# 2013 Pulse of Pennsylvania's Dentist and Dental Hygienist Workforce

A Report on the 2013 Survey of Dentists and Dental Hygienists

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Bureau of Health Planning Division of Plan Development



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#### INTRODUCTION

Dentists diagnose and treat conditions and diseases of the head and neck that are generally related to the oral cavity. They also provide preventive direction and advice to patients. Dentists perform a variety of activities, such as removing tooth decay, filling cavities, repairing fractured teeth and bones of the jaws, reading x-rays, performing corrective surgery on gums and supporting bones to treat gum diseases, extracting teeth, and providing replacements for missing teeth. Dentists may administer anesthetics and write medication prescriptions in conjunction with the activities that they perform.

Individuals studying to become dentists will complete at least eight years of education following high school. In addition to completing a bachelor's degree, individuals must take the Dental Admission Test before applying for admission to dental school. Upon graduation from an accredited dental school, a dentist receives a degree of either a Doctor of Dental Surgery (D.D.S.) or a Doctor of Dental Medicine (D.M.D.). Dentists may practice in general dentistry or may choose to undergo further training by completing a residency program in general practice or one of the specialty areas of dentistry that include orthodontics, oral and maxillofacial surgery, pediatric dentistry, periodontics, prosthodontics, endodontics, oral pathology, oral and maxillofacial radiology, or public health dentistry. Dental residencies require an additional commitment of one to four years to complete, depending on the area of specialty.



According to the American Dental Association, there are 64 dental schools operating in the United States. Pennsylvania is home to three dental schools.

In all 50 states, the District of Columbia and territories, dentists must be licensed to practice dentistry. To obtain a license, dentists must graduate from an accredited dental school and pass a licensing clinical examination accepted by the state in which they wish to practice. In Pennsylvania, the State Board of Dentistry (Board) within the Department of State is responsible for regulating dental practice through licensure, registration and certification of members of the dental professions.

Dental hygienists provide preventive dental care such as cleaning teeth and educating patients on good oral health practices. The State Board of Dentistry also licenses dental hygienists upon completion of an approved dental hygiene education program and passing written and clinical examinations.

Individuals who have completed a Board-approved training program and passed an initial certification examination may become certified by the State Board of Dentistry as an expanded function dental assistant. A dental hygienist whose accredited training program included sufficient hours of instruction on restorative functions may also become certified as an expanded function dental assistant. Expanded function dental assistants may perform designated higher level assisting procedures under the direct supervision of a dentist.

A dental hygienist may become certified by the State Board of Dentistry as a public health dental hygiene practitioner upon completion of 3,600 hours of practice under the supervision of a dentist and after securing appropriate professional liability insurance. Public health dental hygiene practitioners may provide dental hygiene services in certain public health settings without the supervision of a dentist.

#### METHODS AND TECHNICAL NOTES

Dentists and dental hygienists renew their Pennsylvania license to practice every two years through the Department of State, Bureau of Professional and Occupational Affairs (BPOA). In cooperation with the BPOA, the Department of Health, Bureau of Health Planning, surveys dentists and dental hygienists renewing their licenses. The surveys are designed to collect information on the characteristics and distribution of the dentist and dental hygienist workforces in the commonwealth.

In 2013, dentists and dental hygienists licensed under the State Board of Dentistry were surveyed during the license renewal period that ran from January to April. The surveys were conducted online and on paper, depending on the medium chosen by the respondent. Because these surveys are tied to the licensure renewal process, the data captured does not include first-time licensees or most individuals in training. The dentist survey instrument, in its paper form, is available in Appendix 8, and the dental hygienist survey instrument, in its paper form, is available in Appendix 13.

Data analysis was completed on valid surveys returned for both dentists and dental hygienists. Surveys without a valid license number, duplicate responses and surveys with inactive or expired license numbers were removed. The tables below provide the number of dentists and dental hygienists who renewed their licenses, the number of valid surveys returned, and the response rates to the surveys.

#### Dentists

	2003	2005	2007	2009	2011	2013
Renewals	9,241	8,757	9,222	9,274	9,428	9,449
Valid surveys returned	6,800	6,956	8,326	8,628	8,320	8,230
Response rate (surveys/renewals)	73.6%	79.4%	90.3%	93.0%	88.2%	87.1%

#### **Dental Hygienists**

	2003	2005	2007	2009	2011	2013
Renewals	6,745	6,787	7,440	7,934	8,304	8,571
Valid surveys returned	5,453	5,738	6,878	7,671	7,774	7,908
Response rate (surveys/renewals)	80.8%	84.5%	92.4%	96.7%	93.6%	92.3%

### METHODS AND TECHNICAL NOTES, CONTINUED

With data for approximately 13 percent of renewing dentists and 8 percent of renewing dental hygienists missing, a caution about the potential for bias is in order. Bias occurs when there is a correlation between some characteristic in the population and the decision to respond or not to respond to the survey. Dentists or dental hygienists with the characteristic may choose to respond at a higher rate than those who do not have the characteristic. Usually, little or no data exists to show what characteristics are correlated with the decision to respond or how strong any correlation might be. This report describes the 87 percent of dentists and 92 percent of dental hygienists who responded to the survey – not all dentists and dental hygienists.

A reasonable estimate of the size and characteristics of the entire population of renewing dentists and dental hygienists can be obtained by applying the response rate to most of the counts reported. The calculation is:

Count ÷ response rate

For example, to estimate the number of female dentists licensed in Pennsylvania, divide the number of female survey respondents by the response rate.

1,980 ÷ 0.871 = 2,273

This method does not include an adjustment for items with missing values, thus yielding a conservative, or low, estimate.

The information presented in this report, unless noted, is based upon actual response counts. Not all questions were answered by all respondents; therefore, the number of responses may vary for each question.

Information from prior dentist and dental hygienist report findings and national findings is included for comparison purposes.

The survey questions used for both dentists and dental hygienists have changed over the different survey years, resulting in some differences in the data collected.

#### **EXECUTIVE SUMMARY**

The 2013 Pulse of Pennsylvania's Dentist and Dental Hygienist Workforce presents findings from the 2013 Dentist Survey and 2013 Dental Hygienist Survey. These surveys were designed to collect information on the characteristics and distribution of the dentist and dental hygienist workforces within the commonwealth.

The surveys were conducted in conjunction with the biennial license renewal for dentists and dental hygienists. It is important to note that dentists and dental hygienists receiving their first license were not included in the survey. A detailed explanation of the data collection and analysis may be found in the Methods and Technical Notes, beginning on page *x*.

In 2013, there were more dentists and dental hygienists who renewed their licenses compared to prior survey years. Since 2003, there were 208 or 2 percent more dentists and 1,826 or 27 percent more dental hygienists who renewed their license in Pennsylvania.

#### Dentists

Responding dentists licensed in Pennsylvania resided around the nation, Washington, D.C., and across the globe, with 95 percent employed in dentistry. Eight out of every 10 respondents employed in dentistry provided direct patient care in Pennsylvania.

Respondents who provided direct patient care in Pennsylvania became a more diverse workforce, with females increasing from 18 percent in 2007 to 23 percent in 2013. Asian respondents increased from 6 percent in 2007 to 9 percent in 2013.

Respondents who provided direct patient care in Pennsylvania are aging, with the average age increasing from 51.3 years in 2007 to 52.4 in 2013. Three out of every 10 respondents was age 60 or older.

In 2013, 10 percent of respondents who provided direct patient care in Pennsylvania were board certified in a dental specialty, a decrease from 15 percent in 2011. Seventy-seven percent of respondents who provided direct patient care spent most of their time performing general dentistry.

Dentist respondents who provided direct patient care in Pennsylvania and practiced in rural counties increased from 19 percent in 2011 to 20 percent in 2013.<sup>\*</sup> The rate of respondents per 100,000 population was 36 in rural counties and 55 in urban counties.<sup>\*</sup>

In 2013, 86 percent of respondents who provided direct patient care in Pennsylvania worked in a private office practice. Almost half (45 percent) of respondents owned a solo private practice, and 27 percent were owners of a partnership private practice.

Medicaid patients were accepted by 24 percent of respondents who provided direct patient care in Pennsylvania, an increase from 17 percent in 2003. Ninety-six percent of respondents accepted new patients in 2013. Of those who accepted new patients, 28 percent accepted Medicaid patients.

Thirty-five percent of dentist respondents who practiced direct patient care in Pennsylvania anticipated practicing for 16+ years and 24 percent for less than six years. Respondents who specialized in oral surgery reported the highest percentage (35 percent) of all specialties leaving direct patient care in less than six years.

<sup>&</sup>lt;sup>\*</sup> Rural counties were identified using the Center for Rural Pennsylvania's definition and 2010 Census data.

#### **EXECUTIVE SUMMARY, CONTINUED**

#### **Dental Hygienists**

Responding dental hygienists licensed in Pennsylvania resided around the nation, Washington, D.C., and across the globe, with 89 percent employed in dental hygiene. Of those respondents employed in dental hygiene, almost 80 percent provided direct patient care in Pennsylvania.

Seven out of every 10 respondents who provided direct patient care in Pennsylvania completed an associate degree as their highest level of education. In 2013, 5 percent of respondents who provided direct patient care in Pennsylvania were enrolled in higher education programs. Of those respondents enrolled in higher education programs, 23 percent were enrolled in dental hygiene bachelor degree programs.

In 2013, 47 percent of respondents who provided direct patient care in Pennsylvania had a dental hygiene certification, such as an expanded function dental assistant permit, a school hygienist certificate or a dental hygiene local anesthesia permit. Twelve percent of respondents intended to apply for a license to practice as a public health dental hygiene practitioner.

Twenty-two percent of respondents who provided direct patient care in Pennsylvania held their primary job in a rural county.<sup>\*</sup> The rate of dental hygienist respondents per 100,000 population was 40 in rural counties and 52 in urban counties.<sup>\*</sup>

A quarter (25 percent) of respondents who provided dental hygiene direct patient care in Pennsylvania were employed in more than one dental hygiene position. Private dental practices, both partnerships and solo dentists, employed 91 percent of respondents who provided direct patient care in Pennsylvania.

Of respondents who provided direct patient care in Pennsylvania, 94 percent were satisfied or very satisfied with their primary job, and 95 percent were satisfied or very satisfied with dental hygiene as a career.

Forty-four percent of dental hygiene respondents who practiced direct patient care in Pennsylvania anticipated practicing for 16 or more years and 13 percent for less than six years. Of respondents who anticipated practicing for 16 or more years, 88 percent anticipated practicing those 16 years in Pennsylvania.

Fifteen percent of respondents who provided direct patient care in Pennsylvania planned to leave dental hygiene direct patient care in less than six years. Of those who planned to leave direct patient care, 53 percent reported retirement as their principal reason, while 12 percent reported a career change as their principal reason.

<sup>\*</sup> Rural counties were identified using the Center for Rural Pennsylvania's definition and 2010 Census data.

# All Dentists Licensed in Pennsylvania Responding to the 2013 Survey of Pennsylvania Dentists

### All Dentists Licensed in Pennsylvania

This section provides information on all of the dentists who responded to the 2013 Pennsylvania dentist relicensing survey. A total of 8,230 dentists who renewed their Pennsylvania licenses in 2013 responded to this survey, a decrease of 90 dentists from 2011. In 2013, these respondents resided in 50 states, Washington, D.C., and around the world.

### Age

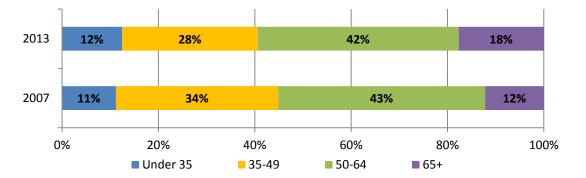
In 2013, the average age of dentist respondents was 52.1 years, an increase from 2007, when the average age of respondents was 50.7 years. Table 1 lists the distribution of respondents across age groups for 2013, with 59 percent of respondents age 50 or older.

Age Groups	Number	Percent
25-29	286	4%
30-34	738	9%
35-39	733	9%
40-44	725	9%
45-49	859	10%
50-54	999	12%
55-59	1,243	15%
60-64	1,189	14%
65+	1,455	18%
Total	8,227	100%

#### Table 1: Respondents Licensed in Pennsylvania by Age Groups, 2013 Dentist Survey

Figure 1 compares the distribution of dentist respondents across age groups in 2007 and 2013. While the 65+ age group increased from 12 percent in 2007 to 18 percent in 2013, the 35-49 age group decreased from 34 percent in 2007 to 28 percent in 2013.





#### Sex

In 2013, males comprised 76 percent of dentist respondents. Females increased from 19 percent of respondents in 2007 to 24 percent in 2013. Table 2 lists the distribution of respondents by sex.

#### Table 2: Respondents Licensed in Pennsylvania by Sex, 2013 Dentist Survey

Sex	Number	Percent
Male	6,250	76%
Female	1,980	24%
Total	8,230	100%

#### **Race and Ethnicity**

Dentist respondents selected one category that best described their race and indicated if they were of Hispanic/Latino origin. The distribution of respondents by race is listed in Table 3. Asian respondents increased from 7 percent in 2007 to 10 percent in 2013.

#### Table 3: Respondents Licensed in Pennsylvania by Race, 2013 Dentist Survey

Race	Number	Percent
White	6,879	84%
Asian	827	10%
Other	237	3%
Black	217	3%
American Indian/Alaska Native	44	< 1%
Native Hawaiian/Other Pacific Islander	19	< 1%
Total	8,223	100%

The percentage of dentist respondents who reported being of Hispanic/Latino origin held stable from 2007 to 2013 at 2 percent. Table 4 lists the ethnicity of respondents in 2013.

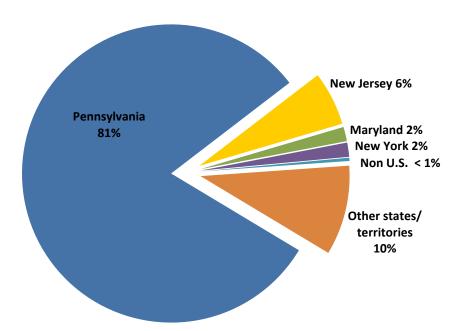
#### Table 4: Respondents Licensed in Pennsylvania by Ethnicity, 2013 Dentist Survey

Ethnicity	Number	Percent
Hispanic/Latino	184	2%
Non-Hispanic/Latino	8,043	98%
Total	8,227	100%

#### Residence

Dentist respondents resided in 50 states, Washington, D.C., and around the world in 2013. Figure 2 presents the state of residence for respondents, with 81 percent residing in Pennsylvania. Other states and territories, not specified in the figure, each accounted for 1 percent or less of respondents.

# Figure 2: Respondents Licensed in Pennsylvania by State of Residence, 2013 Dentist Survey

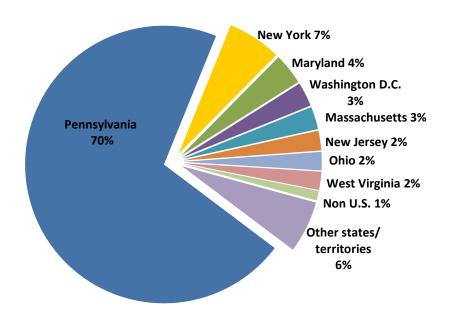




#### **Dental Education**

In 2013, 70 percent of respondents had graduated from dental school in Pennsylvania. Figure 3 shows the states from which respondents graduated from dental school. Other states and territories, not specified in the figure, each accounted for 1 percent or less of respondents.

## Figure 3: Respondents Licensed in Pennsylvania by State of Dental School Graduation, 2013 Dentist Survey



Following graduation from dental school, 27 percent of respondents completed a postdoctoral certificate program in general dentistry.

Five percent of dentist respondents were completing training as a resident or fellow in 2013. Table 5 lists the training status of respondents.

Training Status	Number	Percent
Resident	302	4%
Fellow	115	1%
Neither	7,766	95%
Total	8,183	100%

#### Table 5: Respondents Licensed in Pennsylvania by Training Status, 2013 Dentist Survey

#### **Board Certification**

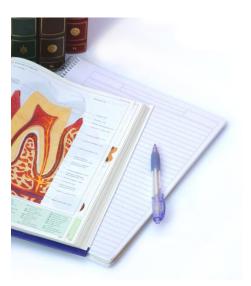
In 2013, 12 percent of respondents were board certified in a dental specialty, and less than 1 percent had double board certification. Table 6 lists the board certification or lack of board certification of respondents.

Table 6: Respondents Licensed in Pennsylvania by Board Certification, 2013 Dentist	Ł
Survey	

Certification	Number	Percent
None	7,173	88%
American Board of Oral and Maxillofacial Surgery	307	4%
American Board of Orthodontics	209	3%
American Board of Periodontology	145	2%
American Board of Dental Public Health	133	2%
American Board of Pediatric Dentistry	132	2%
American Board of Endodontics	70	1%
American Board of Prosthodontics	48	< 1%
American Board of Oral and Maxillofacial Radiology	31	< 1%
American Board of Oral and Maxillofacial Pathology	29	< 1%
Total	8,172	100%

### Licensure

Eighty-one percent of respondents received their first dental license in Pennsylvania, followed by 4 percent in New York, 3 percent in New Jersey and 2 percent in Maryland. Other states, territories and countries reported each accounted for 1 percent or less of respondents.



#### Employment

In 2013, 95 percent of dentist respondents were employed in dentistry, direct or indirect. Table 7 lists the employment status of respondents.

 Table 7: Respondents Licensed in Pennsylvania by Employment Status, 2013 Dentist

 Survey

Employment Status	Number	Percent
Employed in dentistry, direct or indirect	7,793	95%
Retired	165	2%
Student, leave of absence or sabbatical	87	1%
Unemployed, seeking work in dentistry	78	1%
Employed, not in dentistry	36	< 1%
Unemployed, disabled	20	< 1%
Unemployed, not seeking work in dentistry	16	< 1%
Total	8,195	100%

Eighty-eight percent of dentist respondents employed in dentistry provided one or more hours of direct patient care in Pennsylvania per week in 2013. Table 8 lists the number of hours that respondents, employed in dentistry, provided direct patient care in Pennsylvania each week.

## Table 8: Respondents Employed in Dentistry by the Number of Hours Spent Providing Direct Patient Care in Pennsylvania Each Week, 2013 Dentist Survey

Hours	Number Percer	
1-10	190	3%
11-19	397	6%
20-30	1,147	18%
31-40	3,667	58%
More than 40	982	15%
Total	6,383	100%

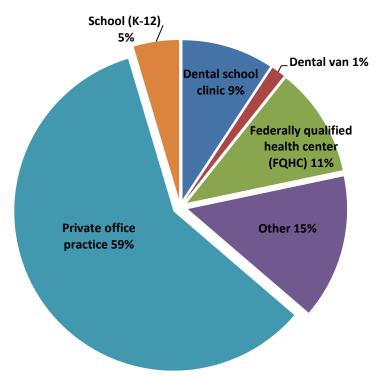
Of those dentist respondents whose primary employment situation was not in direct patient care, 58 percent planned to return to direct patient care within the next five years.



### Volunteering

In the prior year, 22 percent of respondents volunteered their services as a dentist in Pennsylvania. Respondents were able to select the location where they volunteered their services. Figure 4 presents the locations where respondents volunteered dental services in Pennsylvania.

# Figure 4: Locations Where Respondents Provided Volunteer Dental Services in Pennsylvania, 2013 Dentist Survey



Dentists Who Provided Direct Patient Care in Pennsylvania Responding to the 2013 Survey of Pennsylvania Dentists

#### Dentists Who Provided Direct Patient Care in Pennsylvania

This section provides information on dentists who responded to the 2013 Pennsylvania dentist relicensing survey and provided direct patient care in Pennsylvania. In 2013, these 6,383 respondents were 78 percent of all respondents.

In previous Pennsylvania Dentist and Dental Hygienist Workforce Reports, respondents who provided direct patient care in Pennsylvania were defined as those who reported employment in health care and a primary employment situation of direct patient care in Pennsylvania. In this report, respondents who provided direct patient care in Pennsylvania are defined as those who reported employment in dentistry and provided at least one hour of direct patient care in Pennsylvania per week during the prior year.

#### Age

In 2013, the average age of dentist respondents who provided direct patient care in Pennsylvania was 52.4 years, an increase from 2009, when the average age of respondents was 51.6 years. Table 9 lists the distribution of respondents who provided direct patient care in Pennsylvania across age groups for 2013, with 61 percent of respondents age 50 or older. Appendix 3 lists respondents by age groups and county of primary practice.

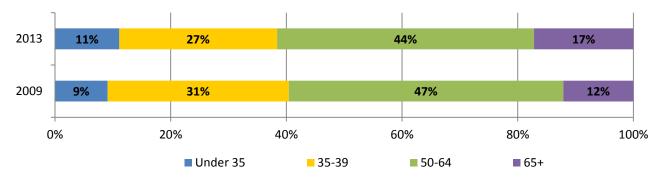
## Table 9: Respondents Who Provided Direct Patient Care in Pennsylvania by Age Groups,2013 Dentist Survey

Age Groups	Number	Percent
20-29	195	3%
30-34	530	8%
35-39	537	8%
40-44	539	8%
45-49	664	10%
50-54	830	13%
55-59	1,023	16%
60-64	974	15%
65+	1091	17%
Total	6,383	100%*

\*Note: Due to rounding, percentage totals may not add up to 100.

Figure 5 compares the distribution of dentist respondents who provided direct patient care in Pennsylvania across age groups in 2009 and 2013. While the 65 and older age group increased from 12 percent in 2009 to 17 percent in 2013, the 35-49 age group decreased from 31 to 27 percent.

