care needs, affecting 8 percent compared with 3 percent of those with unmet needs for medical care.¹¹

National studies have noted the percentage of general dentists who provide care to children with special health care needs is fairly low, approximately 10 percent. Only 1 in 4 general dentists reported having hands-on experience with patients with special health care needs in dental school.¹² Pediatric dentists have become the default caretakers of dental care for all patients with special health care needs, due in part to their extensive training in communication skills, behavior management, and experience in treating patients with uncontrolled movement. In addition, a high percentage of

⁹ Lewis CW. Dental care and children with special health care needs: a population-based perspective. *Academic pediatrics*. 2009 Nov 1;9(6):420-6.

¹⁰ American Academy of Pediatric Dentistry. Management of Dental Patients with Special Health Care Needs. *Pediatr Dent* 2017;39(6):229-34.

¹¹ National Survey of Children with Special Health Care Needs, National Center for Health Statistics, Centers for Disease Control and Prevention, 2010.

¹² Casamassimo PS, Seale NS, Ruehs K. General dentists' perceptions of educational and treatment issues affecting access to care for children with special health care needs. *J Dent Educ* 2004;68(1):23-8.

pediatric dentists accept public insurance plans, an essential part of access to care for many patients with special health care needs.

The percentage of pediatric dentists who provide services to patients with special health care needs dropped slightly from 99.5% in 2011 to 98.7% in 2016. On average, pediatric dentists indicated that 12.3% of their caseload was patients with special health care needs. Employed dentists reported that this population comprised 15.2% of their patient caseload while owner dentists reported an average of 10.5%.

Table 82: Pediatric Dentists Providing Care to Any Patients with Special Health Care Needs in Their Primary Practice, 2011

Pediatric Dentists	Percent of practices	N
All owners	99.7	627
Solo practitioners	99.7	330
Non-solo owner	99.7	297
Employees	97.9	96
All pediatric dentists	99.5	749

Source: American Dental Association, Health Policy Resources Center, 2012 Survey of Dental Practice.

Table 83: Percentage of Patients with Special Health Care Needs in the Primary Practice of Pediatric Dentists, 2016

Pediatric Dentists	Percent of patients	Total N
All owners	10.5	1,171
Solo practitioners	10.3	815
Non-solo owner	10.9	356
Employed	15.2	748
Employee	16.1	629
Independent contractor	10.5	120
All pediatric dentists	12.3	1,919

Charitable Care

Pediatric dentists provide charitable dental care through a variety of ways. For example, state dental associations often have Donated Dental Services (DDS) programs, through which they or their foundations coordinate dental care for the most disadvantaged or disabled in those states. The dentists volunteering for DDS donate services in their own offices. Other charitable dental programs offering donated services by pediatric dentists are Give Kids a Smile Days and Mission of Mercy projects across the nation.

The percentage of pediatric dentists providing charitable care increased from 73.6% in 2011 to 77.7% in 2016. The estimated dollar value of care provided free on an annual basis increased from \$15,700 in 2011 to \$18,260.50 in 2016. (These figures are unadjusted for inflation.)

The average estimated service discount rate for patients increased from 25.3% in 2011 to 29.9% in 2016. One third of employed dentists (32.8%) provided no free or reduced fee services to patients in 2016 in contrast to 16.1% of owners who did not provide these services.

Table 84: Percentage of Pediatric Dentists Providing Charitable Dental Care in 2011

Pediatric Dentists	Percent Providing Charitable Dental Care	Average Estimated Total Value of Care Provided Free of Charge (\$)	Average Estimated Percentage Reduction Offered to Patients at a Reduced Rate	Average Estimated Total Billing Provided at a Reduced Rate (\$)
All owners	74.8	15,950	25.5	70,410
Solo practitioners	74.1	12,990	25.6	49,170
Non-solo owner	76.9	23,840	25.4	125,780
Employees	--**	--	--	--
All pediatric dentists	73.6	15,700	25.3	70,320

Source: American Dental Association, Health Policy Resources Center, 2012 Survey of Dental Practice.