### Age, continued



# Figure 5: Respondents Who Provided Direct Patient Care in Pennsylvania by Age Groups, 2009 and 2013 Dentist Surveys

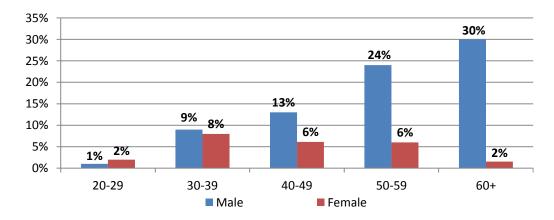
#### Sex

In 2013, males comprised 77 percent of dentist respondents who provided direct patient care in PennsyvInaia. Females increased from 21 percent of respondents in 2011 to 23 percent in 2013. Table 10 lists the distribution of respondents who provided direct patient care in Pennsylvania by sex.

## Table 10: Respondents Who Provided Direct Patient Care in Pennsylvania by Sex, 2013 Dentist Survey

Sex	Number	Percent
Male	4,896	77%
Female	1,487	23%
Total	6,383	100%

While males who provided direct patient care in Pennsylvania outnumbered females in all but one age group in 2013, the difference was not as large for those under 40 years of age, as shown in Figure 6.



# Figure 6: Respondents Who Provided Direct Patient Care in Pennsylvania by Age and Sex, 2013 Dentist Survey

#### **Race and Ethnicity**

Dentist respondents selected one category that best described their race and indicated if they were of Hispanic/Latino ethnicity. Of respondents who provided direct patient care in Pennsylvania, 85 percent were white, followed by 9 percent who were Asian. The distribution of race for respondents who provided direct patient care in Pennsylvania is listed in Table 11.

# Table 11: Respondents Who Provided Direct Patient Care in Pennsylvania by Race, 2013Dentist Survey

Race	Number	Percent
White	5,441	85%
Asian	589	9%
Other	163	3%
Black	139	2%
American Indian/Alaska Native	33	< 1%
Native Hawaiian/Other Pacific Islander	13	< 1%
Total	6,378	100%

The percentage of dentist respondents who provided direct patient care in Pennsylvania and reported being of Hispanic/Latino origin increased from 1 percent in 2011 to 2 percent of respondents in 2013. Table 12 lists the ethnicity of respondents who provided direct patient care in Pennsylvania in 2013.

# Table 12: Respondents Who Provided Direct Patient Care in Pennsylvania by Ethnicity,2013 Dentist Survey

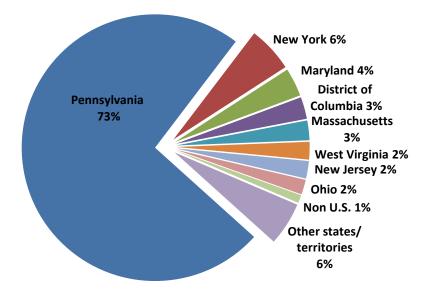
Ethnicity	Number	Percent
Hispanic/Latino	127	2%
Non-Hispanic/Latino	6,255	98%
Total	6,382	100%



#### **Dental Education**

In 2013, 73 percent of respondents who provided direct patient care in Pennsylvania graduated from one of the three dental schools in Pennsylvania. Figure 7 shows the states from which respondents graduated from dental school. Other states and territories, not listed in the figure, each accounted for 1 percent or less of respondents.

# Figure 7: Respondents Who Provided Direct Patient Care in Pennsylvania by State of Dental School Graduation, 2013 Dentist Survey



Following graduation from dental school, 25 percent of respondents who provided direct patient care in Pennsylvania completed a postdoctoral certificate program in general dentistry. Postdoctoral programs in general dentistry are either an Advanced Education in General Dentistry (AEGD) or General Practice Residency (GRP) program at a dental school or medical institution such as a hospital.<sup>1</sup>

In 2013, 3 percent of dentist respondents who provided direct patient care in Pennsylvania were completing training as a resident or fellow. Table 13 lists the training status of respondents.

Table 13: Respondents Who Provided Direct Patient Care in Pennsylvania by Training
Status, 2013 Dentist Survey

Training Status	Number	Percent
Neither	6,144	97%
Resident	147	2%
Fellow	76	1%
Total	6,367	100%

#### **Board Certification**

In 2013, 10 percent of respondents who provided direct patient care in Pennsylvania were board certified in a dental specialty. Oral and maxillofacial surgery was the most reported board certification in 2013. Table 14 lists the board certification or lack of board certification of respondents who provided direct patient care in Pennsylvania in 2013.

# Table 14: Respondents Who Provided Direct Patient Care in Pennsylvania by Board Certification, 2013 Dentist Survey

Certification	Number	Percent
None	5,700	90%
American Board of Oral and Maxillofacial Surgery	186	3%
American Board of Orthodontics	154	2%
American Board of Dental Public Health	108	2%
American Board of Pediatric Dentistry	88	1%
American Board of Periodontology	87	1%
American Board of Endodontics	42	< 1%
American Board of Prosthodontics	29	< 1%
American Board of Oral and Maxillofacial Radiology	23	< 1%
American Board of Oral and Maxillofacial Pathology	18	< 1%
Total	6,355	100%

#### Licensure

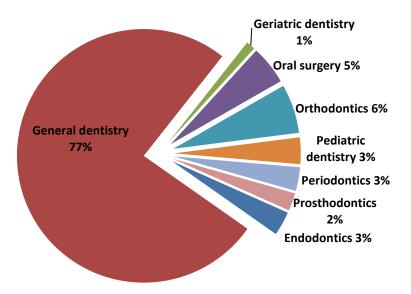
Eighty-five percent of respondents who provided direct patient care in Pennsylvania received their first dental license in Pennsylvania, followed by 3 percent in New York, 2 percent in New Jersey and 2 percent in Maryland. Other states, territories and countries that reported, each accounted for 1 percent or less of respondents.

Of respondents who provided direct patient care in Pennsylvania and received their first dental license in Pennsylvania, 71 percent completed dental school in Pennsylvania.

### Specialty

General dentistry was the most reported specialty by respondents who provided direct patient care in Pennsylvania. Figure 8 presents the dental practice specialties of respondents. Appendix 2 lists respondents who provided direct patient care in Pennsylvania with a general dentistry specialty by county of primary practice.

# Figure 8: Respondents Who Provided Direct Patient Care in Pennsylvania by Specialty, 2013 Dentist Survey



While males comprised the overwhelming majority of respondents who provided direct patient care, females were 47 percent of respondents with the specialty of pediatric dentistry. Table 15 lists the dental practice specialties of respondents by sex.

Specialty	Ma	Males		Females	
Specialty	Number	Percent	Number	Percent	Total
General dentistry	3,747	59%	1,169	18%	4,916
Orthodontics	314	5%	85	1%	399
Oral surgery	280	4%	21	< 1%	301
Pediatric dentistry	120	2%	106	2%	226
Endodontics	143	2%	39	1%	182
Periodontics	144	2%	35	< 1%	179
Prosthodontics	109	2%	22	< 1%	131
Geriatric dentistry	37	1%	10	< 1%	47

# Table 15: Respondents Who Provided Direct Patient Care in Pennsylvania by Specialty and Sex, 2013 Dentist Survey

Total

77%

1,487

23%

6.381

4,894

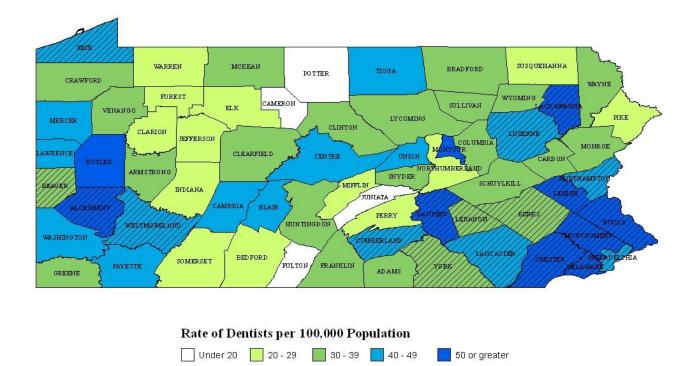
#### Geography

Respondents who provided direct patient care in Pennsylvania practiced dentistry in all 67 counties in 2013. Across the commonwealth, the rate of respondents who provided direct patient care in Pennsylvania was 50 per 100,000 population. Appendix 1 lists respondents who provided direct patient care in Pennsylvania by their county of primary practice.

Based upon the Center for Rural Pennsylvania's definition of rural and urban counties and the 2010 U.S. Census population, Pennsylvania has 48 rural counties, with 27 percent of the population residing in those counties.

In 2013, approximately one out of every five respondents (1,243 or 20 percent) who provided direct patient care in Pennsylvania practiced in rural counties. The rate of respondents who provided direct patient care in Pennsylvania was 36 per 100,000 population in rural counties and 55 per 100,000 in urban counties. The map in Figure 9 shows the wide variation in rates of respondents who provided direct patient care in Pennsylvania care in Pennsylvania per 100,000 population across the commonwealth.

#### Figure 9: Respondents Who Provided Direct Patient Care in Pennsylvania per 100,000 Population by County of Primary Practice, 2013 Dentist Survey



Urban Rural

#### **Hours Providing Direct Patient Care**

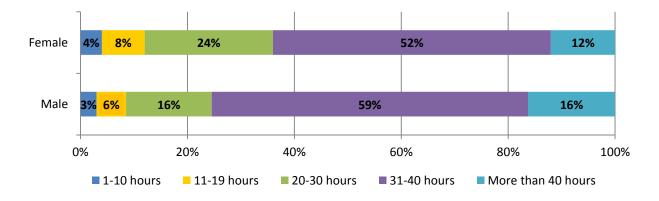
Approximately three out of every four dentist respondents who provided direct patient care in Pennsylvania provided 31 or more hours of direct patient care in Pennsylvania each week in the prior year. Table 16 lists respondents by the number of hours they spent providing direct patient care in Pennsylvania each week.

Hours	Number	Percent
1-10	190	3%
11-19	397	6%
20-30	1,147	18%
31-40	3,667	57%
More than 40	982	15%
Total	6,383	100%

# Table 16: Respondents by the Hours Spent Providing Direct Patient Care inPennsylvania, 2013 Dentist Survey

Sex impacted the number of hours dentist respondents spent providing direct patient care in Pennsylvania. Males were more likely to have spent 31 or more hours each week providing direct patient care in Pennsylvania. Figure 10 compares the number of hours respondents spent providing direct patient care by sex.

## Figure 10: Respondents Who Provided Direct Patient Care in Pennsylvania by Sex and Hours Spent Providing Direct Patient Care in Pennsylvania, 2013 Dentist Survey



#### **Practice Setting**

In 2013, dentist respondents who provided direct patient care in Pennsylvania practiced in a variety of settings, such as schools and clinics. Private office practice was by far the most reported practice setting and accounted for 86 percent of respondents. Table 17 lists the practice settings of respondents who provided direct patient care in Pennsylvania.

# Table 17: Respondents Who Provided Direct Patient Care in Pennsylvania by PracticeSetting, 2013 Dentist Survey

Practice Setting	Number	Percent
Private office practice	5,516	86%
Clinic or center	542	8%
Dental school	158	2%
Other	81	1%
Industry/business	45	1%
Mobile dental unit or community setting	26	< 1%
School health (K-12/college/university)	9	< 1%
Total	6,377	100%



#### **Practice Ownership**

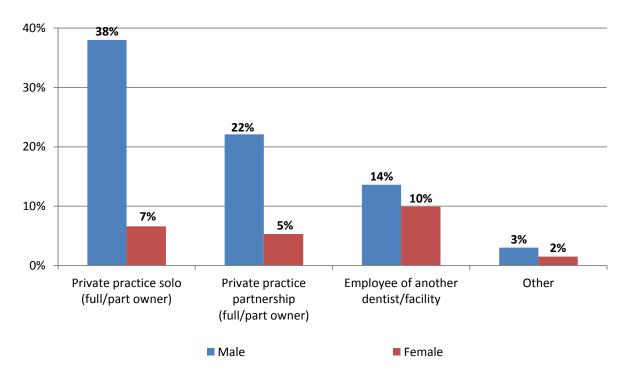
In 2013, 72 percent of dentist respondents who provided direct patient care in Pennsylvania were full or part owners of a private practice. Table 18 lists the practice ownership of respondents in 2013.

## Table 18: Respondents Who Provided Direct Patient Care in Pennsylvania by Practice Ownership, 2013 Dentist Survey

Practice Ownership	Number	Percent
Private practice solo (full/part owner)	2,850	45%
Private practice partnership (full/part owner)	1,752	27%
Employee of another dentist/facility	1,494	23%
Other	287	5%
Total	6,383	100%

Seventy-eight percent of males who provided direct patient care in Pennsylvania were full or part owners of private practices compared to 51 percent of females. Eighteen percent of males who provided direct patient care in Pennsylvania were employees of another dentist or a facility compared to 42 percent of females. Figure 11 shows the distribution of respondents who provided direct patient care in Pennsylvania by practice ownership and sex.

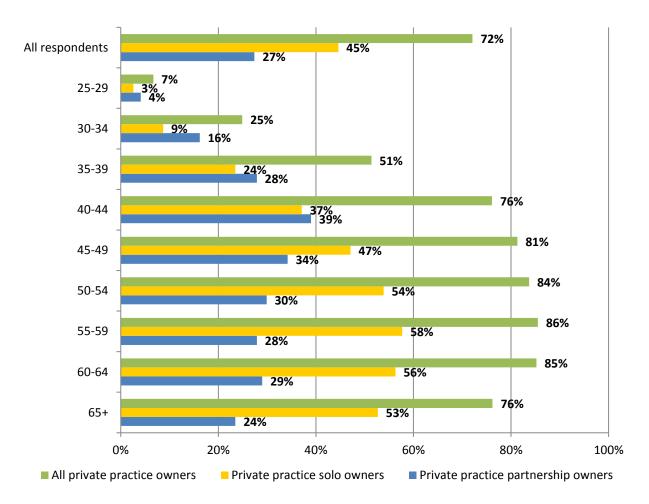
# Figure 11: Respondents Who Provided Direct Patient Care in Pennsylvania by Practice Ownership and Sex, 2013 Dentist Survey



#### Practice Ownership, continued

Younger dentist respondents were less likely to be a full or part owner of a private practice than older respondents. Private practice ownership peaked with respondents in the 55-59 age group at 86 percent. Figure 12 compares all private practice ownership with solo and partner ownership for respondents who provided direct patient care in Pennsylvania by age groups.





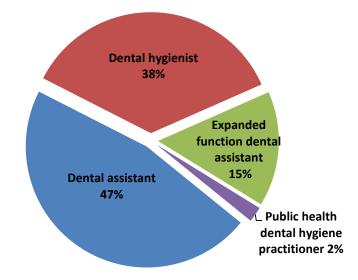
### **Auxiliary Staff**

In addition to dentists, dental practices frequently employ auxiliary staff, such as dental assistants, dental hygienists, expanded function dental assistants and public health dental hygiene practitioners. Ninety-four percent of respondents who provided direct patient care in Pennsylvania reported their office employed at least one type of auxiliary staff.

### Auxiliary Staff, continued

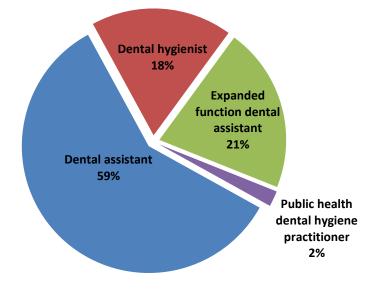
Dentist respondents who provided direct patient care in Pennsylvania selected from four types of auxiliary staff employed in their office. They could select more than one type of auxiliary staff that they employ. Of all auxiliary staff reported by respondents, 47 percent were dental assistants. Figure 13 shows the distribution of auxiliary staff reported by respondents who provided direct patient care in Pennsylvania.

#### Figure 13: Distribution of Auxiliary Staff Employed in the Office of Respondents Who Provided Direct Patient Care in Pennsylvania, 2013 Dentist Survey



Difficulty filling auxiliary staff positions with qualified staff was a problem for 13 percent of dentist respondents who provided direct patient care in Pennsylvania. Dental assistant positions were the most reported type of auxiliary staff positions that respondents had difficulty finding qualified staff to fill, as shown in Figure 14.

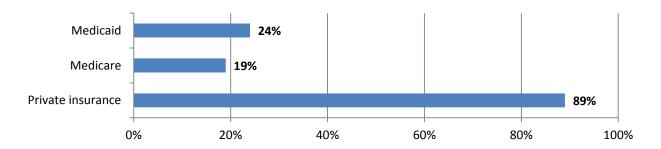
### Figure 14: Type of Auxiliary Positions that Respondents Who Provided Direct Patient Care in Pennsylvania Had Difficulty Finding Qualified Staff to Fill, 2013 Dentist Survey



### Accepted Dental Coverage

Acceptance of Medicaid by dentist respondents who provided direct patient care in Pennsylvania increased from 19 percent in 2007 to 24 percent in 2013. Figure 15 compares the acceptance of private insurance, Medicare and Medicaid dental coverage by respondents providing direct patient care in Pennsylvania. Appendix 4 lists respondents who provided direct patient care in Pennsylvania by their county of practice and acceptance of Medicaid, Medicare and private insurance.

### Figure 15: Respondents Who Provided Direct Patient Care in Pennsylvania by Accepted Dental Coverage, 2013 Dentist Survey



Specialty impacted the rate at which dentist respondents who provided direct patient care in Pennsylvania accepted Medicaid, Medicare or private insurance. Respondents specializing in pediatric dentistry had the highest acceptance of Medicaid (58 percent), while respondents specializing in oral surgery had the highest acceptance of Medicare (73 percent) and private insurance (94 percent). Table 19 lists the acceptance of Medicaid, Medicare and private insurance for respondents who provided direct patient care in Pennsylvania by specialty.

### Table 19: Respondents Who Provided Direct Patient Care in Pennsylvania by Acceptance of Dental Coverage and Specialty, 2013 Dentist Survey

Specialty	Med	icaid	Medicare		Private insurance	
opeciality	Number	Percent	Number	Percent	Number	Percent
Endodontics	22	12%	20	11%	166	92%
General dentistry	1,056	22%	828	17%	4,398	90%
Geriatric dentistry	11	23%	4	9%	41	87%
Oral surgery	144	48%	221	73%	284	94%
Orthodontics	98	25%	40	10%	343	86%
Pediatric dentistry	130	58%	49	22%	210	93%
Periodontics	21	12%	23	13%	129	72%
Prosthodontics	14	11%	13	10%	71	54%
Total	1,496	24%	1,198	19%	5,642	88%

Almost all (96 percent) dentist respondents who provided direct patient care in Pennsylvania reported that their practice submitted claims to insurance companies on behalf of patients.

#### **New Patients**

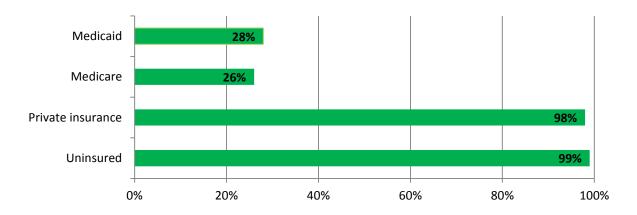
In 2013, 96 percent of dentist respondents who provided direct patient care in Pennsylvania accepted new patients. Respondents were asked which of the following four types of dental coverage for new patients they accepted: Medicaid, Medicare, private insurance and uninsured. Table 20 lists the number of respondents who accepted new patients by each type of dental coverage. The total number of responses is greater than the number of respondents because respondents were able to select all types of dental coverage they accepted.

### Table 20: Respondents Who Provided Direct Patient Care in Pennsylvania and Accepted New Patients by Dental Coverage, 2013 Dentist Survey

Accepted Coverage Plan	Number
Medicaid	1,724
Medicare	1,573
Private insurance	6,020
Uninsured	6,066

Of dentist respondents who provided direct patient care in Pennsylvania and accepted new patients, 98 percent accepted new private insurance patients, while only 28 percent accepted new Medicaid patients. Figure 16 compares respondents who accepted new patients by dental coverage.

### Figure 16: Respondents Who Provided Direct Patient Care in Pennsylvania and Accepted New Patients by Dental Coverage, 2013 Dentist Survey



Appendix 6 lists respondents who provided direct patient care in Pennsylvania by their county of practice and acceptance of new patient by Medicaid, Medicare, private insurance or no dental coverage.

### Sedation

Patients with severe developmental or physical handicaps may have difficulty receiving dental treatment. A variety of accommodations, including general anesthesia or deep sedation, are used by dentists to provide these patients with access to dental services. Only 5 percent of respondents who provided direct patient care in Pennsylvania provided general anesthesia or deep sedation for general dentistry procedures to patients with severe developmental or physical handicaps.

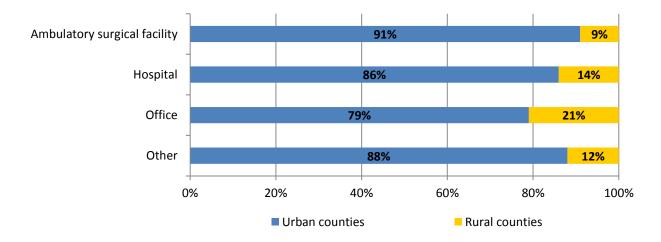
Respondents were asked if they provided general anesthesia or deep sedation in the following settings: ambulatory surgical facility, hospital, office or other. Table 21 lists the number of respondents who provided general anesthesia or deep sedation to patients with severe developmental or physical handicaps by setting.

## Table 21: Respondents Who Provided General Anesthesia or Deep Sedation for GeneralDentistry Procedures on Patients With Severe Developmental or Physical Handicaps bySetting, 2013 Dentist Survey

Setting	Number
Office	185
Hospital	173
Ambulatory surgical facility	125
Other	17

Respondents who provided general anesthesia or deep sedation to patients with severe developmental or physician handicaps were overwhelmingly located in urban counties for all settings, as shown in Figure 17.

# Figure 17: Respondents Who Provided General Anesthesia or Deep Sedation for General Dentistry Procedures on Patients With Severe Developmental or Physical Handicaps by Setting and Rural or Urban County of Practice, 2013 Dentist Survey\*



\* Rural counties were identified using the Center for Rural Pennsylvania's definition and 2010 Census data.

### Volunteering

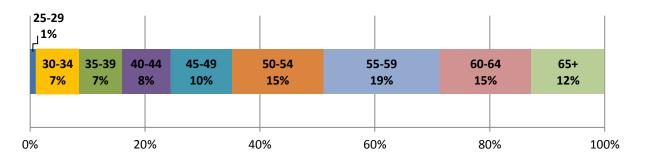
In 2013, 26 percent of respondents who provided direct patient care in Pennsylvania also volunteered their services as a dentist in Pennsylvania. Respondents of all age groups volunteered their services in the last year, with the highest number coming from the 55-59 age group. Table 22 lists the rate of volunteerism by age groups for respondents who provided direct patient care services in Pennsylvania.

## Table 22: Respondents Who Provided Direct Patient Care in Pennsylvania and WhoVolunteered Their Services as a Dentist in Pennsylvania in the Last Year by Age Groups,2013 Dentist Survey

Age Groups	Number	Percent
25-29	23	12%
30-34	111	21%
35-39	121	22%
40-44	124	23%
45-49	160	24%
50-54	246	30%
55-59	315	31%
60-64	283	29%
65+	253	23%
Total	1,636	26%

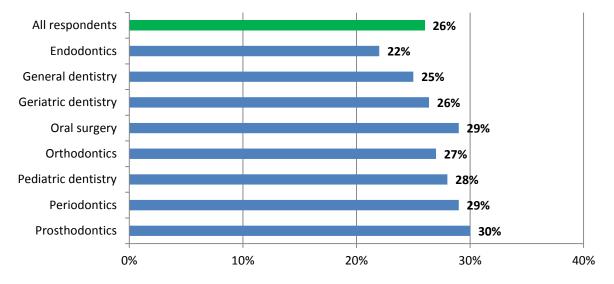
The distribution of dentist respondents who provided direct patient care in Pennsylvania and volunteered their services in Pennsylvania in the last year generally increases with age groups and declines after age 60. One out of every five volunteers was in the 55-59 age group as shown in Figure 18.

# Figure 18: Respondents Who Provided Direct Patient Care in Pennsylvania and Volunteered Their Services as a Dentist in Pennsylvania in the Last Year by Age Groups, 2013 Dentist Survey



Specialty impacted those respondents providing direct patient care in Pennsylvania who volunteered their services as a dentist in Pennsylvania. Respondents with specialties of prosthodontics, periodontics, oral surgery, pediatric dentistry and orthodontics all exceeded the rate for all respondents who provided direct patient care in Pennsylvania, as presented in Figure 19.

# Figure 19: Respondents Who Provided Direct Patient Care in Pennsylvania and Volunteered Their Services as a Dentist in Pennsylvania in the Last Year by Specialty, 2013 Dentist Survey



Respondents who provided direct patient care in Pennsylvania and volunteered their services as a dentist in Pennsylvania did so at a variety of locations. Private practice offices were the most reported location where respondents volunteered. Table 23 lists the number of respondents who provided direct patient care in Pennsylvania and volunteered their services as a dentist in Pennsylvania by service location.

## Table 23: Respondents Who Provided Direct Patient Care in Pennsylvania andVolunteered Their Services as a Dentist in Pennsylvania in the Last Year by ServiceLocation, 2013 Dentist Survey

Service Location	Number
Private practice office	978
Other	219
Federally qualified health center (FQHC) or health center	173
Dental school clinic	116
School (K-12)	73
Dental van	22

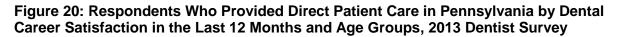
### **Professional Satisfaction/Dissatisfaction**

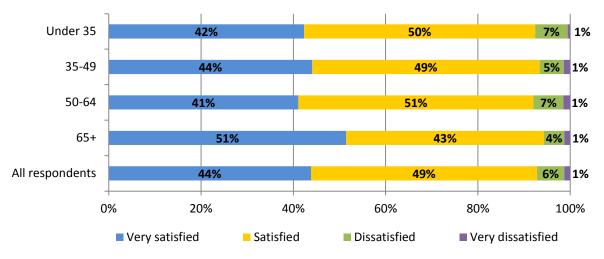
In 2013, 91 percent of dentist respondents who provided direct patient care in Pennsylvania were either satisfied or very satisfied with their dental career in the last 12 months. Table 24 lists respondents' satisfaction with their dental career in the last 12 months.

### Table 24: Respondents Who Provided Direct Patient Care in Pennsylvania by Dental Career Satisfaction in the Last 12 Months, 2013 Dentist Survey

Satisfaction	Number	Percent
Very satisfied	2,795	44%
Satisfied	3,125	49%
Dissatisfied	374	6%
Very dissatisfied	83	1%
Total	6,377	100%

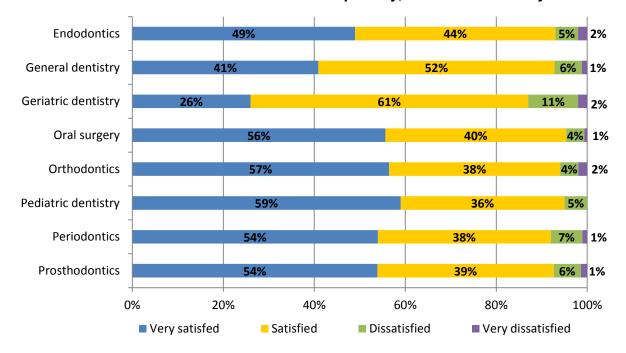
The 65 and older age group reported the highest percentage (51 percent) of dentist respondents who provided direct patient care in Pennsylvania and were very satisfied with their dental career in the last 12 months. Figure 20 compares respondents' satisfaction with their dental career in the last 12 months by age groups.

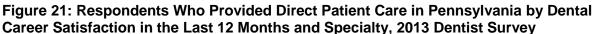




Geriatric dentists had the highest percentage of dissatisfaction at 11 percent. Pediatric dentists were the only specialty with no respondents who provided direct patient care in Pennsylvania and who reported being very dissatisfied with their dental career in the last 12 months. Figure 21 compares respondents' dental career satisfaction in the last 12 months by specialties.

### Professional Satisfaction/Dissatisfaction, continued





Dentist respondents who provided direct patient care in Pennsylvania reported higher levels of satisfaction with their dental career overall versus the last 12 months. Ninety-six percent were either satisfied or very satisfied with their dental career overall. Table 25 lists respondents' satisfaction with their dental career overall.

### Table 25: Respondents Who Provided Direct Patient Care in Pennsylvania by OverallDental Career Satisfaction, 2013 Dentist Survey

Satisfaction	Number	Percent
Very satisfied	3,389	53%
Satisfied	2,737	43%
Dissatisfied	212	3%
Very dissatisfied	41	1%
Total	6,379	100%

The 65 and older age group reported by far the highest percentage (66 percent) of dentist respondents who provided direct patient care in Pennsylvania and who were very satisfied with their dental career overall. Figure 22 compares respondents' satisfaction with their dental career overall by age groups.

### Professional Satisfaction/Dissatisfaction, continued

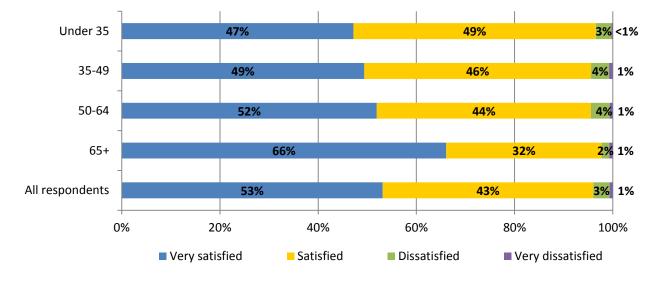
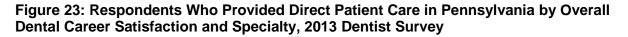
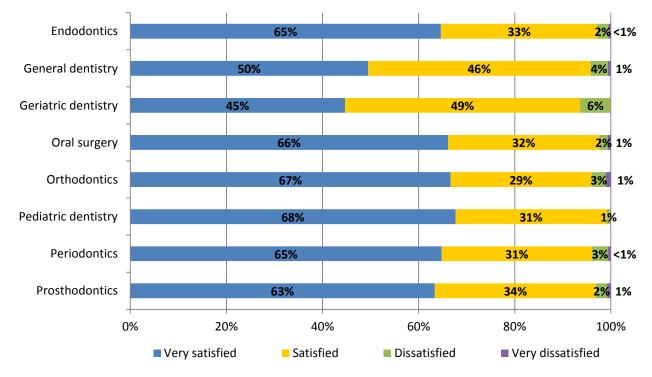


Figure 22: Respondents Who Provided Direct Patient Care in Pennsylvania by Overall Dental Career Satisfaction and Age Groups, 2013 Dentist Survey

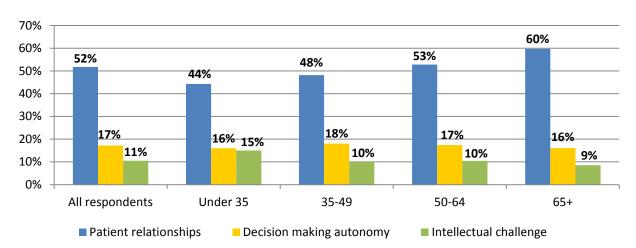
Pediatric dentistry was the specialty with the highest percentage (68 percent) of respondents who provided direct patient care in Pennsylvania and who were very satisfied with their overall dental career. Figure 23 compares respondents satisfaction with their dental career overall by specialty.





#### Professional Satisfaction/Dissatisfaction, continued

Patient relationships were the greatest source of professional satisfaction for 52 percent of dentist respondents who provided direct patient care in Pennsylvania, followed by decision-making autonomy and intellectual challenge. Figure 24 compares the distribution of these sources of professional satisfaction for respondents by age groups.



### Figure 24: Respondents Who Provided Direct Patient Care in Pennsylvania by the Three Greatest Sources of Professional Satisfaction and Age Groups, 2013 Dentist Survey

Financial – other/insurance was the greatest source of professional dissatisfaction for 38 percent of dentist respondents who provided direct patient care in Pennsylvania. Across age groups, the next greatest source of professional dissatisfaction was not consistent. All age groups consistently reported availability of leisure time, other and financial – salary/income as their greatest sources of professional dissatisfaction, as shown in Figure 25.

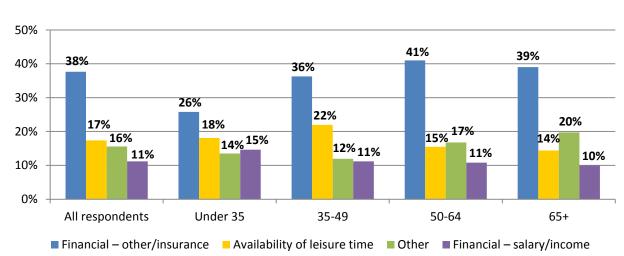
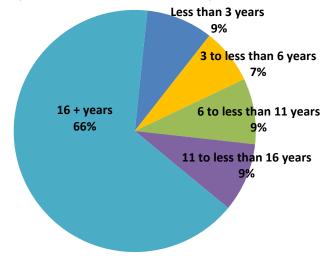


Figure 25: Respondents Who Provided Direct Patient Care in Pennsylvania by the Four Greatest Sources of Professional Dissatisfaction and Age Groups, 2013 Dentist Survey

### Length of Practice

Two out of every three respondents who provided direct patient care in Pennsylvania practiced dentistry in Pennsylvania for 16 or more years. Figure 26 presents the length of time during which respondents who provided direct patient care in Pennsylvania practiced dentistry.

### Figure 26: Respondents Who Provided Direct Patient Care in Pennsylvania by Years Practicing Dentistry in Pennsylvania, 2013 Dentist Survey



Age groups varied greatly in the length of time that respondents who provided direct patient care in Pennsylvania anticipated continuing to practice dentistry in Pennsylvania, as presented in Table 26 and Figure 27. Sixty-nine percent of respondents in the 65 and over age group anticipated leaving the practice of dentistry in Pennsylvania in less than six years. Appendix 5 lists respondents' anticipated length of dental practice in Pennsylvania by their county of primary practice.

Age	Less than 6 years		Less than 6 years 6 to less than 11 11 years			11 to less than 16 years		16+ years	
Groups	Number	Percent	Number	Percent	Number	Percent	Number	Percent	
25-29	42	22%	-	-	-	-	147	76%	
30-34	85	16%	-	-	•	-	412	78%	
35-39	41	8%	24	4%	43	8%	427	80%	
40-44	21	4%	27	5%	90	17%	400	74%	
45-49	25	4%	58	9%	188	28%	392	59%	
50-54	43	5%	153	18%	366	44%	268	32%	
55-59	161	16%	408	40%	336	33%	118	12%	
60-64	378	39%	404	42%	141	14%	50	5%	
65+	747	69%	257	24%	50	5%	33	3%	
Total	1,544	24%	1,356	21%	1,227	19%	2,247	35%	

## Table 26: Respondents Who Provided Direct Patient Care in Pennsylvania by the Lengthof Time They Anticipated Continuing to Practice Dentistry in Pennsylvania and AgeGroups, 2013 Dentist Survey

- Numbers less than six are withheld for privacy purposes, although they are included in the total numbers.

### Length of Practice, continued

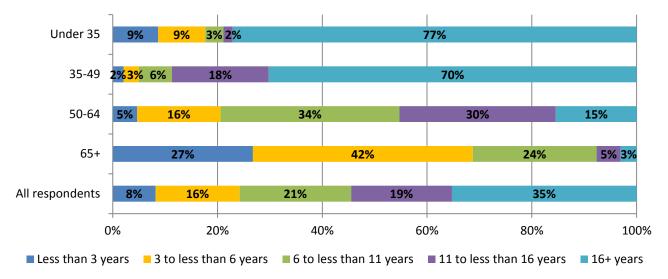


Figure 27: Respondents Who Provided Direct Patient Care in Pennsylvania by the Length of Time They Anticipated Continuing to Practice Dentistry in Pennsylvania by Age Groups, 2013 Dentist Survey

Respondents specializing in orthodontics had the highest percentage (42 percent) of those who anticipated practicing dentistry in Pennsylvania for 16 or more years. Conversely, almost one out of three (35 percent) respondents specializing in oral surgery anticipated continuing to practice dentistry in Pennsylvania for less than six years. Table 27 lists the length of time respondents anticipated practicing dentistry in Pennsylvania by specialty.

Table 27: Respondents Who Provided Direct Patient Care in Pennsylvania by the Length
of Time They Anticipated Continuing to Practice Dentistry in Pennsylvania and Specialty,
2013 Dentist Survey

Specialty	Less t yea		6 to less yea		11 to less than 16 years		16+ years	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Endodontics	39	21%	38	21%	36	20%	69	38%
General dentistry	1,166	24%	1,074	22%	962	20%	1,705	35%
Geriatric dentistry	14	30%	9	19%	-	-	19	40%
Oral surgery	105	35%	54	18%	40	13%	102	34%
Orthodontics	91	23%	69	17%	73	18%	166	42%
Pediatric dentistry	55	24%	40	18%	38	17%	93	41%
Periodontics	46	26%	37	21%	39	22%	57	32%
Prosthodontics	27	21%	35	27%	-	-	35	27%
Total	1,543	24%	1,356	21%	1,227	19%	2,246	35%

- Numbers less than six are withheld for privacy purposes, although they are included in the total numbers.

#### Length of Practice, continued

Respondents who provided direct patient care in Pennsylvania were asked how long they anticipated practicing dentistry, as well as how long they anticipated practicing dentistry in Pennsylvania. Of respondents who anticipated practicing dentistry for 16 or more years, almost 100 percent anticipated practicing for those years in Pennsylvania.

#### Leaving Direct Patient Care in Less Than Six Years

Of dentist respondents who provided direct patient care in Pennsylvania, 24 percent planned to leave direct patient care in less than six years. Retirement was the principal reason why respondents who provided direct patient care in Pennsylvania planned to leave direct patient care in less than six years, as listed in Table 28.

# Table 28: Respondents Who Provided Direct Patient Care in Pennsylvania and Planned toLeave Direct Patient Care in Less Than Six Years by Reason for Leaving, 2013 DentistSurvey

Reason	Number	Percent
Retirement	1,157	75%
Relocation	141	9%
Family reasons	57	4%
Physical demands	54	3%
Other	28	2%
Stress/burnout	25	2%
Career change	18	1%
Financial reasons – other, including insurance	16	1%
Financial reasons – salary/income	14	1%
Practice demands	12	1%
Complete further training	11	1%
Total	1,533	100%

Across age groups, the primary reason why dentist respondents who provided direct patient care in Pennsylvania planned to leave direct patient care in less than six years varied. Relocation and family reasons were the first and second most reported reasons why respondents under 35 planned to leave direct patient care, while retirement and physical demands were the first and second most reported reasons for respondents in the 65 and over age group. Figure 28 compares five reasons why respondents who provided direct patient care in Pennsylvania planned to leave direct patient care in less than six years by age groups.



### Leaving Direct Patient Care in Less Than Six Years, continued

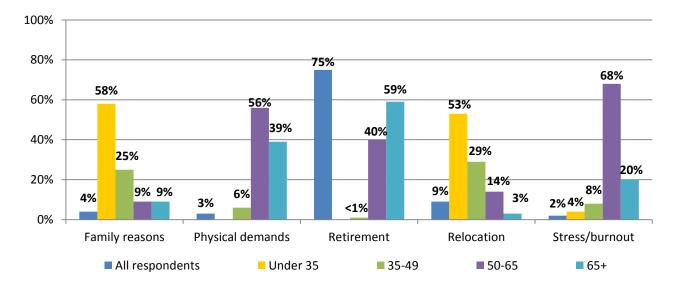


Figure 28: Respondents Who Provided Direct Patient Care in Pennsylvania and Planned to Leave Direct Patient Care in Less Than Six Years by Reason for Leaving and Age Groups, 2013 Dentist Survey

### **Dental/Medical Translation**

For individuals with limited English proficiency, language can become a barrier to obtaining quality medical care. Patients who speak limited or no English have been found to experience longer hospital stays, increased risk of misdiagnosis and medical errors, as well as decreased access to acute and preventive care services, all in spite of their socioeconomic or insurance status.<sup>2</sup>

More Pennsylvanians spoke a language other than English at home in 2012 than in 2010, according to the one-year estimates from the 2010 and 2012 American Community Surveys. In 2010, 10 percent of Pennsylvanians spoke a language other than English at home, and in 2012, that grew to almost 11 percent. Among Pennsylvanians who spoke a language other than English at home are those who speak English less than very well. In 2010 and again in 2012, of those Pennsylvanians who spoke a language other than English at home, 38 percent spoke English less than very well, according to the one-year estimates from the 2010 and 2012 American Community Surveys.

In 2013, 23 percent of respondents who provided direct patient care in Pennsylvania reported personally providing dental/medical translation to patients. Of respondents who personally provided dental/medical translation to patients, 74 percent communicated effectively for most clinical purposes in one language, followed by 20 percent in two languages. Languages represented in the category of other include: Farsi, Greek, Gujarati, Hebrew, Korean, Portuguese and Ukrainian. Figure 29 shows the languages in which respondents who provided direct patient care in Pennsylvania communicated effectively for most clinical purposes.

### **Dental/Medical Translation, continued**

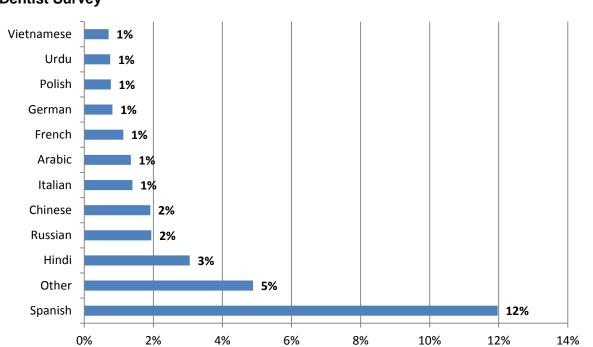


Figure 29: Languages Other than English in Which Respondents Who Provided Direct Patient Care in Pennsylvania Communicated Effectively for Most Clinical Purposes, 2013 Dentist Survey

## All Dental Hygienists Licensed in Pennsylvania Responding to the 2013 Survey of Pennsylvania Dental Hygienists

### All Dental Hygienists Licensed in Pennsylvania

This section provides information on all of the dental hygienists who responded to the 2013 Pennsylvania dental hygienist relicensing survey. A total of 7,908 dental hygienists renewed their licenses in 2013 and responded to the survey, an increase of 134 respondents from 2011. In 2013, these respondents resided in most states, Washington, D.C., and around the world.