** This category had too few responses to allow for reliable statistical analysis.

Table 85: Percentage of Pediatric Dentists Providing Charitable Dental Care in 2016, Weighted

Pediatric Dentists	Percent Providing Charitable Dental Care	Average Estimated Total Value of Care Provided Free of Charge (\$)	Average Estimated Percentage Reduction Offered to Patients at a Reduced Rate	Average Estimated Total Billing Provided at a Reduced Rate (\$)
All owners	83.9	19,573.5	29.2	48,978.5
Solo practitioners	82.6	15,114.0	29.0	44,321.3
Non-solo owner	87.1	29,822.3	29.5	61,069.3
Employed	67.2	14,817.3	31.8	28,047.1
All pediatric dentists	77.7	18,260.5	29.9	43,708.2

Dental Practice Personnel

Personnel by Position and Employment Situation

There were noticeable changes in the percentage of dentists employing dental hygienists over the five year period between 2011 and 2016 (54.6% in 2011 versus 71.1% in 2016), dental laboratory technicians (3.3% in 2011 versus 7.6% in 2016), business personnel (25.5% in 2011 versus 60.0% in 2016), office managers (46.5% in 2011 versus 75.5% in 2016), and sterilization assistants (16.1% in 2011 versus 41.3% in 2016). The percentage employing dental/chairside assistants remained relatively stable (97.9% in 2011 versus 99.4% in 2016) as did the percentage employing receptionists (95.3% in 2011 versus 98.7% in 2016).

Table 86: Percentage of Pediatric Dentists Employing Non-Dentist Staff by Position, 2011

Pediatric Dentists	Dental Hygienists	Chair-side Assistants	Secretaries/ Receptionists	Dental Laboratory Technicians	Financial Coordinators (Business Personnel)	Office Managers	Sterilization Assistants
All owners	53.8	97.7	95.0	--**	24.7	44.6	15.0
Solo practitioners	49.8	97.5	94.0	--	20.8	38.8	10.7
Non-solo owner	65.7	98.5	97.8	--	36.1	61.9	27.7
All pediatric dentists	54.6	97.9	95.3	3.3%	25.5	46.5	16.1

Source: American Dental Association, Health Policy Resources Center, 2012 Survey of Dental Practice.

** This category had too few responses to allow for reliable statistical analysis.

Table 87: Percentage of Pediatric Dentists Employing Non-Dentist Staff by Position, 2016

Pediatric Dentists	Dental Hygienists	Chair-side Assistants	Secretaries / Receptionists	Dental Laboratory Technicians	Financial Coordinators (Business Personnel)	Office Managers	Sterilization Assistants
All owners	70.4	99.2	98.6	5.6	54.9	70.9	37.8
Solo practitioners	67.1	98.9	98.3	2.8	49.4	64.8	32.6
Non-solo owner	78.1	99.7	99.4	11.6	66.7	84.5	49.3
Employed	72.1	99.8	98.7	10.5	67.5	82.5	46.4
All pediatric dentists	71.1	99.4	98.7	7.6	60.0	75.5	41.3

Personnel Per Pediatric Dentist

The average number of non-dentist staff per pediatric dentist increased between 2011 (6.0) and 2016 (7.7). Increases were highest among owner dentists (on average 8.0 full and part-time staff per dentist) versus employed dentists (7.1 full and part-time staff per dentist).

Table 88: Average Number of Non-Dentist Staff per Pediatric Dentist in the Primary Private Practice, 2011

Pediatric Dentists	Full-Time Staff	Part-Time Staff	Full- and Part-Time Staff	N
All owners	4.4	1.7	6.2	600
Solo practitioners	4.7	1.9	6.6	318
Non-solo owner	3.8	1.2	5.0	282
All pediatric dentists	4.4	1.7	6.0	700

Source: American Dental Association, Health Policy Resources Center, 2012 Survey of Dental Practice.

Table 89: Average Number of Non-Dentist Staff per Pediatric Dentist in the Primary Private Practice, 2016, Weighted

Pediatric Dentists	Full-Time Staff	Part-Time Staff	Full- and Part-Time Staff	Total N
All owners	6.5	2.7	8.0	1,141
Solo practitioners	6.6	2.8	8.2	803
Non-solo owner	6.2	2.3	7.7	338
Employed	4.4	4.8	7.1	698
All pediatric dentists	5.7	3.4	7.7	1,839

On average, owner dentists reported 0.7 full time dental hygienists and 1.2 part-time dental hygienists in their primary practice settings. Employed dentists reported on average 0.5 full-time and 0.7 part-time dental hygienists in the primary practice setting. The number of chairside assistants was also greater in practices of owner dentists (on average 2.3 full-time and 0.9 part-time chairside assistants) than in the practices of employed dentists (on average 1.8 full-time and 0.4 part-time chairside assistants).

There were decreases in the ratios of other clinical staff to dentists. Average full time dental hygiene staff per dentist decreased from 0.8 in 2011 to 0.6 in 2016. The average number of full and part-time dental hygienists per dentist decreased from 1.8 in 2011 to 1.2 in 2016; at the same time, there was an increase in the percentage of dentists using them. The average number of dental assistants per dentist also decreased from 2.7 in 2011 to 2.4 in 2016. During the same period, dentists reported average increases in the ratios of office and business support staff per dentist (1.7 staff in 2011 to 2.2 staff in 2016).

Dental Hygienist Employment

Table 90: Average Number of Dental Hygienists per Pediatric Dentist, 2011 (among Those Pediatric Dentists Employing Dental Hygienists)

Pediatric Dentists	Full-Time Staff	Part-Time Staff	Full- and Part-Time Staff	N
All owners	0.9	1.0	1.9	351
Solo practitioners	1.0	1.2	2.2	158
Non-solo owner	0.6	0.7	1.3	193
All pediatric dentists	0.8	1.0	1.8	419

Source: American Dental Association, Health Policy Resources Center, 2012 Survey of Dental Practice.

Table 91: Average Number of Dental Hygienists per Pediatric Dentist, 2016, Weighted (among Those Pediatric Dentists Employing Dental Hygienists)

Pediatric Dentists	Full-Time Staff	Part-Time Staff	Full- and Part-Time Staff	Total N
All owners	0.7	1.2	1.4	1,049
Solo practitioners	0.7	1.5	1.5	733
Non-solo owner	0.7	0.6	1.0	317
Employed	0.5	0.7	0.9	657
All pediatric dentists	0.6	1.0	1.2	1,707

The number of patient visits completed by dental hygienists working in the primary setting of the pediatric dentist was greatest in the practices of owner dentists (115.8 patient visits on average per week) and lowest in the primary settings of employed dentists (97.7 patients visits on average per week).

Table 92: Average Number of Patient Visits Completed by Dental Hygienists per Week, 2016

Pediatric Dentists	Weekly Dental Hygienist Visits	Total N
All owners	115.8	1,110
Solo practitioners	82.9	787
Non-solo owner	195.6	323
Employed	97.7	646
Employee	103.5	545
Independent contractor	66.5	101
All pediatric dentists	109.1	1,756

Dental Assistant Employment

Table 93: Average Number of Chairside Assistants per Dentist, 2011 (among Those Pediatric Dentists Employing Chairside Assistants)

Pediatric Dentists	Full-Time Staff	Part-Time Staff	Full- and Part-Time Staff	N
All owners	2.1	0.7	2.8	586
Solo practitioners	2.2	0.7	3.0	309
Non-solo owner	1.7	0.4	2.2	277
All pediatric dentists	2.1	0.6	2.7	684

Source: American Dental Association, Health Policy Resources Center, 2012 Survey of Dental Practice.

Table 94: Average Number of Chairside Assistants per Dentist, 2016, Weighted (among Those Pediatric Dentists Employing Chairside Assistants)

Pediatric Dentists	Full-Time Staff	Part-Time Staff	Full- and Part-Time Staff	Total N
All owners	2.3	0.9	2.7	1,136
Solo practitioners	2.4	1.0	2.8	798
Non-solo owner	2.1	0.6	2.5	338
Employed	1.8	0.4	1.9	690
Employee	1.7	0.4	1.9	579
Independent contractor	1.8	0.5	2.0	112
All pediatric dentists	2.1	0.7	2.4	1,827

Secretary/Receptionist Employment

Table 95: Average Number of Secretaries/Receptionists-Patient Scheduling Coordinators per Dentist, 2011 (among Those Pediatric Dentists Employing Secretaries/Receptionists-Patient Scheduling Coordinators)

Pediatric Dentists	Full-Time Staff	Part-Time Staff	Full- and Part-Time Staff	N
All owners	1.4	0.4	1.8	575
Solo practitioners	1.5	0.5	1.9	298
Non-solo owner	1.1	0.2	1.3	277
All pediatric dentists	1.4	0.4	1.7	672

Source: American Dental Association, Health Policy Resources Center, 2012 Survey of Dental Practice.