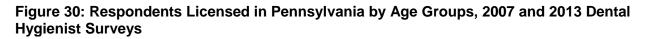
### Age

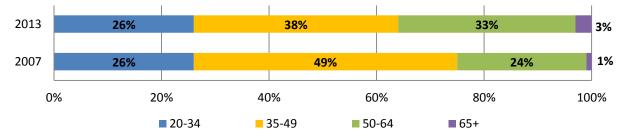
In 2013, the average age of dental hygienist respondents was 44.0 years, an increase from 2007 when the average age of respondents was 42.1 years. Table 29 lists the distribution of respondents across age groups for 2013, with one out of every three respondents between the ages of 50-64.

Table 29: Respondents Licensed in Pennsylvania by Age Groups, 2013 Dental HygienistSurvey

Age Groups	Number	Percent
20-24	248	3%
25-29	831	10%
30-34	943	12%
35-39	842	11%
40-44	1,076	14%
45-49	1,110	14%
50-54	1,221	15%
55-59	934	12%
60-64	483	6%
65+	220	3%
Total	7,908	100%

Figure 30 compares the distribution of dental hygienist respondents across age groups in 2007 and 2013. While the 35-49 age group decreased from 49 percent in 2007 to 38 percent in 2013, the 50-64 age group increased from 24 percent in 2007 to 33 percent in 2013.





#### Sex

In 2013, females comprised 99 percent of dental hygienist respondents. The number of males increased by approximately 20 percent from 2007 to 2013. Table 30 lists the distribution of respondents by sex.

#### Table 30: Respondents Licensed in Pennsylvania by Sex, 2013 Dental Hygienist Survey

Sex	Number	Percent
Male	79	1%
Female	7,829	99%
Total	7,908	100%

#### **Race and Ethnicity**

Dental hygienist respondents selected one category that best described their race and indicated if they were of Hispanic/Latino origin. The distribution of respondents by race is listed in Table 31.

#### Table 31: Respondents Licensed in Pennsylvania by Race, 2013 Dental Hygienist Survey

Race	Number	Percent
White	7,566	96%
Black	112	1%
Asian	94	1%
Other	78	1%
American Indian/Alaska Native	45	< 1%
Native Hawaiian/Other Pacific Islander	10	< 1%
Total	7,905	100%

The percentage of dental hygienist respondents who reported being of Hispanic/Latino origin increased from 1 percent in 2007, to 2 percent in 2013. Table 32 lists the ethnicity of respondents in 2013.

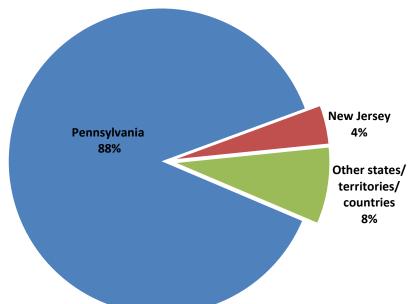
### Table 32: Respondents Licensed in Pennsylvania by Ethnicity, 2013 Dental Hygienist Survey

Ethnicity	Number	Percent
Hispanic/Latino	125	2%
Non-Hispanic/Latino	7,783	98%
Total	7,908	100%

### Residence

In 2013, dental hygienist respondents resided in 40 states, Washington, D.C., and around the world. Figure 31 presents the state of residence for respondents, with 88 percent residing in Pennsylvania. Other states, territories and countries, not specified in the figure, each accounted for 1 percent or less of respondents.



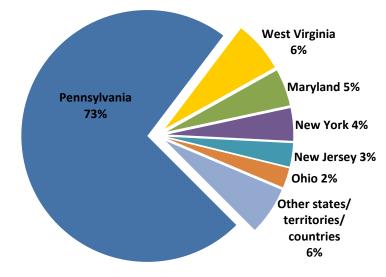




### **Dental Hygiene Education**

In 2013, respondents graduated from dental hygiene schools in 47 states, Washington, D.C., and around the world. Figure 32 shows the states in which respondents graduated from dental hygiene school with 73 percent graduating in Pennsylvania. Other states, territories and countries, not specified in the figure, each accounted for 1 percent or less of respondents.

### Figure 32: Respondents Licensed in Pennsylvania by State of Graduation from Dental Hygiene School, 2013 Dental Hygienist Survey



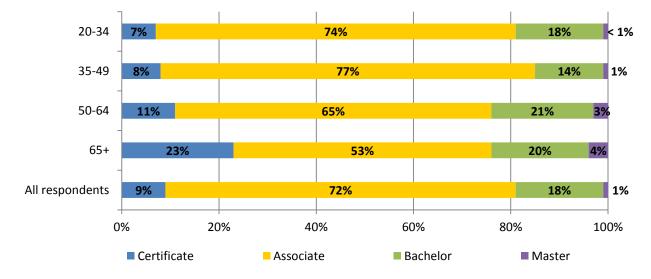
Seventy-two percent of respondents completed an associate degree as their highest dental hygiene degree. Table 33 lists respondents by the highest dental hygiene degree.

### Table 33: Respondents Licensed in Pennsylvania by Highest Dental Hygiene Degree,2013 Dental Hygienist Survey

Dental Hygiene Degree	Number	Percent
Certificate	734	9%
Associate degree	5,648	72%
Bachelor's degree	1,406	18%
Master's degree	111	1%
Total	7,899	100%

Respondents in the 50 and older age group have higher rates of their highest dental hygiene degree being a bachelor's or master's degree than those under age 50. Younger age groups have lower rates of certificates as the highest dental hygiene degree. Figure 33 compares respondents' highest dental hygiene degree by age groups.

### **Dental Hygiene Education, continued**





Six percent of respondents were enrolled in higher education programs in 2013. Of those respondents enrolled in higher education programs, 54 percent were enrolled in dental hygiene programs. Of those respondents enrolled in dental hygiene programs, more than half (53 percent) were enrolled in bachelor degree programs. Table 34 lists respondents by enrollment in a higher education program.

Table 34: Respondents Licensed in Pennsylvania by Enrollment in a Higher Education
Program, 2013 Dental Hygienist Survey

Higher Education Program	Number	Percent
Dental hygiene associate degree	139	2%
Dental hygiene bachelor's degree	102	1%
Dental hygiene master's degree	19	< 1%
Other bachelor's degree	88	1%
Other master's degree	67	1%
Other non-degree	69	1%
None	7,411	94%
Total	7,895	100%

### **Dental Hygiene Certification**

Through additional training, dental hygienists can become certified to perform advanced duties with or without direct supervision. Forty-four percent of respondents had an advanced dental hygiene certification or permit. Respondents reported certification of an expanded function dental assistant certificate, Pennsylvania school hygienist certificate or Pennsylvania dental hygiene local anesthesia permit. Respondents were able to select more than one type of certification. Table 35 lists the number of respondents who held dental hygiene certifications.

### Table 35: Respondents Licensed in Pennsylvania by Dental Hygiene Certification, 2013Dental Hygienist Survey

Certification	Number
Expanded function dental assistant certificate	225
School hygienist certificate	1,655
Dental hygiene local anesthesia permit	1,629
Total respondents	7,908

### Public Health Dental Hygiene Practitioners

Public health dental hygiene practitioners (PHDHPs) were first licensed in Pennsylvania in January 2010. In 2013, 470 respondents reported being licensed as PHDHPs in Pennsylvania. Of those 470 respondents, 26 percent reported performing as a PHDHP in their primary job.

PHDHPs were created to increase access to dental services for individuals living in Health Professional Shortage Areas (HPSAs) by allowing these dental hygienists to perform educational, preventive, therapeutic, intra-oral and radiologic procedures without the direct supervision of a dentist at identified practice sites. PHDHPs are required to refer patients to a dentist annually.

Identified practice sites include schools; correctional facilities; health care facilities, such as hospitals; personal care homes; domiciliary care facilities; older adult daily living centers; federally qualified health centers (FQHCs); and public or private institutions under the jurisdiction of a federal, state or local agency.

In 2013, 11 percent of respondents intended to apply for a PHDHP license, 1 percent higher than 2011.



### Employment

In 2013, 89 percent of respondents were employed in dental hygiene. Table 36 lists the employment status of respondents.

Table 36: Respondents Licensed in Pennsylvania by Employment Status, 2013 DentalHygienist Survey

Employment Status	Number	Percent
Employed in dental hygiene	7,045	89%
Unemployed, seeking dental hygiene employment	289	4%
Employed, not in dental hygiene	280	4%
Unemployed, not seeking dental hygiene employment	151	2%
Retired	54	1%
Unemployed, disabled	42	< 1%
Student, leave of absence or sabbatical	36	< 1%
Total	7,897	100%

Of respondents employed in dental hygiene, 92 percent provided one or more hours of direct patient care per week in Pennsylvania in 2013. Table 37 lists the number of hours respondents who were employed in dental hygiene provided direct patient care in Pennsylvania each week.

 Table 37: Respondents Employed in Dental Hygiene by the Number of Hours Spent

 Providing Direct Patient Care in Pennsylvania Each Week, 2013 Dental Hygienist Survey

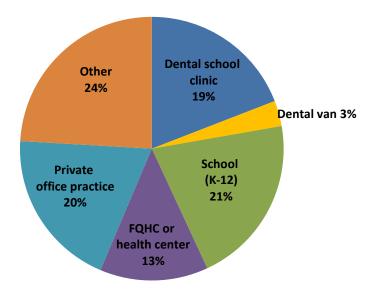
Hours	Number	Percent
Zero	545	8%
1-10	486	7%
11-19	863	12%
20-30	2,026	29%
31-40	2,846	40%
More than 40	275	4%
Total	7,041	100%

Of those respondents who held a position in dental hygiene that was not direct patient care, 53 percent planned to return to direct patient care within the next five years.

#### **Volunteer Services**

In 2013, 12 percent (928) of dental hygienist respondents provided unpaid volunteer services as a dental hygienist in Pennsylvania. Figure 34 presents the locations where respondents provided volunteer in Pennsylvania as unpaid dental hygienists. Respondents were able to select only one location where they provided these services.

### Figure 34: Locations Where Respondents Provided Volunteer Services as a Dental Hygienist in Pennsylvania, 2013 Dental Hygienist Survey





Dental Hygienists Who Provided Direct Patient Care in Pennsylvania Responding to the 2013 Survey of Pennsylvania Dental Hygienists

### Dental Hygienists Who Provided Direct Patient Care in Pennsylvania

This section provides information on dental hygienists who responded to the 2013 Pennsylvania dental hygienist relicensing survey and provided direct patient care in Pennsylvania. In 2013, these 6,219 respondents were 79 percent of all respondents.

Respondents who provided direct patient care in Pennsylvania are defined as those respondents who reported employment in dental hygiene and provided at least one hour of direct patient care in Pennsylvania per week during the prior year.

### Age

In 2013, the average age of dental hygienist respondents was 43.9 years, an increase from 2009 when the average age of respondents was 42.3 years. Table 38 lists the distribution of respondents who provided direct patient care in Pennsylvania across age groups for 2013, with over half (51 percent) of the respondents in the 30-49 age group. Appendix 10 lists respondents by age groups and county of their primary job.

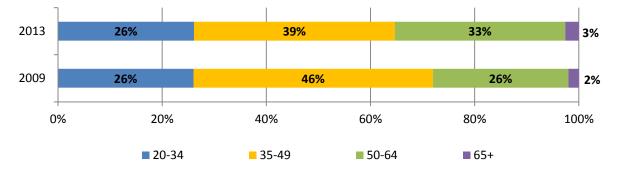
Table 38: Respondents Who Provided Direct Patient Care in Pennsylvania by Age
Groups, 2013 Dental Hygienist Survey

Age Groups	Number	Percent
20-24	190	3%
25-29	676	11%
30-34	757	12%
35-39	666	11%
40-44	849	14%
45-49	885	14%
50-54	956	15%
55-59	698	11%
60-64	379	6%
65+	163	3%
Total	6,219	100%

Figure 35 compares the distribution of dental hygienist respondents who provided direct patient care in Pennsylvania across age groups in 2009 and 2013. While the 35-49 age group decreased from 46 percent in 2009 to 39 percent in 2013, the 60-64 age group increased from 26 percent in 2009 to 33 percent in 2013.

### Age, continued





#### Sex

In 2013, females comprised 99 percent of dental hygienist respondents who provided direct patient care in Pennsylvania. The number of males has remained at 1 percent since 2003. Table 39 lists the distribution of respondents by sex.

### Table 39: Respondents Who Provided Direct Patient Care in Pennsylvania by Sex, 2013Dental Hygienist Survey

Sex	Number	Percent
Male	54	1%
Female	6,165	99%
Total	6,219	100%

The 35-49 age group accounted for half (50 percent) of the males who provided direct patient care in Pennsylvania. Table 40 lists the distribution of respondents by age groups and sex.

### Table 40: Respondents Who Provided Direct Patient Care in Pennsylvania by Age Groups and Sex, 2013 Dental Hygienist Survey

Age Groups	Male	Female
20-34	24%	26%
35-49	50%	38%
50-64	19%	33%
65+	7%	3%
Total	100%	100%

### Race and Ethnicity

Dental hygienist respondents selected one category that best described their race and indicated if they were of Hispanic/Latino ethnicity. The distribution of respondents who provided direct patient care in Pennsylvania by race is listed in Table 41. The number of Asian respondents increased 18 percent from 2011 to 2013.

### Table 41: Respondents Who Provided Direct Patient Care in Pennsylvania by Race, 2013Dental Hygienist Survey

Race	Number	Percent
White	5,993	96%
Black	67	1%
Asian	60	1%
Other	52	1%
American Indian/Alaska Native	37	< 1%
Native Hawaiian/Other Pacific Islander	8	< 1%
Total	6,217	100%

The percentage of dental hygienist respondents who provided direct patient care in Pennsylvania and reported being of Hispanic/Latino origin held stable from 2011 to 2013 at 1 percent of respondents. Table 42 lists the ethnicity of respondents in 2013.

### Table 42: Respondents Who Provided Direct Patient Care in Pennsylvania by Ethnicity,2013 Dental Hygienist Survey

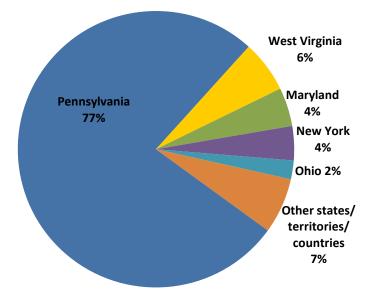
Ethnicity	Number	Percent
Hispanic/Latino	85	1%
Non-Hispanic/Latino	6,134	99%
Total	6,219	100%



### **Dental Hygiene Education**

Respondents who provided direct patient care in Pennsylvania graduated from dental hygiene schools in 45 states, Washington, D.C., and around the world. Figure 36 presents the states in which respondents who provided direct patient care in Pennsylvania graduated from dental hygiene school. Other states, territories and countries, not specified in the figure, each accounted for 1 percent or less of respondents.

### Figure 36: Respondents Who Provided Direct Patient Care in Pennsylvania by State of Graduation from Dental Hygiene School, 2013 Dental Hygienist Survey



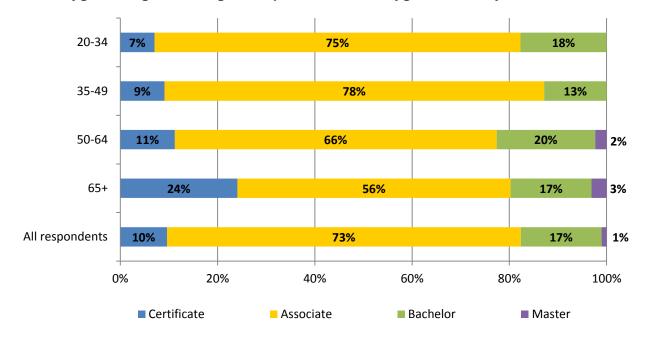
Almost three out of every four (73 percent) respondents who provided direct patient care in Pennsylvania completed an associate degree as their highest dental hygiene degree. Table 43 lists respondents by their highest dental hygiene degree.

Dental Hygiene Degree	Number	Percent
Certificate	598	10%
Associate degree	4,521	73%
Bachelor's degree	1,033	17%
Master's degree	65	1%
Total	6,217	100%

### Table 43: Respondents Who Provided Direct Patient Care in Pennsylvania by Highest Dental Hygiene Degree, 2013 Dental Hygienist Survey

Respondents who provided direct patient care in Pennsylvania in the 50-64 age group had the highest rates of a bachelor's or master's degree as their highest dental hygiene degree. The rate of certificates as the highest dental hygiene degree is greatest in the 65 and over age group (24 percent) and lowest in the 20-34 age group (7 percent). Figure 37 compares the highest dental hygiene degree respondents attained by age groups.

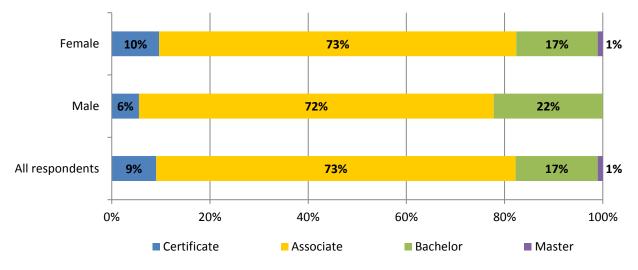
### Dental Hygiene Education, continued





Compared to females, males who provided direct patient care in Pennsylvania had a lower percentage of the highest dental hygiene degree as a certificate, as shown in Figure 38. Females accounted for all respondents who provided direct patient care in Pennsylvania with a master's degree in dental hygiene.





### **Dental Hygiene Education, continued**

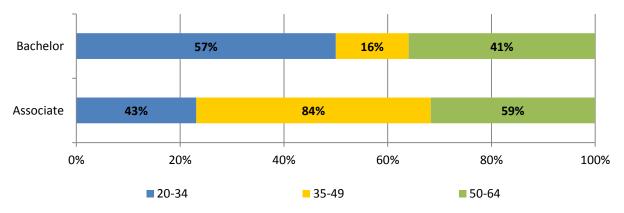
In 2013, 5 percent of respondents who provided direct patient care in Pennsylvania were enrolled in higher education programs. Of those respondents enrolled in higher education programs, 59 percent were enrolled in dental hygiene programs. Half of those respondents enrolled in dental hygiene programs were enrolled in bachelor's degree programs. Table 44 lists respondents who provided direct patient care in Pennsylvania by enrollment in a higher education program.

Table 44: Respondents Who Provided Direct Patient Care in Pennsylvania by Enrollment
in a Higher Education Program, 2013 Dental Hygienist Survey

Higher Education Program	Number	Percent
Not enrolled	5,889	95%
Dental hygiene associate degree	113	2%
Dental hygiene bachelor's degree	73	1%
Dental hygiene master's degree	7	< 1%
Other bachelor's degree	52	1%
Other master's degree	34	< 1%
Other non-degree	46	1%
Total	6,214	100%

Fifty-one percent of respondents who provided direct patient care in Pennsylvania and were enrolled in dental hygiene higher education programs were in the 20-34 age group. Younger respondents were more likely to be enrolled in dental hygiene bachelor's degree programs than older respondents. Figure 39 compares enrollment in dental hygiene associate and bachelor's degree programs by age groups of respondents who provided direct patient care in Pennsylvania.

#### Figure 39: Respondents Who Provided Direct Patient Care in Pennsylvania and Were Enrolled in Dental Hygiene Higher Education Programs by Age Groups, 2013 Dental Hygienists Survey



### **Dental Hygiene Certification**

Through additional training, dental hygienists can become certified to perform advanced duties with or without direct supervision. In 2013, 47 percent of respondents who provided direct patient care in Pennsylvania had at least one dental hygiene certification or permit. Respondents reported certification of an expanded function dental assistant certificate, Pennsylvania school hygienist certificate or Pennsylvania dental hygiene local anesthesia permit. Respondents were able to select more than one type of certification. Table 45 lists the number of respondents who provided direct patient care in Pennsylvania by the type of dental hygiene certification(s) they held.

### Table 45: Respondents Who Provided Direct Patient Care in Pennsylvania by DentalHygiene Certification, 2013 Dental Hygienist Survey

Certification	Number
Expanded function dental assistant permit	179
School hygienist certificate	1,358
Dental hygiene local anesthesia permit	1,404
Total respondents	6,219

#### Public Health Dental Hygiene Practitioners

Public health dental hygiene practitioners (PHDHPs) were first licensed in Pennsylvania in January of 2010. In 2013, 395 respondents who provided direct patient care in Pennsylvania were licensed as PHDHPs. Of those 395 respondents, 28 percent reported performing as a PHDHP in their primary job.

PHDHPs were created to increase access to dental services for individuals living in Health Professional Shortage Areas (HPSAs) by allowing these dental hygienists to perform educational, preventive, therapeutic, intra-oral and radiologic procedures without the direct supervision of a dentist at identified practice sites. PHDHPs are required to refer patients to a dentist annually.

Identified practice sites include schools; correctional facilities; health care facilities, such as hospitals; personal care homes; domiciliary care facilities; federally qualified health centers (FQHCs); and public or private institutions under the jurisdiction of a federal, state or local agency.

In 2013, 12 percent of respondents who provided direct patient care in Pennsylvania intended to apply for a PHDHP license.

### Public Health Dental Hygiene Practitioners, continued

Respondents who provided direct patient care in Pennsylvania selected practice sites at which they practiced as a PHDHP. Federally qualified health centers (FQHCs) were the most selected practice site, followed by health care facilities, such as hospitals. Table 46 lists the number of respondents who provided direct patient care in Pennsylvania and who worked as a PHDHP at each type of practice site. Respondents were able to select one type of practice site where they primarily practiced as a PHDHP.