Table 96: Average Number of Secretaries/Receptionists-Patient Scheduling Coordinators per Dentist, 2016, Weighted (among Those Pediatric Dentists Employing Secretaries/Receptionists-Patient Scheduling Coordinators)

Pediatric Dentists	Full-Time Staff	Part-Time Staff	Full- and Part-Time Staff	Total N
All owners	1.5	0.6	1.7	1,125
Solo practitioners	1.5	0.7	1.8	789
Non-solo owner	1.3	0.4	1.4	336
Employed	1.0	4.8	3.0	691
Employee	1.0	5.7	3.4	580
Independent contractor	1.0	0.2	1.1	112
All pediatric dentists	1.3	2.1	2.2	1,817

Personnel by Position and Geographic Location

The average number of full and part-time dental hygienists in a practice and the number of visits per week completed by dental hygienists varied by size of county and by region of the dentist's primary work setting. The average headcount for dental hygienists in practices in counties with populations of 675,000 or fewer people was lower (1.0-1.2) than in practices in counties with between 675,001 and 1,500,000 people (1.6). However, the number of patient visits completed on average by dental hygienists per week in counties with 675,000 or fewer people (118.1-127.6) was higher than in larger population counties (99.5-103.0).

Table 97: Average Number of Dental Operatories, Dental Hygienists, and Patient Visits per Week by Size of County, 2016

Survey Question	88,000 or less		88,001–275,000		275,001–675,000		675,001–1,500,000		1,500,001 or more	
	Mean	<i>n</i>	Mean	<i>n</i>	Mean	<i>n</i>	Mean	<i>n</i>	Mean	<i>n</i>
Total number of operatories	7.5	146	9.5	342	10.7	403	20.5	493	14.5	383
DH FT&PT per Pediatric Dentist	1.0	135	1.1	317	1.2	352	1.6	450	0.9	328
Headcount										
Number of visits per week completed by dental hygienists	127.6	142	118.1	316	119.7	369	99.5	450	103.0	346

Dentists with a primary work setting in the Northeast region indicated on average a noticeably higher count of dental hygienists per practice (2.4) than in other regions of the US. Dental hygienists in the region completed more patient visits per week on average (175.7) than in any other region of the US. Dentist in the West indicated having 0.5 dental hygienists in their practices who completed on average 42.1 patient visits per week.

This regional data about dentist’s perceptions of oversupply of pediatric dentists in the West, viewed in conjunction with data presented both earlier and later in this report, is important. Dentists in the West were more likely to perceive an oversupply of pediatric dentists. The data might indicate that an oversupply of dentists in the West is causing pediatric dentists to perform many of the preventive functions normally provided by dental hygienists in order to stay busy. Twenty-two percent of dentists with primary practices in the West who responded to the survey indicated they were not busy enough.

Table 98: Average Number of Dental Operatories, Dental Hygienists, and Patient Visits Per Week by Region of the US, 2016

Survey Question	Northeast Region		Midwest Region		South Region		West Region		Nationwide	
	Mean	<i>n</i>	Mean	<i>n</i>	Mean	<i>n</i>	Mean	<i>n</i>	Mean	<i>n</i>
Total number of operatories	15.3	374	7.3	344	12.4	704	20.1	484	14.0	1,906
DH FT&PT per Pediatric Dentist Headcount	2.4	346	1.1	309	1.0	637	0.5	403	1.2	1,695
Number of visits per week completed by dental hygienists	175.7	335	131.2	318	109.5	649	42.1	442	109.2	1,744

Survey Methods

An online survey of pediatric dentists was sent in 2017 to all active and life members of the AAPD with a U.S. address. The survey collected information about the practice of pediatric dentists in 2016. The Web-based survey was mounted on the Qualtrics platform; survey response data was transmitted to and resided on a dedicated server at CHWS.

On June 1, 2017, either an email request or a letter was sent to each of the 6,505 pediatric dentists in the U.S. in the AAPD masterfile, soliciting their participation in the survey research. Approximately 200 pediatric dentists who had not provided the AAPD with email contact information were mailed a paper invitation to participate in the online survey. The email and paper correspondence explained the purposes of the survey, the confidentiality of responses, and provided contact information should questions or difficulties arise during survey completion. Three follow up email or mail reminders were sent to non-respondents on June 16, July 10, and July 25, 2017. The survey was closed to response accrual on August 20, 2017. There were 2,546 surveys completed for a response rate of 39.1%.

The survey consisted of 26 questions, many including pre-defined response options. Several of the questions also permitted the respondent to answer “other” and to define “other” in narrative form. The survey used a skip logic design keyed to a positive or negative response to several of the survey questions. This mechanism was used to branch respondents to relevant elaborating questions.

Many of the survey questions duplicated questions asked in the annual ADA Survey of Dental Practice. The replication of these questions was purposeful to allow for comparisons of practice patterns and patient characteristics over time. In addition, several new questions were included in the survey instrument to collect specific information for use in the AAPD-commissioned workforce study completed by CHWS.

The characteristics of survey respondents were compared to the characteristics of AAPD members in the masterfile to ascertain representativeness. No bias was found among survey respondents relative to gender or geographic location. Response biases by age, time as an AAPD member, and mode of survey solicitation (email versus letter) were identified. A weighting algorithm was calculated and used in this analysis to correct for these biases.

ZIP code of primary work setting was not provided by approximately 13.3% of survey respondents, limiting researchers’ ability to fully perform geographic analyses with the survey data. Analysts compared the state of practice of primary work setting indicated by the 86.7% of survey respondents who provided that information with the state of

practice listed for those respondents in the AAPD masterfile. Only 4.4% of the states of practice in the survey data were discrepant with the masterfile address. To enable complete analysis by region, researchers used the state contained in the masterfile for the regional analyses. The county size analyses used only the ZIP codes supplied by survey respondents. For this reason, total numbers in county and regional level analyses of the same question may vary.

Survey Limitations

When assessing information on the adequacy of supply of pediatric dentists in rural areas, communities without a pediatric dentist are not represented in the survey. Substantial variation exists in pediatric dentist supply *across* states; the amount of variation *within* states is possibly greater, a potential future area for research.

While the survey collected information from pediatric dentists, relatively little information is known about the practice patterns of general dentists who provide care to children and their perceptions about the adequacy of dentist supply to provide high quality oral health care to children in the community.

To address issues related to surveying (including survey fatigue), some professional associations representing other health occupations and also state licensing boards have started collecting workforce-related data at the time of membership or licensure renewal. These organizations are achieving nearly 100% response in their data collection efforts.

Appendix

Appendix: 2017 Survey of Dental Practice of Pediatric Dentists



AMERICA'S PEDIATRIC DENTISTS®

2017 Survey of Dental Practice of Pediatric Dentists

This survey is part of a protocol for a research project sponsored by the American Academy of Pediatric Dentistry (AAPD) to estimate future supply and demand for pediatric dental services. This survey is confidential and voluntary. Completion of this survey implies consent to participate in this research. The data compiled from survey responses will be reported only in aggregates and averages in the report summarizing the survey results. Should you have any questions about your participation in this research at any time please contact *Margaret Langelier* at mlangelier@albany.edu or by phone at (518) 402-0250. If you have questions about participation as a research subject, you may contact *Tony Watson*, New York State Department of Health, Institutional Review Board, at (518) 474-8539 or via email at tony.watson@health.ny.gov.

Please answer the following questions to the best of your ability and knowledge. For questions that ask for statistics about your practice, your best estimate is adequate. Please do not report ranges.

Individual Dentist Questions

1. Were you clinically active in the US in pediatric dentistry during **2016**?

- Yes
- No (Please STOP here and return the survey.)

2. Please describe the **primary setting** and any **secondary setting(s)** in which you practiced in **2016**. For the purpose of this survey, the setting where you spend most of your time should be considered your **primary setting** (Mark only one primary and as many secondary settings as apply).