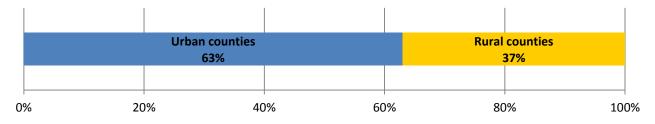
# Table 46: Respondents Who Provided Direct Patient Care in Pennsylvania and Practicedas a Public Health Dental Hygiene Practitioner by Type of Practice Site, 2013 DentalHygienist Survey

Types of Practice Sites	Number
Federally qualified health center (FQHC)	36
Health care facility	31
School	22
Public/private or federal/state institution	12
Personal care home	-
Correctional facility	-
Domiciliary care facility	-

- Numbers less than six are withheld for privacy purposes, although they are included in the total number.

Respondents who provided direct patient care and practiced as a PHDHP overwhelmingly practiced in urban counties. Respondents who provided direct patient care in Pennsylvania and practiced as PHDHPs, practiced in 59 of the 67 counties in the commonwealth. Figure 40 shows respondents by the type of county in which they practiced as a PHDHP.

## Figure 40: Respondents Who Provided Direct Patient Care in Pennsylvania and Practiced as a Public Health Dental Hygiene Practitioner in Pennsylvania by Rural or Urban County of Practice, 2013 Dental Hygienist Survey\*

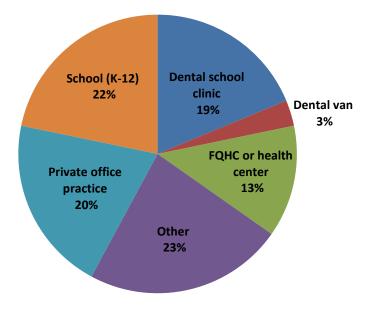


\* Rural counties were identified using the Center for Rural Pennsylvania's definition and 2010 Census data.

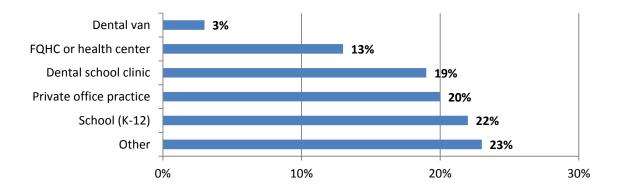
### **Volunteer Services**

In 2013, 13 percent (801) of dental hygienist respondents who provided direct patient care in Pennsylvania provided unpaid volunteer services at locations other than their primary job. Figure 41 and Figure 42 present the locations where respondents who provided direct patient care in Pennsylvania provided volunteer services as dental hygienists to individuals other than at their primary job. Respondents were able to select only one location where they provided services. The "other" category includes locations such as pre-school and daycare settings, health fairs, senior centers, nursing homes, shelters and dental hygiene schools.

#### Figure 41: Locations Where Respondents Who Provided Direct Patient Care in Pennsylvania Provided Volunteer Services Other Than at Their Primary Job, 2013 Dental Hygienist Survey



### Figure 42: Respondents Who Provided Direct Patient Care in Pennsylvania Whose Services Were Provided as a Volunteer by Location, 2013 Dental Hygienist Survey



### **Hours Providing Direct Patient Care**

Approximately half (52 percent) of the dental hygienist respondents who provided direct patient care in Pennsylvania provided less than 30 hours of direct patient care in Pennsylvania each week in the prior year. Table 47 lists respondents by the number of hours they spent providing direct patient care in Pennsylvania each week.

Table 47: Respondents by the Number of Hours Spent Providing Direct Patient Care in
Pennsylvania, 2013 Dental Hygienist Survey

Hours	Number	Percent
1-10	417	7%
11-19	829	13%
20-30	1,970	32%
31-40	2,749	44%
More than 40	254	4%
Total	6,219	100%

Age impacted the number of hours dental hygienist respondents spent providing direct patient care in Pennsylvania. Fifty-five percent of respondents in the 20-34 age group provided direct patient care 31-40 hours per week, compared to 27 percent of respondents in the 65+ age group. Overall, as respondents' age increased, the number of hours they spend each week providing direct patient care in Pennsylvania decreased. Figure 43 compares the number of hours respondents spent providing direct patient care by age groups.

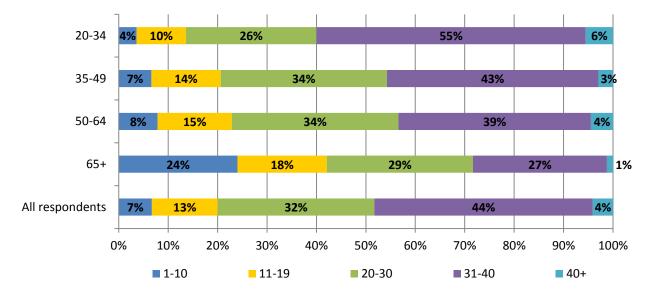


Figure 43: Respondents by the Number of Hours Spent Providing Direct Patient Care in Pennsylvania and Age Groups, 2013 Dental Hygienist Survey

2013 Pulse of Pennsylvania's Dentist and Dental Hygienist Workforce

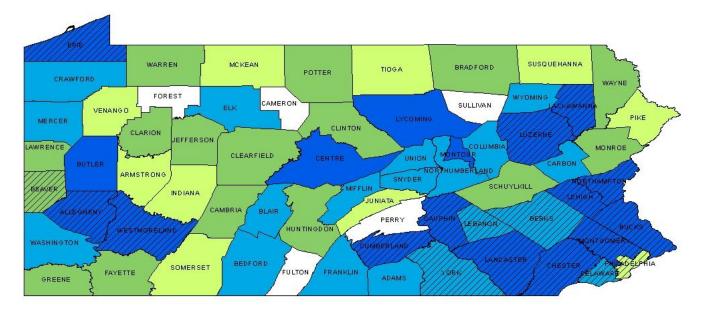
### Geography

In 2013, dental hygienist respondents who provided direct patient care in Pennsylvania were employed in all 67 counties. Across the commonwealth, the rate of respondents who provided direct patient care in Pennsylvania was 49 per 100,000 population. Appendix 9 lists respondents who provided direct patient care in Pennsylvania by their county of primary employment.

Based upon the Center for Rural Pennsylvania's definition of rural and urban counties and the 2010 U.S. Census population, Pennsylvania has 48 rural counties with 27 percent of the population residing in those counties.

In 2013, approximately one out of every five respondents (1,398 or 22 percent) who provided direct patient care in Pennsylvania was employed in a rural county. The rate of dental hygienist respondents who provided direct patient care in Pennsylvania per 100,000 population was 40 in rural counties and 52 in urban counties. Figure 44 shows the wide variation in rates of respondents who provided direct patient care in Pennsylvania per 100,000 population across the commonwealth, from a low of 6.7 in Fulton County to a high of 75.6 in Cumberland County.

#### Figure 44: Respondents Who Provided Direct Patient Care in Pennsylvania per 100,000 Population by County of Primary Employment, 2013 Dental Hygienist Survey



#### Rate of Dental Hygienists per 100,000 Population



# Employment

In 2013, 25 percent of dental hygienist respondents who provided direct patient care in Pennsylvania were employed in more than one dental hygiene position. Respondents in the 20-29 age group were most likely to be employed in more than one dental hygiene position. Table 48 lists respondents who provided direct patient care in Pennsylvania and were employed in more than one dental hygiene position by age groups.

# Table 48: Respondents Who Provided Direct Patient Care in Pennsylvania and WereEmployed in More Than One Dental Hygiene Position by Age Groups, 2013 DentalHygienist Survey

Age Groups	Number	Percent
20-24	62	33%
25-29	174	26%
30-34	178	24%
35-39	173	26%
40-44	207	24%
45-49	209	24%
50-54	261	27%
55-59	182	26%
60-64	89	23%
65+	26	16%
Total	1,561	25%

Private dental practices, both partnerships and solo dentists, employed 92 percent of dental hygienist respondents who provided direct patient care in Pennsylvania. Table 49 lists respondents by their primary employment setting.

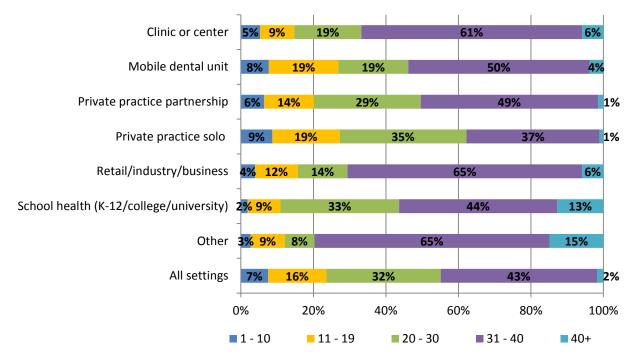
# Table 49: Respondents Who Provided Direct Patient Care in Pennsylvania by Primary Employment Setting, 2013 Dental Hygienist Survey

Employment Setting	Number	Percent
Private practice solo dentist (excluding retail site)	3,445	55%
Private practice partnership (excluding retail site)	2,226	36%
Clinic or center	341	6%
Other	74	1%
School health (K-12/college/university)	55	1%
Retail/industry/business site	51	< 1%
Mobile dental unit (using portable equipment)	27	< 1%
Total	6,219	100%

# **Employment, continued**

Dental hygienist respondents who provided direct patient care in Pennsylvania and were employed in private practice offices, both partnerships and solo dentists, were more likely than respondents in other employment settings to work less than 31 hours per week. Figure 45 compares the number of hours respondents worked per week at their primary job by employment setting.

# Figure 45: Respondents Who Provided Direct Patient Care in Pennsylvania by the Number of Hours Worked Per Week at Their Primary Job and Employment Setting, 2013 Dental Hygienist Survey





# Level of Work

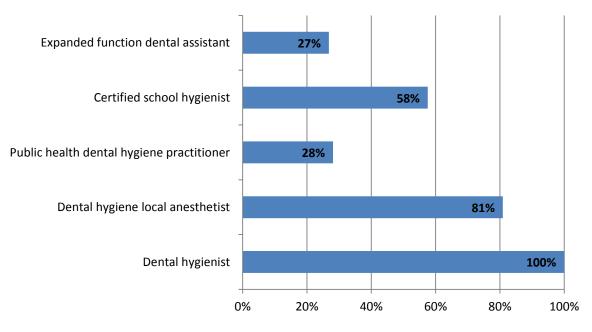
Respondents who provided direct patient care in Pennsylvania performed work at the level of a dental hygienist, expanded function dental assistant, certified Pennsylvania school hygienist, public health dental hygiene practitioner or Pennsylvania dental hygiene local anesthetist at their primary job. Table 50 lists the number of respondents who provided direct patient care in Pennsylvania by the level(s) they performed in their primary job. The total number of responses is greater than the number of respondents because respondents were able to select more than one level of work.

# Table 50: Respondents Who Provided Direct Patient Care in Pennsylvania by Level of Work Performed in Their Primary Job, 2013 Dental Hygienist Survey

Level of Work	Number
Dental hygienist	6,219
Pennsylvania dental hygiene local anesthetist	1,136
Certified Pennsylvania school hygienist	782
Public health dental hygiene practitioner	111
Expanded function dental assistant	48

Figure 46 lists the percentage of respondents who provided direct patient care in Pennsylvania and reported working in the field in which they were certified or licensed in their primary job.

## Figure 46: Percent of Respondents Who Provided Direct Patient Care Working in Their Primary Job in the Field in Which They Were Certified or Licensed in Pennsylvania, 2013 Dental Hygienist Survey



# **Professional Satisfaction/Dissatisfaction**

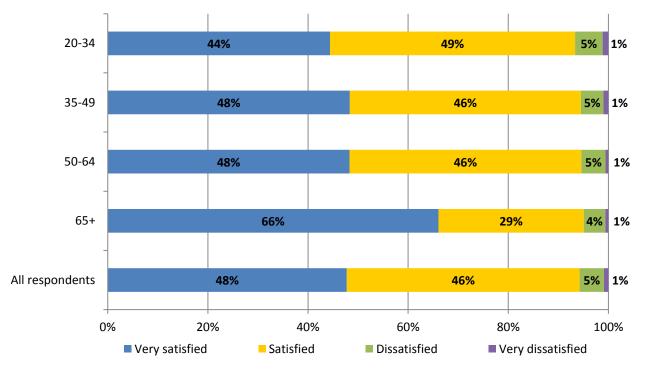
In 2013, 94 percent of dental hygienist respondents who provided direct patient care in Pennsylvania were either satisfied or very satisfied with their primary job. Table 51 lists respondents' satisfaction with their primary job.

# Table 51: Respondents Providing Direct Patient Care in Pennsylvania by Primary Job Satisfaction, 2013 Dental Hygienist Survey

Satisfaction	Number	Percent
Very satisfied	2,968	48%
Satisfied	2,889	46%
Dissatisfied	302	5%
Very dissatisfied	56	1%
Total	6,215	100%

The 65+ age group reported the highest percentage (66 percent) of dental hygienist respondents who provided direct patient care in Pennsylvania and were very satisfied with their primary job. Figure 47 compares respondents' satisfaction with their primary job by age groups.





# Professional Satisfaction/Dissatisfaction, continued

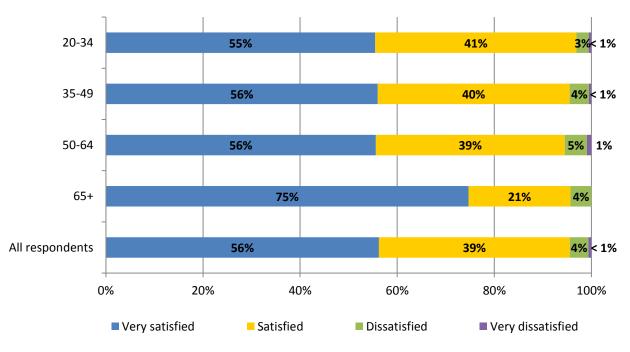
Respondents who provided direct patient care in Pennsylvania reported higher levels of satisfaction with dental hygiene as a career compared to satisfaction with their primary job. Ninety-six percent were either satisfied or very satisfied with dental hygiene as a career. Table 52 lists respondents' satisfaction with dental hygiene as a career.

# Table 52: Respondents Who Provided Direct Patient Care in Pennsylvania by Satisfaction with Dental Hygiene as a Career, 2013 Dental Hygienist Survey

Satisfaction	Number	Percent
Very satisfied	3,494	56%
Satisfied	2,444	39%
Dissatisfied	237	4%
Very dissatisfied	40	< 1%
Total	6,215	100%

The 65+ age group reported the highest percentage (76 percent) of respondents who provided direct patient care in Pennsylvania and were very satisfied with dental hygiene as a career; no respondents in this age group were very dissatisfied. Figure 48 compares respondents' satisfaction with dental hygiene as a career by age groups.

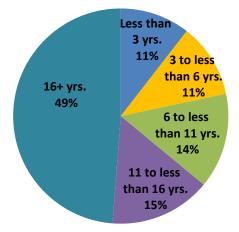
### Figure 48: Respondents Who Provided Direct Patient Care in Pennsylvania by Satisfaction with Dental Hygiene as a Career and Age Groups, 2013 Dental Hygienist Survey



# Length of Practice

Almost half (49 percent) of respondents who provided direct patient care in Pennsylvania have been a dental hygienist in Pennsylvania for 16 or more years. Figure 49 presents the length of time respondents who provided direct patient care in Pennsylvania have been a dental hygienist in Pennsylvania.

# Figure 49: Respondents Who Provided Direct Patient Care in Pennsylvania by Years as a Dental Hygienist in Pennsylvania, 2013 Dental Hygienist Survey



Age groups varied in the length of time respondents who provided direct patient care in Pennsylvania anticipated continuing to remain in dental hygiene in Pennsylvania, as presented in Table 53 and Figure 50. Eighty-three percent of respondents in the 65 and older age group anticipated leaving dental hygiene in Pennsylvania in less than six years.

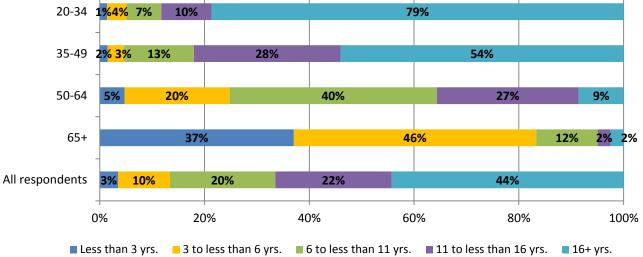
# Table 53: Respondents Who Provided Direct Patient Care in Pennsylvania by the Lengthof Time They Anticipated Remaining in Dental Hygiene in Pennsylvania and Age Groups,2013 Dental Hygienist Survey

Age	Less that	ess than 6 yrs 6 to les		nan 11 yrs	11 to less t	han 16 yrs	16+	yrs
Groups	Number	Percent	Number	Percent	Number	Percent	Number	Percent
20-24	7	4%	11	6%	13	7%	158	84%
25-29	40	6%	37	5%	56	8%	543	80%
30-34	36	5%	60	8%	86	11%	575	76%
35-39	33	5%	51	8%	134	20%	448	67%
40-44	37	4%	110	13%	224	26%	478	56%
45-49	42	5%	158	18%	314	35%	371	42%
50-54	95	10%	332	35%	396	41%	132	14%
55-59	181	26%	347	50%	138	20%	31	4%
60-64	227	60%	124	33%	-	-	-	-
65+	135	83%	19	12%	-	-	-	-
Total	833	13%	1,249	20%	1,380	22%	2,751	44%

- Numbers less than six are withheld for privacy purposes, although they are included in the total numbers.

# Length of Practice, continued





Appendix 11 lists the length of time respondents anticipated remaining in dental hygiene in Pennsylvania by the county of their primary job.

Respondents who provided direct patient care in Pennsylvania were asked how long they anticipated remaining in dental hygiene, in addition to how long they anticipated remaining in dental hygiene in Pennsylvania. Of respondents who anticipated remaining in dental hygiene for 16 or more years, 88 percent anticipated remaining in Pennsylvania for those years.



## Leaving Direct Patient Care in Less Than Six Years

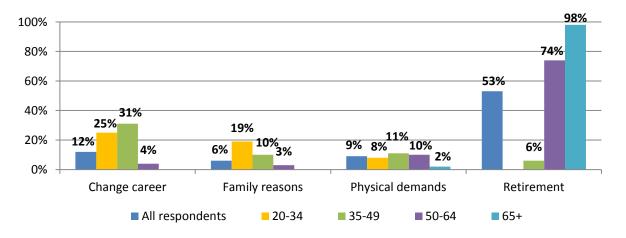
Of dental hygienist respondents who provided direct patient care in Pennsylvania, 15 percent planned to leave direct patient care in less than six years. Retirement was the principal reason why respondents who provided direct patient care in Pennsylvania planned to leave direct patient care in less than six years, as listed in Table 54.

# Table 54: Respondents Who Provided Direct Patient Care in Pennsylvania and Planned toLeave Direct Patient Care in Less Than Six Years by Principal Reason for Leaving, 2013Dental Hygienist Survey

Reason	Number	Percent
Retirement	485	53%
Change careers	105	12%
Physical demands	80	9%
Stress/burnout	65	7%
Family reasons	57	6%
Other	50	5%
Complete further training	42	5%
Financial reasons – salary/income	20	2%
Financial reasons – other	-	-
Total	908	100%

Across age groups, the principal reason why respondents who provided direct patient care in Pennsylvania planned to leave direct patient care in less than six years varied. Change of career was the most reported reason among respondents under age 50, while retirement was the most reported reason for respondents age 50 and older. Figure 51 compares four reasons why respondents who provided direct patient care in Pennsylvania planned to leave direct patient care in Pennsylvania planned to leave direct patient care in Pennsylvania planned to leave direct patient care in less than six years by age groups.

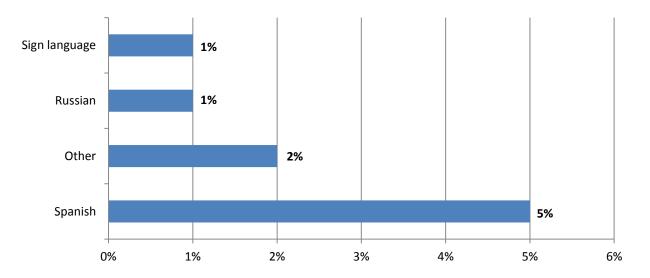
# Figure 51: Respondents Who Provided Direct Patient Care in Pennsylvania and Planned to Leave Direct Patient Care in the Less Than Six Years by Reason for Leaving and Age Groups, 2013 Dental Hygienist Survey



# **Dental/Medical Translation**

In 2013, 7 percent of respondents who provided direct patient care in Pennsylvania reported personally providing dental/medical translation to patients. Of respondents who personally provided dental/medical translation to patients, 87 percent communicated effectively for most clinical purposes in one language, followed by 11 percent in two languages. Languages represented in the category of other included: Arabic, Chinese, Farsi, French, German, Gujarati, Greek, Hindi, Indonesian, Italian, Pennsylvania Dutch, Polish, Portuguese, Ukrainian, Urdu and Vietnamese. Figure 52 shows the languages in which respondents who provided direct patient care in Pennsylvania communicated effectively for most clinical purposes.

### Figure 52: Respondents Who Provided Direct Patient Care in Pennsylvania by Languages Other than English in Which They Communicated Effectively in for Most Clinical Purposes, 2013 Dental Hygienist Survey



#### RESPONDENTS EMPLOYED IN DENTISTRY PROVIDING DIRECT PATIENT CARE IN PENNSYLVANIA, 2013 APPENDIX 1: DENTISTS BY COUNTY OF PRIMARY PRACTICE

County	Total	Percent
Pennsylvania	6,316	100%
Adams*	34	1%
Allegheny	847	13%
Armstrong*	23	< 1%
Beaver	66	1%
Bedford*	11	< 1%
Berks	156	2%
Blair*	55	1%
Bradford*	24	< 1%
Bucks	386	6%
Butler*	95	2%
Cambria*	64	1%
Cameron*	-	-
Carbon*	20	< 1%
Centre*	64	1%
Chester	283	4%
Clarion*	11	< 1%
Clearfield*	28	< 1%
Clinton*	13	< 1%
Columbia*	22	< 1%
Crawford*	30	< 1%
Cumberland	116	2%
Dauphin	141	2%
Delaware	325	5%
Elk*	9	< 1%
Erie	127	2%
Fayette*	56	1%
Forest*	-	-
Franklin*	50	1%
Fulton*	-	-
Greene*	13	< 1%
Huntingdon*	16	< 1%
Indiana*	25	< 1%
Jefferson*	13	< 1%
Juniata*	-	-

County	Total	Percent
Rural counties	1,243	20%
Urban counties	5,073	80%
Lackawanna	124	2%
Lancaster	232	4%
Lawrence*	42	1%
Lebanon	51	1%
Lehigh	212	3%
Luzerne	152	2%
Lycoming*	46	1%
McKean*	14	< 1%
Mercer*	50	1%
Mifflin*	13	< 1%
Monroe*	54	1%
Montgomery	610	10%
Montour*	11	< 1%
Northampton	134	2%
Northumberland*	27	< 1%
Perry*	11	< 1%
Philadelphia	764	12%
Pike*	12	< 1%
Potter*	-	-
Schuylkill*	51	1%
Snyder*	12	< 1%
Somerset*	23	< 1%
Sullivan*	-	-
Susquehanna*	9	< 1%
Tioga*	18	< 1%
Union*	18	< 1%
Venango*	18	< 1%
Warren*	9	< 1%
Washington*	90	1%
Wayne*	18	< 1%
Westmoreland	176	3%
Wyoming*	9	< 1%
York	171	3%

\* Rural counties were identified using the Center for Rural Pennsylvania's definition and 2010 Census data.

#### RESPONDENTS EMPLOYED IN DENTISTRY PROVIDING DIRECT PATIENT CARE IN PENNSYLVANIA, 2013 APPENDIX 2: GENERAL DENTISTS BY COUNTY OF PRIMARY PRACTICE

Pennsylvania Adams* Allegheny	4,863 26 616 23	100%
	616	
	616	
Alleghenv		
- 3 ,	23	13%
Armstrong*		< 1%
Beaver	50	1%
Bedford*	10	< 1%
Berks	133	3%
Blair*	40	1%
Bradford*	18	< 1%
Bucks	302	6%
Butler*	76	2%
Cambria*	56	1%
Cameron*	-	-
Carbon*	16	< 1%
Centre*	48	1%
Chester	209	4%
Clarion*	11	< 1%
Clearfield*	22	< 1%
Clinton*	12	< 1%
Columbia*	21	< 1%
Crawford*	27	1%
Cumberland	90	2%
Dauphin	110	2%
Delaware	251	5%
Elk*	7	< 1%
Erie	100	2%
Fayette*	50	1%
Forest*	-	-
Franklin*	46	1%
Fulton*	-	-
Greene*	13	< 1%
Huntingdon*	15	< 1%
Indiana*	21	< 1%
Jefferson*	12	< 1%
Juniata*	-	-

County	Total	Percent
Rural counties	1,054	22%
Urban counties	3,809	78%
Lackawanna	97	2%
Lancaster	179	4%
Lawrence*	34	1%
Lebanon	44	1%
Lehigh	161	3%
Luzerne	119	2%
Lycoming*	36	1%
McKean*	14	< 1%
Mercer*	45	1%
Mifflin*	13	< 1%
Monroe*	44	1%
Montgomery	448	9%
Montour*	9	< 1%
Northampton	104	2%
Northumberland*	25	1%
Perry*	11	< 1%
Philadelphia	512	11%
Pike*	11	< 1%
Potter*	-	-
Schuylkill*	45	1%
Snyder*	9	< 1%
Somerset*	18	< 1%
Sullivan*	-	-
Susquehanna*	9	< 1%
Tioga*	17	< 1%
Union*	12	< 1%
Venango*	16	< 1%
Warren*	9	< 1%
Washington*	71	1%
Wayne*	16	< 1%
Westmoreland	147	3%
Wyoming*	8	< 1%
York	137	3%

\* Rural counties were identified using the Center for Rural Pennsylvania's definition and 2010 Census data.

#### RESPONDENTS EMPLOYED IN DENTISTRY PROVIDING DIRECT PATIENT CARE IN PENNSYLVANIA, 2013 APPENDIX 3: DENTIST AGE AND AVERAGE AGE BY COUNTY OF PRIMARY PRACTICE

0	Tatal	20-34		35-	35-49		50-64		65+	
County	Total	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Average Age
Pennsylvania	6,383	725	11%	1,740	27%	2,827	44%	1,091	17%	52.4
Rural counties	1,243	127	10%	327	26%	587	47%	202	16%	53.0
Urban counties	5,073	589	12%	1,407	28%	2,211	44%	866	17%	52.2
Adams*	34	-	-	14	41%	15	44%	-	-	50.9
Allegheny	847	82	10%	199	23%	430	51%	136	16%	53.5
Armstrong*	23	-	-	-	-	13	57%	-	-	55.1
Beaver	66	-	-	15	23%	36	55%	12	18%	55.2
Bedford*	11	-	-	-	-	-	-	-	-	52.4
Berks	156	17	11%	47	30%	70	45%	22	14%	51.9
Blair*	55	7	13%	17	31%	20	36%	11	20%	51.6
Bradford*	24	-	-	6	25%	9	38%	6	25%	51.9
Bucks	386	34	9%	128	33%	147	38%	77	20%	52.1
Butler*	95	15	16%	24	25%	45	47%	11	12%	50.1
Cambria*	64	-	-	17	27%	32	50%	11	17%	54.8
Cameron*	-	-	-	0	0%	0	0%	0	0%	28.0
Carbon*	20	-	-	-	-	10	50%	-	-	53.9
Centre*	64	6	9%	26	41%	24	38%	8	13%	50.7
Chester	283	31	11%	94	33%	119	42%	39	14%	51.2
Clarion*	11	0	0%	-	-	-	-	-	-	54.4
Clearfield*	28	-	-	9	32%	14	50%	-	-	49.5
Clinton*	13	-	-	-	-	-	-	-	-	56.6
Columbia*	22	-	-	6	27%	11	50%	-	-	51.4
Crawford*	30	-	-	6	20%	16	53%	7	23%	57.2
Cumberland	116	8	7%	30	26%	59	51%	19	16%	54.1
Dauphin	141	12	9%	45	32%	63	45%	21	15%	51.9
Delaware	325	36	11%	64	20%	160	49%	65	20%	54.0
Elk*	9	-	-	-	-	-	-	-	-	50.3
Erie	127	17	13%	20	16%	74	58%	16	13%	53.0
Fayette*	56	9	16%	10	18%	26	46%	11	20%	53.3
Forest*	-	0	0%	0	0%	-	-	-	-	62.5
Franklin*	50	9	18%	12	24%	19	38%	10	20%	51.9
Fulton*	-	0	0%	-	-	-	-	0	0%	49.5
Greene*	13	-	-	-	-	-	-	-	-	47.5
Huntingdon*	16	-	-	-	-	-	-	8	50%	60.4
Indiana*	25	-	-	-	-	15	60%	-	-	57.7
Jefferson*	13	-	-	-	-	6	46%	-	-	58.1
Juniata*	-	0	0%	-	-	-	-	0	0%	54.7

#### RESPONDENTS EMPLOYED IN DENTISTRY PROVIDING DIRECT PATIENT CARE IN PENNSYLVANIA, 2013 APPENDIX 3: DENTIST AGE AND AVERAGE AGE BY COUNTY OF PRIMARY PRACTICE, CONTINUED

<b>O</b> rana ta	Terel	20-	34	35-	49	50-	64	65	5 <b>+</b>	Average
County	Total	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Age
Lackawanna	124	8	6%	37	30%	59	48%	20	16%	53.3
Lancaster	232	25	11%	78	34%	99	43%	30	13%	50.4
Lawrence*	42	-	-	11	26%	22	52%	-	-	52.1
Lebanon	51	-	-	13	25%	20	39%	15	29%	56.9
Lehigh	212	33	16%	66	31%	80	38%	33	16%	49.9
Luzerne	152	12	8%	41	27%	69	45%	30	20%	54.6
Lycoming*	46	-	-	11	24%	23	50%	9	20%	55.1
McKean*	14	-	-	-	-	8	57%	-	-	51.2
Mercer*	50	-	-	13	26%	26	52%	8	16%	54.2
Mifflin*	13	0	0%	-	-	8	62%	-	-	56.5
Monroe*	54	-	-	16	30%	26	48%	8	15%	52.8
Montgomery	610	51	8%	184	30%	249	41%	126	21%	53.3
Montour*	11	-	-	0	0%	8	73%	-	-	54.9
Northampton	134	13	10%	46	34%	58	43%	17	13%	51.3
Northumberland*	27	-	-	-	-	17	63%	-	-	56.2
Perry*	11	0	0%	-	-	6	55%	-	-	60.4
Philadelphia	764	175	23%	202	26%	262	34%	125	16%	49.0
Pike*	12	-	-	6	50%	-	-	-	-	49.1
Potter*	-	0	0%	0	0%	-	-	-	-	61.5
Schuylkill*	51	-	-	14	27%	26	51%	8	16%	54.1
Snyder*	12	0	0%	-	-	8	67%	-	-	56.7
Somerset*	23	0	0%	-	-	17	74%	-	-	54.7
Sullivan*	-	0	0%	-	-	-	-	0	0%	45.5
Susquehanna*	9	-	-	-	-	-	-	0	0%	48.9
Tioga*	18	-	-	6	33%	8	44%	-	-	51.7
Union*	18	-	-	8	44%	-	-	-	-	48.5
Venango*	18	-	-	-	-	10	56%	-	-	57.5
Warren*	9	0	0%	-	-	7	78%	0	0%	54.7
Washington*	90	-	-	36	40%	33	37%	16	18%	52.2
Wayne*	18	-	-	-	-	8	44%	-	-	48.9
Westmoreland	176	11	6%	42	24%	91	52%	32	18%	54.6
Wyoming*	9	0	0%	-	-	6	67%	0	0%	52.6
York	171	18	11%	56	33%	66	39%	31	18%	51.5

\* Rural counties were identified using the Center for Rural Pennsylvania's definition and 2010 Census data.

#### RESPONDENTS EMPLOYED IN DENTISTRY PROVIDING DIRECT PATIENT CARE IN PENNSYLVANIA, 2013 APPENDIX 4: ACCEPTED DENTAL COVERAGE BY COUNTY OF PRIMARY PRACTICE

<b>O</b> recenter	Medi	caid	Medi	care	Private In	surance
County	Number	Percent	Number	Percent	Number	Percent
Pennsylvania	1,496	23%	1,198	19%	5,643	88%
Rural counties	291	23%	220	18%	1,075	86%
Urban counties	1,192	23%	965	19%	4,510	89%
Adams*	-	-	-	-	21	62%
Allegheny	224	26%	199	23%	778	92%
Armstrong*	6	26%	8	35%	20	87%
Beaver	14	21%	14	21%	63	95%
Bedford*	-	-	-	-	8	73%
Berks	30	19%	18	12%	131	84%
Blair*	12	22%	12	22%	49	89%
Bradford*	12	50%	-	-	20	83%
Bucks	43	11%	51	13%	341	88%
Butler*	20	21%	18	19%	84	88%
Cambria*	20	31%	16	25%	60	94%
Cameron*	-	-	-	-	-	-
Carbon*	-	-	-	-	18	90%
Centre*	7	11%	-	-	48	75%
Chester	30	11%	24	8%	250	88%
Clarion*	-	-	-	-	9	82%
Clearfield*	11	39%	6	21%	25	89%
Clinton*	-	-	0	0%	13	100%
Columbia*	8	36%	-	-	17	77%
Crawford*	13	43%	8	27%	28	93%
Cumberland	15	13%	18	16%	97	84%
Dauphin	25	18%	28	20%	129	91%
Delaware	56	17%	39	12%	294	90%
Elk*	0	0%	0	0%	9	100%
Erie	29	23%	26	20%	120	94%
Fayette*	20	36%	16	29%	51	91%
Forest*	0	0%	0	0%	0	0%
Franklin*	9	18%	-	-	38	76%
Fulton*	-	-	0	0%	-	-
Greene*	6	46%	6	46%	11	85%
Huntingdon*	-	-	-	-	12	75%
Indiana*	-	-	-	-	22	88%
Jefferson*	8	62%	-	-	13	100%
Juniata*	-	-	0	0%	-	-

#### RESPONDENTS EMPLOYED IN DENTISTRY PROVIDING DIRECT PATIENT CARE IN PENNSYLVANIA, 2013 APPENDIX 4: ACCEPTED DENTAL COVERAGE BY COUNTY OF PRIMARY PRACTICE, CONTINUED

0	Medi	caid	Medi	care	Private Ir	surance
County	Number	Percent	Number	Percent	Number	Percent
Lackawanna	34	27%	18	15%	112	90%
Lancaster	52	22%	35	15%	188	81%
Lawrence*	10	24%	10	24%	40	95%
Lebanon	-	-	-	-	37	73%
Lehigh	49	23%	36	17%	186	88%
Luzerne	42	28%	24	16%	141	93%
Lycoming*	-	-	-	-	32	70%
McKean*	-	-	-	-	11	79%
Mercer*	12	24%	9	18%	46	92%
Mifflin*	-	-	-	-	11	85%
Monroe*	6	11%	-	-	45	83%
Montgomery	72	12%	73	12%	517	85%
Montour*	-	-	-	-	7	64%
Northampton	18	13%	14	10%	116	87%
Northumberland*	-	-	-	-	24	89%
Perry*	-	-	-	-	8	73%
Philadelphia	383	50%	289	38%	701	92%
Pike*	-	-	0	0%	12	100%
Potter*	-	-	0	0%	-	-
Schuylkill*	6	12%	9	18%	47	92%
Snyder*	-	-	0	0%	9	75%
Somerset*	13	57%	-	-	22	96%
Sullivan*	-	-	-	-	-	-
Susquehanna*	-	-	-	-	9	100%
Tioga*	6	33%	-	-	16	89%
Union*	-	-	-	-	13	72%
Venango*	-	-	-	-	17	94%
Warren*	-	-	0	0%	7	78%
Washington*	18	20%	25	28%	88	98%
Wayne*	-	-	-	-	18	100%
Westmoreland	46	26%	32	18%	163	93%
Wyoming*	-	-	-	-	7	78%
York	27	16%	24	14%	146	85%

\* Rural counties were identified using the Center for Rural Pennsylvania's definition and 2010 Census data.

#### RESPONDENTS EMPLOYED IN DENTISTRY PROVIDING DIRECT PATIENT CARE IN PENNSYLVANIA, 2013 APPENDIX 5: YEARS ANTICIPATED PRACTICING DENTISTY IN PENNSYLVNAIA BY COUNTY OF PRIMARY PRACTICE

County	Total	Less that	n 6 years	6 to less yea		11 to less yea		16+ y	ears
County	Total	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Pennsylvania	6,383	1,544	24%	1,356	21%	1,227	19%	2,247	35%
Rural counties	1,243	319	26%	274	22%	234	19%	413	33%
Urban counties	5,073	1,203	24%	1,067	21%	984	19%	1,815	36%
Adams*	34	7	21%	6	18%	8	24%	13	38%
Allegheny	847	194	23%	205	24%	182	21%	265	31%
Armstrong*	23	9	39%	-	-	6	26%	-	-
Beaver	66	17	26%	10	15%	17	26%	22	33%
Bedford*	11	-	-	-	-	0	0%	-	-
Berks	156	38	24%	30	19%	35	22%	53	34%
Blair*	55	18	33%	7	13%	10	18%	20	36%
Bradford*	24	10	42%	0	0%	-	-	9	38%
Bucks	386	82	21%	73	19%	82	21%	149	39%
Butler*	95	18	19%	24	25%	17	18%	36	38%
Cambria*	64	19	30%	11	17%	13	20%	21	33%
Cameron*	-	0	0%	-	-	0	0%	0	0%
Carbon*	20	-	-	-	-	-	-	7	35%
Centre*	64	13	20%	12	19%	16	25%	22	34%
Chester	283	46	16%	64	23%	54	19%	119	42%
Clarion*	11	-	-	-	-	-	-	-	-
Clearfield*	28	-	-	-	-	-	-	16	57%
Clinton*	13	-	-	-	-	-	-	-	-
Columbia*	22	6	27%	-	-	-	-	9	41%
Crawford*	30	9	30%	7	23%	7	23%	7	23%
Cumberland	116	31	27%	32	28%	25	22%	28	24%
Dauphin	141	35	25%	31	22%	31	22%	44	31%
Delaware	325	81	25%	66	20%	73	22%	105	32%
Elk*	9	-	-	-	-	-	-	-	-
Erie	127	30	24%	30	24%	24	19%	43	34%
Fayette*	56	11	20%	16	29%	11	20%	18	32%
Forest*	-	-	-	0	0%	-	-	0	0%
Franklin*	50	16	32%	6	12%	8	16%	20	40%
Fulton*	-	0	0%	-	-	0	0%	-	-
Greene*	13	-	-	-	-	0	0%	-	-
Huntingdon*	16	7	44%	-	-	-	-	-	-
Indiana*	25	9	36%	-	-	7	28%	-	-
Jefferson*	13	6	46%	-	-	-	-	-	-
Juniata*	-	0	0%	-	-	-	-	0	0%

#### RESPONDENTS EMPLOYED IN DENTISTRY PROVIDING DIRECT PATIENT CARE IN PENNSYLVANIA, 2013 APPENDIX 5: YEARS ANTICIPATED PRACTICING DENTISTY IN PENNSYLVNAIA BY COUNTY OF PRIMARY PRACTICE, CONTINUED

County	Total	Less that	n 6 years	6 to less yea		11 to less yea		16+ y	ears
oounty	Total	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Lackawanna	124	31	25%	19	15%	28	23%	46	37%
Lancaster	232	54	23%	40	17%	45	19%	93	40%
Lawrence*	42	11	26%	10	24%	-	-	16	38%
Lebanon	51	17	33%	11	22%	10	20%	13	25%
Lehigh	212	45	21%	45	21%	37	17%	85	40%
Luzerne	152	36	24%	30	20%	36	24%	50	33%
Lycoming*	46	12	26%	12	26%	8	17%	14	30%
McKean*	14	-	-	-	-	-	-	-	-
Mercer*	50	11	22%	12	24%	10	20%	17	34%
Mifflin*	13	-	-	-	-	-	-	-	-
Monroe*	54	13	24%	12	22%	14	26%	15	28%
Montgomery	610	145	24%	119	20%	116	19%	229	38%
Montour*	11	-	-	-	-	-	-	-	-
Northampton	134	29	22%	23	17%	24	18%	57	43%
Northumberland*	27	12	44%	-	-	-	-	7	26%
Perry*	11	-	-	-	-	-	-	-	-
Philadelphia	764	203	27%	164	21%	98	13%	299	39%
Pike*	12	-	-	-	-	-	-	8	67%
Potter*	-	-	-	-	-	0	0%	0	0%
Schuylkill*	51	12	24%	18	35%	7	14%	13	25%
Snyder*	12	-	-	-	-	-	-	-	-
Somerset*	23	-	-	10	43%	-	-	7	30%
Sullivan*	-	-	-	0	0%	-	-	0	0%
Susquehanna*	9	-	-	-	-	-	-	-	-
Tioga*	18	7	39%	-	-	-	-	6	33%
Union*	18	-	-	-	-	-	-	7	39%
Venango*	18	8	44%	-	-	-	-	-	-
Warren*	9	-	-	-	-	-	-	-	-
Washington*	90	16	18%	14	16%	25	28%	35	39%
Wayne*	18	-	-	-	-	-	-	8	44%
Westmoreland	176	43	24%	43	24%	40	23%	50	28%
Wyoming*	9	-	-	6	67%	0	0%	-	-
York	171	46	27%	32	19%	27	16%	65	38%

\* Rural counties were identified using the Center for Rural Pennsylvania's definition and 2010 Census data.