	Primary Setting	Secondary Setting(s)
	Mark only one	Mark all that apply
a. Private dental practice (full- or part-time)	<input type="checkbox"/>	<input type="checkbox"/>
b. Large group multispecialty practice	<input type="checkbox"/>	<input type="checkbox"/>
c. Large group specialty practice	<input type="checkbox"/>	<input type="checkbox"/>
d. Children's hospital	<input type="checkbox"/>	<input type="checkbox"/>
e. Academic dental center	<input type="checkbox"/>	<input type="checkbox"/>
f. Dental management/support organization	<input type="checkbox"/>	<input type="checkbox"/>
g. Federal government facility (e.g., VA)	<input type="checkbox"/>	<input type="checkbox"/>
h. Indian Health Service	<input type="checkbox"/>	<input type="checkbox"/>
i. Other (specify) _____	<input type="checkbox"/>	<input type="checkbox"/>

* If you worked in more than one setting during **2016**, please give information **only** for the **primary setting**.

3. What was your **primary setting's** zip code in **2016**?

Zip Code: _____

4. What year did YOU start or join your **primary setting**?

Year: _____

5. What was your employment situation in your **primary setting** in **2016**?

- A sole proprietor (i.e., the only owner)
- A partner (i.e., one of two or more owners)
- An employee (on a salary, commission, percentage or associate basis)
- An independent contractor

6. Please indicate the total **number of weeks** you spent **providing clinical services** in your **primary** and **secondary setting(s)** during **2016** (do not include vacation).

Number of weeks providing clinical services: _____

Please answer the following about the time you spent **providing clinical services** in your **primary** and **secondary setting(s)** during **2016**.

	Primary Setting	Secondary Setting(s)
a. Total number of hours per week spent in the practice		
b. Number of these weekly hours spent treating patients in the office		

7. Which of the following best describes **you** in your **primary setting** during **2016**?

- a. Provided care to all who requested appointments but was not overworked → SKIP to question 8
- b. Provided care to all who requested appointments but was overworked
- c. Too busy to treat all people requesting appointments
- d. Not busy enough, could have treated more patients

If **7.b** is selected, in percentage terms, what portion of your patient caseload in your **primary setting** did you consider to be excessive causing you to feel overworked in **2016**?

	%
Percentage excess workload	

If **7.c** is selected, relative to the size of your current caseload and in percentage terms approximately what percentage of patients who requested appointments were denied an appointment in your **primary setting** in **2016** (e.g. if you had 100 patients in your caseload in 2016 but 10 more patients requested appointments but could not be treated, your answer would be an additional 10%)?

	%
Percentage of patients that were denied an appointment	

If **7.d** is selected, in percentage terms based on your current caseload, describe the additional percentage of patients that you could have accommodated for treatment in your **primary setting** in **2016** (e.g. if you treated 100 patients in your practice but could have treated 10 more patients in 2016, your additional capacity would be 10%).

	%
Percentage of additional capacity	

8. Please answer the following about patient care that **you personally** and that **all dentists** provided in the **primary setting** during **2016**.

What is the average number of:

	YOU ONLY Visits per week	ALL DENTISTS (including yourself) Visits per week
a. Total patient visits per week (Exclude those with a dental hygienist appointment only)		
b. Emergency and walk-in (i.e., unscheduled) visits per week (If none, enter zero)		

9. Did you provide any treatment services for children under intravenous (IV) sedation in your office in **2016**?

- Yes
- No

If YES, approximately how many patients did you treat under IV sedation **per month** in your office in **2016**?

Monthly patients treated under IV sedation: _____

10. Did you use an **operating room** in a hospital or accredited surgical facility for treatment of inpatient and/or outpatient cases in **2016**?

- Yes
- No

If YES, approximately how many cases did you treat **per month** in an **operating room** in **2016**?

Monthly cases treated in an operating room: _____

If NO, please select **one** response from the following list that **best** describes why you did not use an **operating room** in a hospital or accredited surgical facility for treatment of inpatient and/or outpatient cases in **2016**.

- I never have cases that require treatment in an operating room
- When I have a case that requires treatment in an operating room, I refer it to another dentist
- I don't qualify for, or choose not to, seek hospital privileges
- My community's hospital/surgical facility does not allow dental cases
- I have an anesthesiologist that provides services in my office (**Please specify number of cases per month in 2016**): _____
- Other, please specify: _____

11. Did you provide care to any patients with **special health care needs** in your **primary setting** in **2016**? Special health care needs include any physical, developmental, mental, sensory, behavioral, cognitive, or emotional impairment or limiting condition that requires medical management, health care intervention, and/or use of specialized services or programs.

- Yes
- No

If YES, approximately what percentage of your patient caseload in **2016** was patients with special health care needs?

	%
Percentage of patients with special health care needs	

Primary Setting Questions

12. Please indicate the total number of dentists providing services to patients in your **primary setting** in **2016**? Please include yourself in the count.

	Number
Full-time dentists (32 or more hours per week)	
Part-time dentists (less than 32 hours per week)	

13. In **2016**, in your **primary setting** what was the total number of operatories?

Number of operatories: _____

14. Please indicate the number of full- and part-time non-dentist employees in your **primary setting** during **2016** (If none, enter zero).

	<u>Number of Non-Dentist Positions</u>	
	Full-time (32 or more hours per week)	Part-time (Less than 32 hours per week)
a. Dental hygienists		
b. Chairside assistants*		
c. Secretaries/receptionists-patient scheduling coordinators*		
d. Dental laboratory technicians		
e. Financial coordinators (business personnel)**		
f. Office managers**		
g. Sterilization assistants		

* A secretary/receptionist-patient scheduling coordinator who provides chairside assistance at least 50% of the time should be counted as a chairside assistant, not as a secretary/receptionist-patient scheduling coordinator.

** For options e and f, if one person performs more than one of these functions, please list that person in the category in which the largest percentage of his/her time is spent.

15. What was the approximate total number of visits **per week** completed by all dental hygienists in your **primary setting** during **2016** (if no visits to dental hygienists, enter zero)?

Weekly visits completed by dental hygienists: _____

16. How long in days did the average patient of record or average new patient have to **wait for a scheduled appointment** in your **primary setting** in **2016**?

	Patient of Record	New Patient
a. Days wait for the initial appointment of a series (excluding emergency cases)?		
b. Minutes wait for the average patient to see a dentist after the patient arrived for a scheduled appointment?		

17. Does your **primary practice setting** currently:

	Yes	No
a. Treat Medicaid-insured patients?	<input type="radio"/>	<input type="radio"/>
b. Accept new Medicaid-insured patients?	<input type="radio"/>	<input type="radio"/>
c. Treat patients covered by a Children's Health Insurance Program (CHIP)?	<input type="radio"/>	<input type="radio"/>
d. Accept new patients covered by a Children's Health Insurance Program (CHIP)?	<input type="radio"/>	<input type="radio"/>
e. Treat patients covered by commercial dental insurance?	<input type="radio"/>	<input type="radio"/>
f. Accept new patients covered by commercial dental insurance?	<input type="radio"/>	<input type="radio"/>

18. Approximately what percentage of all the patients who visited your **primary setting** in **2016** were:

a. Percentage of patients by **age group** (the total should equal 100%):

	%
Birth to 2 years of age	
3 to 4 years of age	
5 to 12 years of age	
13 to 17 years of age	

18 years of age or older	
--------------------------	--

b. Percentage of patients by **type of insurance** (the total should equal 100%):

	%
Covered by a private insurance program that pays or partially pays for their dental care	
Covered by a public assistance program that pays or partially pays for their dental care	
Not covered by an insurance program	

19. What is your **primary setting's** definition of an active patient?

A patient treated within the last:

- 12 months
- 18 months
- 24 months
- My practice doesn't define active patients
- Other, please specify: _____

20. How many **active patients** does your **primary practice setting** currently have on record?

Number of active patients: _____

21. Please indicate the following for your **primary setting**.

	Number
Total number of patients on caseload	
Total number of patients on caseload who have established a <i>dental home</i> (versus only seeking episodic treatment)	

22. At what age do you plan to become permanently clinically inactive (not treating patients) in pediatric dentistry?

- I **plan** to become permanently inactive in pediatric dentistry **at the age of** (specify): _____ → SKIP to question 23
- I have **no plans** to become permanently inactive in pediatric dentistry → SKIP to question 23
- I have **no plans** to become permanently inactive in pediatric dentistry, **BUT** plan to **reduce** my work hours **at the age of** (specify): _____

22a. At the age of you specified, you plan to **reduce** your weekly work hours to:

	Hours per week
Work hours reduced to	

Charitable Care

23. Did you provide charitable dental care either **free of charge** or **at a reduced rate** to any groups or individuals in **2016**?