#### RESPONDENTS EMPLOYED IN DENTISTRY PROVIDING DIRECT PATIENT CARE IN PENNSYLVANIA, 2013 APPENDIX 6: ACCEPTED DENTAL COVERAGE FOR NEW PATIENTS BY COUNTY OF PRIMARY PRACTICE

Country	Medi	caid	Medi	care	Private In	surance	Unins	sured
County	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Pennsylvania	1,710	28%	1,561	26%	5,959	98%	6,005	99%
Rural counties	329	28%	309	26%	1,131	97%	1,158	99%
Urban counties	1,381	28%	1,252	25%	4,828	98%	4,847	99%
Adams*	6	19%	7	23%	30	97%	31	100%
Allegheny	240	29%	238	29%	811	98%	815	99%
Armstrong*	8	35%	11	48%	23	100%	23	100%
Beaver	13	20%	17	27%	64	100%	64	100%
Bedford*	-	-	-	-	8	80%	9	90%
Berks	42	28%	33	22%	146	99%	148	100%
Blair*	11	22%	12	24%	45	92%	48	98%
Bradford*	8	44%	-	-	16	89%	18	100%
Bucks	62	16%	70	19%	375	99%	374	99%
Butler*	28	29%	30	32%	91	96%	93	98%
Cambria*	17	30%	16	28%	56	98%	56	98%
Cameron*	-	-	-	-	-	-	-	-
Carbon*	6	32%	7	37%	19	100%	19	100%
Centre*	13	22%	13	22%	58	97%	60	100%
Chester	43	15%	36	13%	275	99%	277	99%
Clarion*	-	-	-	-	11	100%	11	100%
Clearfield*	13	48%	10	37%	26	96%	27	100%
Clinton*	-	-	-	-	13	100%	13	100%
Columbia*	7	35%	-	-	18	90%	20	100%
Crawford*	13	45%	10	34%	29	100%	29	100%
Cumberland	23	21%	31	28%	107	96%	111	99%
Dauphin	39	29%	45	33%	133	98%	136	100%
Delaware	70	22%	55	17%	311	98%	312	98%
Elk*	-	-	-	-	8	100%	8	100%
Erie	31	25%	32	26%	120	96%	123	98%
Fayette*	17	31%	16	29%	53	96%	55	100%
Forest*	-	-	-	-	-	-	-	-
Franklin*	13	27%	10	21%	44	92%	47	98%
Fulton*	-	-	-	-	-	-	-	-
Greene*	6	50%	6	50%	10	83%	12	100%
Huntingdon*	6	40%	6	40%	13	87%	13	87%
Indiana*	6	26%	9	39%	21	91%	23	100%
Jefferson*	6	55%	6	55%	11	100%	11	100%
Juniata*	-	-	0	0%	-	-	-	-

#### RESPONDENTS EMPLOYED IN DENTISTRY PROVIDING DIRECT PATIENT CARE IN PENNSYLVANIA, 2013 APPENDIX 6: ACCEPTED DENTAL COVERAGE FOR NEW PATIENTS BY COUNTY OF PRIMARY PRACTICE, CONTINUED

<b>0</b> t	Medi	caid	Medi	care	Private Ir	surance	Unin	sured
County	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Lackawanna	39	32%	30	25%	120	98%	122	100%
Lancaster	70	31%	58	25%	226	99%	226	99%
Lawrence*	10	24%	10	24%	41	100%	41	100%
Lebanon	8	18%	7	16%	40	89%	43	96%
Lehigh	63	30%	55	26%	206	99%	209	100%
Luzerne	42	30%	31	22%	133	96%	134	97%
Lycoming*	-	-	-	-	41	95%	42	98%
McKean*	-	-	-	-	12	100%	12	100%
Mercer*	15	30%	16	32%	50	100%	50	100%
Mifflin*	-	-	-	-	11	100%	11	100%
Monroe*	10	19%	9	17%	53	98%	51	94%
Montgomery	99	17%	104	18%	576	98%	578	98%
Montour*	-	-	-	-	8	100%	8	100%
Northampton	23	18%	25	19%	129	98%	129	98%
Northumberland*	-	-	-	-	24	96%	25	100%
Perry*	-	-	-	-	9	90%	10	100%
Philadelphia	383	52%	299	41%	726	98%	718	97%
Pike*	0	0%	0	0%	11	100%	11	100%
Potter*	0	0%	0	0%	-	-	-	-
Schuylkill*	7	15%	10	21%	45	94%	47	98%
Snyder*	-	-	-	-	11	92%	12	100%
Somerset*	13	57%	6	26%	23	100%	23	100%
Sullivan*	-	-	-	-	-	-	-	-
Susquehanna*	-	-	-	-	8	89%	8	89%
Tioga*	6	40%	-	-	15	100%	15	100%
Union*	-	-	-	-	16	100%	16	100%
Venango*	-	-	-	-	18	100%	18	100%
Warren*	-	-	-	-	7	100%	7	100%
Washington*	18	20%	22	25%	88	100%	88	100%
Wayne*	-	-	-	-	18	100%	18	100%
Westmoreland	53	31%	45	26%	171	99%	169	98%
Wyoming*	-	-	-	-	9	100%	9	100%
York	38	24%	41	25%	159	99%	159	99%

\* Rural counties were identified using the Center for Rural Pennsylvania's definition and 2010 Census data.

#### RESPONDENTS EMPLOYED IN DENTISTRY PROVIDING DIRECT PATIENT CARE IN PENNSYLVANIA APPENDIX 7: COMPARISON OF RESPONSES TO THE PENNSYLVANIA SURVEY OF DENTISTS, 2005 - 2013\*

Measure	2005	2007	2009	2011	2013
Gender					
Male	83%	82%	81%	79%	77%
Female	17%	18%	19%	21%	23%
Race					
White	90%	89%	88%	86%	85%
Black	2%	2%	2%	2%	2%
Asian	5%	6%	7%	8%	9%
Other	2%	2%	2%	3%	3%
Native Hawaiian/Pacific Islander	< 1%	< 1%	< 1%	< 1%	< 1%
American Indian/Alaska Native	0%	0%	< 1%	< 1%	< 1%
Ethnicity					
Hispanic	1%	1%	2%	1%	2%
Average age	50.3	51.3	51.6	51.9	52.4
Age					
20-34	9%	8%	9%	11%	11%
35-49	38%	34%	31%	29%	27%
50-64	43%	46%	47%	46%	44%
65+	10%	12%	12%	14%	17%
Urban/rural county of practice <sup>^</sup>					
Urban	79%	80%	79%	81%	80%
Rural	21%	20%	21%	19%	20%
Majority of practice time spent performing					
General dentistry	78%	79%	77%	76%	77%
Pediatric dentistry	3%	2%	3%	3%	3%
Geriatric dentistry	< 1%	< 1%	1%	1%	1%
Endodontics	3%	3%	3%	3%	3%
Oral surgery	4%	4%	4%	5%	5%
Orthodontics	5%	6%	6%	6%	6%
Prosthodontics	2%	2%	2%	2%	2%
Periodontics	-	-	-	-	3%
Primary employment situation? <sup>#</sup>					
Direct patient care	90%	90%	90%	91%	97%
Administrative	1%	1%	1%	1%	< 1%
Education	3%	3%	5%	4%	2%
Research	< 1%	< 1%	< 1%	< 1%	< 1%
Other non-patient care	< 1%	< 1%	< 1%	< 1%	< 1%

#### RESPONDENTS EMPLOYED IN DENTISTRY PROVIDING DIRECT PATIENT CARE IN PENNSYLVANIA APPENDIX 7: COMPARISON OF RESPONSES TO THE PENNSYLVANIA SURVEY OF DENTISTS 2005-2013\*, CONTINUED

Measure	2005	2007	2009	2011	2013
How long do you anticipate practicing dentistry?					
0-5 years	14%	14%	13%	18%	22%
6-10 years	21%	21%	23%	22%	20%
11-15 years	23%	23%	23%	21%	19%
16+ years	42%	42%	41%	40%	39%
How long do you anticipate practicing dentistry in Pa.?**					
0-5 years	17%	17%	16%	22%	24%
6-10 years	22%	23%	24%	23%	21%
11-15 years	23%	24%	23%	21%	19%
16+ years	39%	37%	37%	35%	35%

\* Prior to 2009, respondents who provided direct patient care in Pennsylvania were those who reported being employed in direct patient care in Pennsylvania. Beginning in 2009, respondents who provided direct patient care in Pennsylvania were those who reported being employed in health care and provided direct patient care in Pennsylvania.

^ Urban and rural counties were defined by Center for Rural Pennsylvania's definition and U.S. Census population estimates from the survey year, except for 2011, which used 2010 U.S. Census population information.

# Prior to 2013, the primary employment section included all survey respondents. Beginning in 2013, the primary employment section included only respondents who reported being employed in dentistry.

\*\* Prior to 2013, respondents were asked "How long do you anticipate you will continue practicing dentistry in Pennsylvania?" Beginning in 2013, respondents were asked "How long do you anticipate practicing direct patient care as a dentist in Pennsylvania?"

Note: Percentages may not equal 100% due to rounding.

#### **APPENDIX 8: 2013 DENTIST SURVEY**

HD 01244S		
🚺 pennsylvania	Commonwealth of Pennsylvania	License #: D
DEPARTMENT OF HEALTH	Department of Health 2013 Survey of Dentists	*Required to avoid duplication
		*Anonymous & aggregate reporting only
IF YOU HAVE ALREADY S	SUBMITTED YOUR RENEWAL SURVEY ONLINE	DO NOT MAIL THIS SURVEY
and describing the dentist workforce. Str	port of the Department of State, requests that you comp rict controls are placed upon information when shared d to the public, will be in aggregate form only. To view ik you for your cooperation!	for the production of statistical reports and
1. Year of Birth	2. Sex 🗌 Male 🗌 Female 3. Hispanic	or Latino Origin 🗌 Yes 🗌 No
4. Race ( <i>check one</i> ) American Ind	lian/Alaska Native Asian iian/Other Pacific Islander White/Caucasian	Black/African American     Other
5. State of Residence (state abbreviati	ion) Non-US (check) 5a. County of	of Residence (codes on page 3)
<ul><li>6. In which state did you graduate from</li><li>6a. In what year did you obtain this</li></ul>		] Non-US ( <i>check</i> )
<ol> <li>In which state were you first license</li> <li>7a. In what year was this first license</li> </ol>		] Non-US ( <i>check</i> )
8. Have you completed a postdoctoral	certificate program in general dentistry?  Yes	🗌 No
<ul><li>9a. Are you board certified from the A</li><li>9b. Are you board certified from the A</li><li>9c. Are you board certified from the A</li></ul>	American Board of Oral and Maxillofacial Patholog American Board of Oral and Maxillofacial Radiolog American Board of Oral and Maxillofacial Surgery American Board of Orthodontics Yes American Board of Pediatric Dentistry Yes American Board of Periodontology Yes	
10. What is your current training status	s? (check one) 🗌 Resident 🗌 Fellow 🗌 Ne	ither
>> if 'No', skip to question 12 11a. In which location did you prov Dental school clinic Dental van	your services (unpaid) as a dentist in Pennsylvania? vide most of these unpaid services as a dentist in Pe Private off School (K- Center (FQHC) or health center	nnsylvania? (check one) ice practice
<ul> <li>12. Select the employment status that if</li> <li>Employed in dentistry, direct of</li> <li>Employed not in dentistry</li> <li>Retired</li> <li>Student, leave of absence, or s</li> </ul>	Unemployed, not seeki	ng work in dentistry
If employed in dentistry continue to que	estion 13.	
	udent, leave of absence, sabbatical or unemployed, yo at most closely resembles your <u>primary</u> employmer Direct patient care Education	
· · · · · · · · · · · · · · · · · · ·	you plan to return to direct patient care in the next	5 years? 🗌 Yes 🗌 No 🗌 N/A
14. Indicate the approximate number of year (including volunteer hours).     Note: For the purpose of this report, direct patient-specific office work. This would a	of hours you spent providing <u>direct patient care each</u> patient care includes the amount of time a dentist spends directl lso include "on call" hours if the dentist is required to remain in 1-19 hours 20-30 hours 31-40 hours as "zero", do not provide direct patient care	week in Pennsylvania during the last y with patients in a dental practice setting or a medical/dental practice setting. More than 40 hours
- Jour answer to question 14 w	as zero, do not provide direct patient care	in remissivania, END survey here.

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## APPENDIX 8: 2013 DENTIST SURVEY, Continued

		License #: D
15. Indicate the category that most closely represents the sp (check one)	pecialty in which the majorit	y of your dental practice time is spent.
Endodontics     General Dentistry     Orthodontics     Pediatric Dentistry	Geriatric Dentistry Periodontics	<ul> <li>Oral Surgery</li> <li>Prosthodontics</li> </ul>
15a. In which state are you primarily practicing this spe	cialty? (state abbreviation)	Non-US (check)
15b. In which county are you primarily practicing this s	specialty? (codes on page 3)	
16. Do you provide general dentistry for patients with seve deep sedation? Yes No >> if 'No', skip to	re developmental or physica o question 17	l handicaps using general anesthesia or
Do you provide general dentistry for patients with sever deep sedation in the following settings? 16a. Ambulatory surgical facility Yes No 16b. Hospital Yes No 16c. Office Yes No 16d. Other Yes No	ere developmental or physic:	al handicaps using general anesthesia or
<ul> <li>17. Identify the setting that most closely represents where t</li> <li>Clinic or center</li> <li>Dental school</li> <li>Industry/business (i.e., industrial, retail site)</li> <li>Mobile dental unit or community setting using port</li> </ul>		atient care hours are spent. <i>(check one)</i> rivate office practice (excluding retail site) chool health (K-12/college/university) Other:
18. Where do you spend the majority of your primary pract Private practice partnership (full/part owner) Private practice solo (full/part owner)		t/facility 🗌 Other:
19. Do you accept the following coverage plans? 19a. Medicaid ☐ Yes ☐ No 19b. Medicare ☐ Yes ☐ No 19c. Private insurance ☐ Yes ☐ No		
20. Does your practice submit claims to insurance compani	ies on behalf of patients?	Yes 🗌 No
	□ No >> if 'No', skip	to question 22
Do you accept new patients with the following coverage 21a. Medicaid Yes No 21b. Medicare Yes No 21c. Private insurance Yes No 21d. Uninsured Yes No	ge?	
22. Does your office employ the following dental practice a         22a. Dental assistant       Yes         22b. Dental hygienist       Yes         22c. Expanded function dental assistant       Yes         22d. Public health dental hygiene practitioner       Yes	s 🗌 No	
23b. Dental hygienist Yes No Did not 23c. Expanded function dental assistant Y	lental auxiliary positions in t have this type of position have this type of position 'es No Did not hav 'es No Did not hav	e this type of position

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#### **APPENDIX 8: 2013 DENTIST SURVEY, Continued**

License #: D
<ul> <li>24. In the past 6 months, were you able to communicate with patients in a language other than English without using an interpreter?</li> <li>Yes No &gt;&gt;If 'No', skip to question 25</li> <li>24a. In which languages, other than English, did you communicate with patients without using an interpreter? (check all that apply)</li> <li>Arabic Chinese French German Hindi Italian</li> <li>PA Dutch Polish Russian Sign Language Spanish Urdu</li> </ul>
25. How satisfied have you been with your dental career in the last 12 months? ☐ Very Satisfied ☐ Satisfied ☐ Dissatisfied ☐ Very Dissatisfied
26. How satisfied are you with your dental career <u>overall</u> ? Very Satisfied Satisfied Dissatisfied Very Dissatisfied
27. What is the greatest source of your professional satisfaction? (check one)         Decision making autonomy       Financial reasons – other, including insurance         Intellectual challenge       Patient relationships         Staff relationships       Other:
28. What is the greatest source of your professional dissatisfaction? (check one)         Availability of leisure time       Decision making autonomy         Financial reasons – salary/income       Patient relationships         Staff relationships       Time spent with patients
29. How long have you practiced dentistry in Pennsylvania?         □ Less than 3 years       □ 3 to less than 6 years       □ 6 to less than 11 years       □ 11 to less than 16 years       □ 16+ years
30. How much longer do you anticipate practicing dentistry? ☐ Less than 3 years ☐ 3 to less than 6 years ☐ 6 to less than 11 years ☐ 11 to less than 16 years ☐ 16+ years
31. How much longer do you anticipate practicing direct patient care as a dentist in Pennsylvania? □ Less than 3 years □ 3 to less than 6 years □ 6 to less than 11 years □ 11 to less than 16 years □ 16+ years
32. If you plan to leave direct patient care in Pennsylvania in less than 6 years, indicate your primary reason below (check one).         Change careers       Complete further training       Family reasons         Financial reasons – salary/income       Financial reasons – other, including insurance       Physical demands         Other:       Other:       Not applicable
Thenksont

#### Thank you!

If you are interested in learning more about emergency disaster response effort volunteer opportunities in Pennsylvania, please access <u>www.serv.pa.gov</u> for more information.

	Pennsylvania County Codes									
01=Adams	11=Cambria	21=Cumberland	31=Huntingdon	41=Lycoming	51=Philadelphia	61=Venango				
02=Allegheny	12=Cameron	22=Dauphin	32=Indiana	42=McKean	52=Pike	62=Warren				
03=Armstrong	13=Carbon	23=Delaware	33=Jefferson	43=Mercer	53=Potter	63=Washington				
04=Beaver	14=Centre	24=Elk	34=Juniata	44=Mifflin	54=Schuvlkill	64=Wavne				
05=Bedford	15=Chester	25=Erie	35=Lackawanna	45=Monroe	55=Snyder	65=Westmoreland				
06=Berks	16=Clarion	26=Fayette	36=Lancaster	46=Montgomery	56=Somerset	66=Wyoming				
07=Blair	17=Clearfield	27=Forest	37=Lawrence	47=Montour	57=Sullivan	67=York				
08=Bradford	18=Clinton	28=Franklin	38=Lebanon	48=Northampton	58=Susquehanna					
09=Bucks	19=Columbia	29=Fulton	39=Lehigh	49=Northumberland	59=Tioga	00=Not in PA				
10=Butler	20=Crawford	30=Greene	40=Luzerne	50=Perry	60=Union	2 - 6 - 6 - 6 - 6 - 6 - 6 - 6 - 6 - 6 -				

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#### RESPONDENTS EMPLOYED IN DENTAL HYGIENE PROVIDING DIRECT PATIENT CARE IN PENNSYLVANIA, 2013 APPENDIX 9: DENTAL HYGIENISTS BY COUNTY OF PRIMARY JOB

County	Total	Percent
Pennsylvania	6,214	100%
Adams*	44	1%
Allegheny	673	11%
Armstrong*	19	< 1%
Beaver	67	1%
Bedford*	21	< 1%
Berks	180	3%
Blair*	53	1%
Bradford*	25	< 1%
Bucks	379	6%
Butler*	118	2%
Cambria*	50	1%
Cameron*	-	-
Carbon*	30	< 1%
Centre*	87	1%
Chester	274	4%
Clarion*	14	< 1%
Clearfield*	29	< 1%
Clinton*	14	< 1%
Columbia*	30	< 1%
Crawford*	39	1%
Cumberland	179	3%
Dauphin	171	3%
Delaware	261	4%
Elk*	14	< 1%
Erie	149	2%
Fayette*	52	1%
Forest*	-	-
Franklin*	64	1%
Fulton*	-	-
Greene*	14	< 1%
Huntingdon*	18	< 1%
Indiana*	25	< 1%
Jefferson*	18	< 1%
Juniata*	-	-

County	Total	Percent
Rural counties	1,398	22%
Urban counties	4,816	78%
Lackawanna	136	2%
Lancaster	315	5%
Lawrence*	30	< 1%
Lebanon	61	1%
Lehigh	212	3%
Luzerne	209	3%
Lycoming*	62	1%
McKean*	13	< 1%
Mercer*	48	1%
Mifflin*	20	< 1%
Monroe*	56	1%
Montgomery	554	9%
Montour*	12	< 1%
Northampton	190	3%
Northumberland*	46	1%
Perry*	9	< 1%
Philadelphia	384	6%
Pike*	15	< 1%
Potter*	6	< 1%
Schuylkill*	53	1%
Snyder*	19	< 1%
Somerset*	20	< 1%
Sullivan*	-	-
Susquehanna*	11	< 1%
Tioga*	11	< 1%
Union*	22	< 1%
Venango*	16	< 1%
Warren*	16	< 1%
Washington*	92	1%
Wayne*	21	< 1%
Westmoreland	205	3%
Wyoming*	13	< 1%
York	217	3%

\* Rural counties were identified using the Center for Rural Pennsylvania's definition and 2010 Census data.