- a. Free of charge only
- b. Reduced rate only
- c. Both of them
- d. None of them → SKIP to question 24

For questions 23a through 23c, please do not include discounted payment by government programs (such as Medicaid and CHIP) in your answers or calculations.

If you marked **23.a** or **23.c** is selected, since you provided dental care **free of charge** to patients in **2016**, estimate the **total dollar value** of these dental services (Please do not include free services offered for practice marketing/building purposes or services for which the patient was billed but you did not receive payment).

	\$
Dollar value of free of charge services	

If **23.b** or **23.c** is selected, since you provided dental care **at a reduced rate** to patients in **2016**, what was the average percent reduction offered?

	%
Average percent by which fee was reduced	

If **23.b** or **23.c** is selected, since you provided dental care **at a reduced rate** to any patients in **2016**, please estimate what the total billings would have been for these services at the non-discounted rate?

	\$
Estimate of what total billings for these services would have been at non-discounted rate	

Demographics

24. Please indicate the state where you graduated from high school.

- | | | |
|--|--------------------------------------|--------------------------------------|
| <input type="radio"/> Alabama | <input type="radio"/> Kentucky | <input type="radio"/> North Dakota |
| <input type="radio"/> Alaska | <input type="radio"/> Louisiana | <input type="radio"/> Ohio |
| <input type="radio"/> Arizona | <input type="radio"/> Maine | <input type="radio"/> Oklahoma |
| <input type="radio"/> Arkansas | <input type="radio"/> Maryland | <input type="radio"/> Oregon |
| <input type="radio"/> California | <input type="radio"/> Massachusetts | <input type="radio"/> Pennsylvania |
| <input type="radio"/> Colorado | <input type="radio"/> Michigan | <input type="radio"/> Rhode Island |
| <input type="radio"/> Connecticut | <input type="radio"/> Minnesota | <input type="radio"/> South Carolina |
| <input type="radio"/> District of Columbia | <input type="radio"/> Mississippi | <input type="radio"/> South Dakota |
| <input type="radio"/> Delaware | <input type="radio"/> Missouri | <input type="radio"/> Tennessee |
| <input type="radio"/> Florida | <input type="radio"/> Montana | <input type="radio"/> Texas |
| <input type="radio"/> Georgia | <input type="radio"/> Nebraska | <input type="radio"/> Utah |
| <input type="radio"/> Hawaii | <input type="radio"/> Nevada | <input type="radio"/> Vermont |
| <input type="radio"/> Idaho | <input type="radio"/> New Hampshire | <input type="radio"/> Virginia |
| <input type="radio"/> Illinois | <input type="radio"/> New Jersey | <input type="radio"/> Washington |
| <input type="radio"/> Indiana | <input type="radio"/> New Mexico | <input type="radio"/> West Virginia |
| <input type="radio"/> Iowa | <input type="radio"/> New York | <input type="radio"/> Wisconsin |
| <input type="radio"/> Kansas | <input type="radio"/> North Carolina | <input type="radio"/> Wyoming |
| <input type="radio"/> Other (specify): _____ | | |

25. Please indicate your gender.

- Male
- Female

26. Are you Hispanic?

- Yes
- No

27. Please indicate your race.

- White
- Black/African American
- American Indian/Alaska Native
- Asian/Pacific Islander
- Other (specify): _____

Opinions

28. How would you rate the current supply of pediatric dentists in your local area?

- There is a shortage
- The current supply is adequate
- There is an oversupply

29. Are there concerns in your state about the availability of pediatric dentists in less populated areas?

- Yes
- No
- Don't know

30. Please indicate the **average number of patient referrals** to your practice on a monthly basis from dental providers offering dental services in less populated areas of your state or a neighboring state.

	Monthly
Average number of referrals	

31. Please provide any comments or concerns about the practice of pediatric dentistry in the box below.

Thank you for your assistance in this research project!

Please return this survey to the following address:

Center for Health Workforce Studies
School of Public Health, University at Albany, SUNY
1 University Place / Suite 220
Rensselaer, NY 12144-3445