#### RESPONDENTS EMPLOYED IN DENTAL HYGIENE PROVIDING DIRECT PATIENT CARE IN PENNSYLVANIA, 2013 APPENDIX 10: DENTAL HYGIENIST AGE AND AVERAGE AGE BY COUNTY OF PRIMARY JOB

County	Tetal	20-	34	35-	49	50-	64	65	+	Average
County	Total	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Age
Pennsylvania	6,214	1,620	26%	2,399	39%	2,032	33%	163	3%	43.9
Rural counties	1,398	405	29%	558	40%	419	30%	16	1%	42.8
Urban counties	4,816	1,215	25%	1,841	38%	1,613	33%	147	3%	44.2
Adams*	44	14	32%	12	27%	17	39%	-	-	43.8
Allegheny	673	206	31%	206	31%	233	35%	28	4%	43.7
Armstrong*	19	-	-	8	42%	7	37%	0	0%	44.8
Beaver	67	14	21%	20	30%	28	42%	-	-	46.7
Bedford*	21	8	38%	7	33%	6	29%	0	0%	41.3
Berks	180	46	26%	73	41%	58	32%	-	-	43.7
Blair*	53	17	32%	22	42%	14	26%	0	0%	42.2
Bradford*	25	6	24%	7	28%	10	40%	-	-	48.2
Bucks	379	86	23%	160	42%	123	32%	10	3%	44.7
Butler*	118	38	32%	50	42%	30	25%	0	0%	40.8
Cambria*	50	21	42%	17	34%	12	24%	0	0%	40.3
Cameron*	-	-	-	0	0%	0	0%	0	0%	23.0
Carbon*	30	7	23%	13	43%	9	30%	-	-	45.1
Centre*	87	32	37%	31	36%	22	25%	-	-	41.6
Chester	274	65	24%	101	37%	96	35%	12	4%	45.2
Clarion*	14	-	_	6	43%	-	-	0	0%	39.1
Clearfield*	29	10	34%	8	28%	10	34%	-	-	43.2
Clinton*	14	-	-	-	-	-	-	0	0%	42.8
Columbia*	30	-	-	21	70%	-	-	0	0%	42.0
Crawford*	39	12	31%	12	31%	15	38%	0	0%	44.0
Cumberland	179	33	18%	78	44%	63	35%	-	-	44.8
Dauphin	171	45	26%	58	34%	60	35%	8	5%	44.3
Delaware	261	62	24%	106	41%	83	32%	10	4%	44.4
Elk*	14	-	_	-	-	-	-	0	0%	43.9
Erie	149	44	30%	59	40%	43	29%	-	-	42.6
Fayette*	52	14	27%	18	35%	20	38%	0	0%	44.5
Forest*	-	0	0%	-	-	0	0%	0	0%	44.0
Franklin*	64	17	27%	31	48%	16	25%	0	0%	43.4
Fulton*	-	-	0%	-	-	0	0%	0	0%	43.0
Greene*	14	6	43%	-	-	-	-	0	0%	41.3
Huntingdon*	18	-	-	6	33%	7	39%	0	0%	43.6
Indiana*	25	7	28%	12	48%	-	-	-	-	40.6
Jefferson*	18	9	50%	-	-	-	-	0	0%	37.7
Juniata*	-	-	-	-	-	-	-	0	0%	49.2

#### RESPONDENTS EMPLOYED IN DENTAL HYGIENE PROVIDING DIRECT PATIENT CARE IN PENNSYLVANIA, 2013 APPENDIX 10: DENTAL HYGIENIST AGE AND AVERAGE AGE BY COUNTY OF PRIMARY JOB, CONTINUED

County	Tatal	20-34		35-49		50-64		65+		Average
County	Total	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Age
Lackawanna	136	32	24%	53	39%	50	37%	-	-	43.8
Lancaster	315	100	32%	115	37%	94	30%	6	2%	42.7
Lawrence*	30	9	30%	10	33%	10	33%	-	-	43.7
Lebanon	61	26	43%	23	38%	11	18%	-	-	39.6
Lehigh	212	41	19%	82	39%	84	40%	-	-	45.1
Luzerne	209	53	25%	103	49%	49	23%	-	-	41.8
Lycoming*	62	13	21%	26	42%	23	37%	0	0%	44.4
McKean*	13	7	54%	-	-	-	-	0	0%	38.7
Mercer*	48	13	27%	23	48%	11	23%	-	-	41.1
Mifflin*	20	-	-	12	60%	-	-	-	-	44.0
Monroe*	56	13	23%	21	38%	21	38%	-	-	45.5
Montgomery	554	102	18%	209	38%	219	40%	24	4%	46.6
Montour*	12	-	-	-	-	-	-	0	0%	42.1
Northampton	190	37	19%	61	32%	89	47%	-	-	46.5
Northumberland*	46	15	33%	14	30%	17	37%	0	0%	42.1
Perry*	9	0	0%	6	67%	-	-	0	0%	45.3
Philadelphia	384	126	33%	157	41%	94	24%	7	2%	41.5
Pike*	15	-	-	8	53%	-	-	0	0%	46.0
Potter*	6	-	-	-	-	-	-	0	0%	41.3
Schuylkill*	53	11	21%	29	55%	11	21%	-	-	43.3
Snyder*	19	-	-	9	47%	-	-	-	-	43.0
Somerset*	20	-	-	8	40%	10	50%	0	0%	47.7
Sullivan*	-	-	-	0	0%	0	0%	0	0%	31.0
Susquehanna*	11	-	-	6	55%	-	-	0	0%	43.5
Tioga*	11	-	-	-	-	-	-	0	0%	41.9
Union*	22	-	-	13	59%	6	27%	0	0%	43.2
Venango*	16	-	-	6	38%	-	-	0	0%	41.9
Warren*	16	-	-	-	-	6	38%	0	0%	44.0
Washington*	92	32	35%	31	34%	29	32%	0	0%	41.9
Wayne*	21	6	29%	8	38%	7	33%	0	0%	42.1
Westmoreland	205	48	23%	98	48%	54	26%	-	-	43.3
Wyoming*	13	-	-	6	46%	-	-	-	-	44.4
York	217	49	23%	79	36%	82	38%	-	-	45.3

\* Rural counties were identified using the Center for Rural Pennsylvania's definition and 2010 Census data.

#### RESPONDENTS EMPLOYED IN DENTAL HYGIENE PROVIDING DIRECT PATIENT CARE IN PENNSYLVANIA, 2013 APPENDIX 11: YEARS ANTICIPATED REMAINING IN DENTAL HYGIENE IN PENNSYLVANIA BY COUNTY OF PRIMARY JOB

County	Total	Less that	n 6 years	6 to less yea		11 to less yea		16+ y	ears
County	rotar	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Pennsylvania	6,214	980	16%	1,354	22%	1,432	23%	2,444	39%
Rural counties	1,398	197	14%	287	21%	325	23%	588	42%
Urban counties	4,816	783	16%	1,067	22%	1,107	23%	1,856	39%
Adams*	44	7	16%	6	14%	12	27%	19	43%
Allegheny	673	156	23%	153	23%	119	18%	245	36%
Armstrong*	19	-	-	-	-	-	-	8	42%
Beaver	67	16	24%	18	27%	15	22%	18	27%
Bedford*	21	-	-	-	-	-	-	10	48%
Berks	180	19	11%	36	20%	44	24%	81	45%
Blair*	53	8	15%	8	15%	14	26%	23	43%
Bradford*	25	6	24%	-	-	-	-	11	44%
Bucks	379	56	15%	91	24%	75	20%	157	41%
Butler*	118	15	13%	23	19%	29	25%	51	43%
Cambria*	50	-	-	7	14%	9	18%	29	58%
Cameron*	-	0	0%	0	0%	0	0%	-	-
Carbon*	30	7	23%	-	-	-	-	14	47%
Centre*	87	-	-	25	29%	16	18%	42	48%
Chester	274	41	15%	74	27%	65	24%	93	34%
Clarion*	14	0	0%	-	-	-	-	6	43%
Clearfield*	29	-	-	-	-	6	21%	14	48%
Clinton*	14	-	-	-	-	-	-	-	-
Columbia*	30	-	-	-	-	9	30%	13	43%
Crawford*	39	7	18%	8	21%	10	26%	14	36%
Cumberland	179	36	20%	44	25%	37	21%	62	35%
Dauphin	171	33	19%	32	19%	38	22%	68	40%
Delaware	261	42	16%	51	20%	66	25%	102	39%
Elk*	14	-	-	-	-	-	-	8	57%
Erie	149	17	11%	29	19%	32	21%	71	48%
Fayette*	52	7	13%	15	29%	14	27%	15	29%
Forest*	-	0	0%	0	0%	0	0%	-	-
Franklin*	64	8	13%	18	28%	15	23%	23	36%
Fulton*	-	0	0%	0	0%	0	0%	-	-
Greene*	14	-	-	-	-	-	-	7	50%
Huntingdon*	18	-	-	-	-	-	-	9	50%
Indiana*	25	6	24%	-	-	6	24%	11	44%
Jefferson*	18	-	-	-	-	-	-	9	50%
Juniata*	-	-	-	-	-	0	0%	-	-

#### RESPONDENTS EMPLOYED IN DENTAL HYGIENE PROVIDING DIRECT PATIENT CARE IN PENNSYLVANIA, 2013 APPENDIX 11: YEARS ANTICIPATED REMAINING IN DENTAL HYGIENE IN PENNSYLVANIA BY COUNTY OF PRIMARY JOB, CONTINUED

County	Total	Less that	n 6 years	6 to less yea		11 to less yea		16+ Y	'ears
county	Total	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Lackawanna	136	17	13%	28	21%	27	20%	64	47%
Lancaster	315	49	16%	62	20%	87	28%	117	37%
Lawrence*	30	6	20%	6	20%	6	20%	12	40%
Lebanon	61	6	10%	13	21%	13	21%	29	48%
Lehigh	212	31	15%	53	25%	47	22%	80	38%
Luzerne	209	23	11%	43	21%	57	27%	86	41%
Lycoming*	62	9	15%	21	34%	15	24%	17	27%
McKean*	13	-	-	-	-	-	-	7	54%
Mercer*	48	6	13%	10	21%	12	25%	20	42%
Mifflin*	20	-	-	-	-	-	-	12	60%
Monroe*	56	13	23%	9	16%	15	27%	19	34%
Montgomery	554	83	15%	122	22%	144	26%	205	37%
Montour*	12	-	-	-	-	-	-	6	50%
Northampton	190	32	17%	41	22%	59	31%	58	31%
Northumberland*	46	-	-	11	24%	10	22%	20	43%
Perry*	9	0	0%	-	-	-	-	-	-
Philadelphia	384	48	13%	82	21%	87	23%	167	43%
Pike*	15	-	-	0	0%	6	40%	7	47%
Potter*	6	0	0%	-	-	-	-	0	0%
Schuylkill*	53	7	13%	6	11%	19	36%	21	40%
Snyder*	19	-	-	6	32%	-	-	-	-
Somerset*	20	-	-	-	-	6	30%	-	-
Sullivan*	-	0	0%	0	0%	0	0%	-	-
Susquehanna*	11	-	-	-	-	-	-	-	-
Tioga*	11	-	-	-	-	-	-	-	-
Union*	22	-	-	6	27%	-	-	8	36%
Venango*	16	-	-	-	-	-	-	8	50%
Warren*	16	-	-	-	-	-	-	6	38%
Washington*	92	13	14%	24	26%	14	15%	41	45%
Wayne*	21	-	-	-	-	-	-	10	48%
Westmoreland	205	40	20%	52	25%	42	20%	71	35%
Wyoming*	13	-	-	-	-	-	-	7	54%
York	217	38	18%	43	20%	53	24%	82	38%

\* Rural counties were identified using the Center for Rural Pennsylvania's definition and 2010 Census data.

#### RESPONDENTS EMPLOYED IN DENTAL HYGIENE PROVIDING DIRECT PATIENT CARE IN PENNSYLVANIA APPENDIX 12: COMPARISON OF RESPONSES TO THE PENNSYLVANIA SURVEY OF DENTAL HYGIENISTS, 2005-2013\*

Measure	2005	2007	2009	2011	2013
Gender					
Male	1%	1%	1%	1%	1%
Female	99%	99%	99%	99%	99%
Race					
White	97%	97%	97%	96%	96%
Black	1%	1%	1%	1%	1%
Asian	< 1%	1%	1%	1%	1%
Other	1%	1%	1%	1%	1%
Native Hawaiian/Pacific Islander	< 1%	< 1%	< 1%	< 1%	< 1%
American Indian/Alaska Native	< 1%	< 1%	1%	< 1%	< 1%
Ethnicity					
Hispanic	1%	1%	1%	1%	1%
Average age	40.8	41.4	42.3	43.2	43.8
Age					
20-34	29%	28%	27%	26%	26%
35-49	52%	49%	46%	43%	39%
50-64	18%	22%	26%	30%	33%
65+	1%	1%	1%	2%	3%
Urban/rural county of practice <sup>^</sup>					
Urban	77%	77%	77%	77%	77%
Rural	23%	23%	23%	23%	23%
Employment status <sup>#</sup>					
Employed in dental hygiene	90%	91%	90%	89%	89%
Employed, not in dental hygiene	3%	3%	3%	4%	4%
Unemployed, seeking dental hygiene employment	2%	2%	3%	4%	4%
Unemployed, not seeking dental hygiene employment	4%	3%	3%	2%	2%
Retired	1%	1%	1%	1%	1%
Student	< 1%	< 1%	< 1%	1%	< 1%
Primary employment situation? <sup>#</sup>					
Direct patient care	89%	96%	93%	95%	97%
Administration/management	1%	1%	2%	1%	1%
Educator (includes in-service)	2%	2%	3%	2%	1%
Research/consultant	< 1%	< 1%	< 1%	< 1%	< 1%
Other	< 1%	< 1%	2%	2%	< 1%
How satisfied are you with dental hygiene as a career?					
Very dissatisfied	8%	9%	7%	< 1%	< 1%
Dissatisfied	3%	3%	3%	4%	4%
Satisfied	40%	39%	41%	39%	39%
Very satisfied	49%	49%	50%	57%	56%

#### RESPONDENTS EMPLOYED IN DENTAL HYGIENE PROVIDING DIRECT PATIENT CARE IN PENNSYLVANIA APPENDIX 12: COMPARISON OF RESPONSES TO THE PENNSYLVANIA SURVEY OF DENTAL HYGIENISTS, 2005-2013\*, CONTINUED

Measure	2005	2007	2009	2011	2013
How satisfied are you with dental hygiene as a job?					
Very dissatisfied	7%	8%	6%	1%	1%
Dissatisfied	5%	5%	5%	4%	5%
Satisfied	44%	44%	46%	45%	46%
Very satisfied	45%	43%	44%	49%	48%
How much longer do you plan to remain in dental hygiene?					
0-5 years	12%	11%	8%	11%	13%
6-10 years	25%	25%	21%	21%	20%
11-15 years	24%	25%	25%	23%	22%
16+ years	40%	40%	46%	45%	44%

\* Prior to 2009, respondents who provided direct patient care in Pennsylvania were those who reported being employed in direct patient care in Pennsylvania. Beginning in 2009, respondents who provided direct patient care in Pennsylvania were those who reported being employed in health care and provided direct patient care in Pennsylvania.

^ Urban and rural counties were defined by Center for Rural Pennsylvania's definition and U.S. Census population estimates from the survey year, except for 2011, which used 2010 U.S. Census population information.

# Prior to 2013, the primary employment section included all survey respondents. Beginning in 2013, the primary employment section included only respondents who reported being employed in dental hygiene.

Note: Percentages may not equal 100% due to rounding.

#### APPENDIX 13: 2013 DENTAL HYGIENIST SURVEY

HD 01247S		
DEPARTMENT OF HEALTH	Commonwealth of Pennsylvania Department of Health 2013 Survey of Dental Hygienists	License #: DH *Required to avoid duplication *Anonymous & aggregate reporting only
IF YOU HAVE ALREADY S	SUBMITTED YOUR RENEWAL SURVEY ONLINE	DO NOT MAIL THIS SURVEY
understanding and describing the dent production of statistical reports and an	apport of the Department of State, requests that you al hygienist workforce. Strict controls are placed up alysis. This information, when released to the publi- reports, visit <u>www.health.state.pa.us/workforce</u> . Tha	on information when shared for the c, will be in aggregate form only. To
1. Year of Birth	2. Sex 🗌 Male 🗌 Female 3. Hispanic	or Latino Origin 🗌 Yes 🗌 No
4. Race ( <i>check one</i> ) American Inc	lian/Alaska Native Asian iian/Other Pacific Islander White/Caucasian	Black/African American Other
5. State of Residence (state abbreviati	ion) Non-US (check) 5a. County of	of Residence (codes on page 3)
<ol> <li>In which state did you graduate from 6a. In what year did you obtain this</li> </ol>	n dental hygiene school? (state abbreviation)	Non-US (check)
7. What is your highest degree in dent	al hygiene? (check one) Certificate Assoc	ciate 🗌 Bachelor 🔲 Master
<ul> <li>8. Are you currently enrolled in any of</li> <li>Dental hygiene associate degree</li> <li>Other non degree</li> </ul>	f the following higher education programs? (check on the constraints) (chec	<i>ne)</i> giene master degree ster degree ☐ Not enrolled
<ol> <li>9. Are you certified in Pennsylvania as 9a. Do you perform as an expanded</li> </ol>	s an expanded function dental assistant? 🗌 Yes function dental assistant in your primary job? 🗌 Y	□ No ′es □ No
<ol> <li>Do you hold a Pennsylvania schoo 10a. Do you perform as a Pennsylva</li> </ol>	I hygienist certificate?  Yes No nia school hygienist in your primary job?  Yes	No
<ol> <li>Do you hold a Pennsylvania denta 11a. Do you administer local anesth</li> </ol>	l hygiene local anesthesia permit?  Yes No esia as a dental hygienist in your primary job?  Y	Zes 🗌 No
<ol> <li>Are you licensed as a public health</li> <li>12a. Do you perform as a PHDHP</li> <li>12b. In which county do you prima</li> <li>12c. What type of practice site do you</li> </ol>	a dental hygiene practitioner (PHDHP)? $\Box$ Yes $[$ in your primary job? $\Box$ Yes $\Box$ No $>>$ if 'M rily practice as a PHDHP? $\Box$ (codes on page you primarily practice at as a PHDHP? (check one) $\Box$ Domiciliary care facility $\Box$ Federally $\Box$	$\square$ No >> if 'No', skip to question 13 o', skip to question 14
13. Do you intend to apply for a PHDI	HP license? Yes No Already license	d as a PHDHP
14. In the last year, did you volunteer y >> if 'No', skip to question 15	your services (unpaid) as a dental hygienist in Penns	sylvania? 🗌 Yes 🗌 No
Dental school clinic Dental van	vide most of these unpaid services as a dental hygier Private offi School (K- Center (FQHC) or health center	ce practice
<ul> <li>Employed in dental hygiene</li> <li>Employed not in dental hygien</li> <li>Retired</li> <li>Student, leave of absence, or s</li> <li>If employed in dental hygiene con.</li> </ul>	Unemployed, seeking work in de	n dental hygiene ental hygiene
<ul> <li>16. What type of position do you hold</li> <li>Administration/management</li> <li>Other non-patient care</li> <li>16a. If not in direct patient care, do</li> </ul>		Not employed as a dental hygienist 5 years? □ Yes □ No □ N/A
•	Page 1 of 2	

#### APPENDIX 13: 2013 DENTAL HYGIENIST SURVEY, Continued

License #: DH								
year (includin hygienist spends	<ul> <li>17. Indicate the approximate number of hours you spent providing <u>direct patient care each week in Pennsylvania</u> during the last year (including all positions and volunteer hours). Note: For the purpose of this report, direct patient care includes the amount of time a dental hygienist spends directly with patients in a dental practice setting and patient-specific office work.</li> <li>Zero 1-10 hours 11-19 hours 20-30 hours 31-40 hours More than 40 hours</li> </ul>							
If your answer	to question	17 was "zero", d	o not provide d	irect patient care	in Pennsylvania,	END survey here.		
18. In how many	positions are yo	ou employed as a d	ental hygienist?	1 2 3	or more			
Clinic or c Private pra	19. Identify the setting that most closely represents your primary job. (check one)         Clinic or center       Retain/industry/business site         Private practice partnership (excluding retail site)       School health (K-12/college/university)         Private practice solo (excluding retail site)       Other:         Mobile dental unit or community setting using portable dental equipment							
19a. In which	state is your pr	mary job located?	(state abbreviatio	n)				
	he number of h	primary job locate ours you work in y 19 hours 20	our primary job p	er week?	re than 40 hours			
interpreter? Yes 20a. In which (check al	<ul> <li>Yes □ No &gt;&gt;If 'No', skip to question 21</li> <li>20a. In which languages, other than English, did you communicate with patients without using an interpreter? (check all that apply)</li> <li>□ Arabic □ Chinese □ French □ German □ Italian □ PA Dutch</li> </ul>							
21. How satisfied		our current primar atisfied Di		Very Dissatisfied				
22. How satisfied		ental hygiene as a a atisfied		/ery Dissatisfied				
		ental hygienist in P to less than 6 year		han 11 years 🔲 1	1 to less than 16 ye	ars 🗌 16+ years		
24. How much lor Less than	nger do you pla 3 years 🔲 3	n to remain in den to less than 6 year	tal hygiene? s 🔲 6 to less th	han 11 years 🔲 1	1 to less than 16 ye	ars 16+ years		
25. How much lor Less than	nger do you pla 3 years 🔲 3	n to remain in dire to less than 6 year	ct patient care as a s	dental hygienist in 1 han 11 years 1	Pennsylvania? 1 to less than 16 ye	ars 🗌 16+ years		
Change ca	areers	ient care in Penns Complete fur Physical dem	ther training	16 years, indicate yo ] Family reasons ] Retirement ] Not applicable	ur <u>primary</u> reason b Financial reaso Stress/burnout	elow ( <i>check one</i> ). ns – salary/income		
			Thank y	ou!				
If you are inter	ested in learni		ergency disaster	response effort vol for more informat		es in Pennsylvania,		
01.4.1			Pennsylvania Con					
01=Adams 02=Allegheny	11=Cambria 12=Cameron	21=Cumberland 22=Dauphin	31=Huntingdon 32=Indiana	41=Lycoming 42=McKean	51=Philadelphia 52=Pike	61=Venango		
03=Armstrong		23=Delaware	33=Jefferson	42=McKean 43=Mercer	52=Pike 53=Potter	62=Warren 63=Washington		
04=Beaver	14=Centre	24=Elk	34=Juniata	44=Mifflin	54=Schuylkill	64=Wayne		
05=Bedford	15=Chester	25=Erie	35=Lackawanna	45=Monroe	55=Snyder	65=Westmoreland		

55=Snyder 56=Somerset 26=Fayette 36=Lancaster 46=Montgomery 66=Wyoming 17=Clearfield 27=Forest 37=Lawrence 47=Montour 57=Sullivan 67=York 28=Franklin 38=Lebanon 48=Northampton 58=Susquehanna 29=Fulton 39=Lehigh 49=Northumberland 59=Tioga 00=Not in PA 50=Perry 30=Greene 40=Luzerne 60=Union

Page 2 of 2

35=Lackawanna 45=Monroe

06=Berks

07=Blair

09=Bucks

10=Butler

08=Bradford

16=Clarion

18=Clinton

19=Columbia

20=Crawford

65=Westmoreland

## Sources

<sup>1</sup>American Dental Association, Commission on Dental Accreditation: Program Options & Descriptions, on the internet at <u>http://www.ada.org/en/coda/find-a-program/program-options-and-descriptions/</u> (last accessed July 14, 2014).

<sup>2</sup>Chen, Pauline W., M.D., *When the Patient Gets Lost in Translation* (April 23, 2009) New York Times, on the internet at <u>http://www.nytimes.com/2009/04/23/health/23chen.html</u> (last accessed June 5, 2014).

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