

# Dental Workforce Report of Indiana University School of Dentistry Graduates and Other Practicing Dentists in Indiana

Produced by:

Bowen Research Center, Department of Family Medicine  
Indiana University School of Medicine

In collaboration with the:

Indiana Center for Health Workforce Studies

For the:

Indiana University School of Dentistry

May 2014

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# **Dental Workforce Report of Indiana University School of Dentistry Graduates and Other Practicing Dentists in Indiana**

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## Executive Summary

### Introduction

All dentists who renewed their Indiana licenses on-line in 2010 or 2012 were asked to complete a voluntary survey instrument that had a 95.4% response rate<sup>1</sup> in 2010 and 80.7% response rate<sup>2</sup> in 2012. The purpose of this study was to describe the dental workforce in Indiana with a focus on comparing graduates from the Indiana University School of Dentistry (IUSD) to all other practicing (non-IUSD) dentists in Indiana. Of primary interest is how well the graduates of IUSD are meeting the oral health needs of the population of the state, particularly in the rural and underserved areas.

Using data from the Office of Alumni Relations at IUPUI, license numbers of IUSD alumni were matched to the license numbers of individuals in the 2010 or 2012 Indiana Dentist Licensure Survey datasets. Individuals whose license numbers matched with the alumni list were identified as “IUSD” graduates and those that did not match were identified as “non-IUSD” graduates. This report compares responses between 2,203 IUSD and 835 non-IUSD graduates who renewed their licenses and completed the Indiana Dentist Licensure Surveys in 2010 or 2012, respectively.

Lastly, most of the differences between groups were found to be statistically significant due to the large sample size of IUSD graduates compared to non-IUSD graduates. Thus, for the purposes of this report if the differences between groups were noted to be at least 10 percent they were considered remarkable and reported as such.

### Response to the 2010 or 2012 Indiana Dentist Licensure Surveys

- Less than one-tenth (7.5%) of the IUSD respondents were under 35 years of age compared to one-fifth (17.4%) of the non-IUSD respondents.
- Over four-fifths (81.3%) of the IUSD respondents and over two-thirds (68.3%) of non-IUSD respondents were male.
- Almost one-half of the IUSD respondents (47.7%) in general dental practice were 55 years or older compared to just over one-third (37.0%) of the non-IUSD respondents.
- Less than one-tenth (7.8%) of the IUSD respondents and 20.1 percent of the non-IUSD respondents in general dental practice were under 35 years of age.
- A majority of the IUSD (81.2%) and the non-IUSD (64.0%) respondents into general dental practice were male.
- About one-half of the IUSD (56.1%) and the non-IUSD (46.1%) respondents reported working between 30 and 39 hours per week.

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<sup>1</sup> Kochhar K, Lewis CK, Richard AE, Brandt AJ, Zollinger TW. “2010 Indiana Dentist Re-Licensure Survey Report” For the Indiana State Department of Health, July 2011

<sup>2</sup> Sheff ZT, Kochhar K, Zollinger TW. “2012 Indiana Dentists Re-Licensure Survey Report” For the Indiana State Department of Health, June 2013

- A large proportion of the IUSD male respondents (84.3%) reported working between 30 and 39 hours per week, compared to their non-IUSD male respondents (64.0%).
- About one-tenth of the IUSD respondents (12.4%) who reported working between 40 hours or more per week were less than 35 years of age, compared to 25.0 percent of the non-IUSD respondents.

### Distribution of IUSD and non-IUSD graduates in the state

- Nearly all (93.1%) of the IUSD graduates remained in Indiana.
- The *smallest* percent of IUSD graduates included Pike (0.0%) and Switzerland (0.0%), followed by Clark (14.6%), Brown (16.7%), Harrison (26.7%) and Carroll (36.4%) county.
- Counties with the *largest* populations had the largest number of IUSD graduate FTEs (weighted) that include Marion, followed by Hamilton, Allen, Lake and St. Joseph.
- The dental HPSA-designated counties with the *highest* number of IUSD graduates included Marion, Allen, Lake and St. Joseph. And, the dental HPSA-designated counties with the *highest* number of non-IUSD graduates included Lake and Marion.
- The USDA-designated rural county with the *highest* number of IUSD graduates included Wayne, Grant and Dubois. The USDA-designated rural county with the *highest* number of non-IUSD graduates included LaGrange and Jefferson.
- Among the counties with a low ratio, LaGrange, Miami and Ripley had the *most* IUSD graduates; and, LaGrange, Brown and Posey had the *most* non-IUSD graduates.

### Conclusion

Based on the responses to the Indiana Dentist Licensure Surveys in 2010 or 2012, the data indicate: IUSD respondents were more likely to be male, white, non-Hispanic-Latino. Younger IUSD respondents were more likely to go into dental public health and work between 30 and 39 hours per week. Nearly all of the IUSD graduates remained in Indiana. Also, IUSD graduates were less likely to go to a dental HPSA but more likely to go to a rural county than non-IUSD graduates.

## Chapter 1: Introduction

Understanding the demographic and professional characteristics of dentists licensed in Indiana is essential for the development, management, and assessment of programs that are designed to recruit and retain dentists where they are most needed in the state. Quality data about the dentists in Indiana will help policymakers and other stakeholders make better-informed decisions regarding the oral health workforce needs in our state.

The purpose of this report is to describe the dental workforce in the State of Indiana. Since a study of this type has not been recently conducted, the researchers felt that it might be of particular interest to draw a comparison between the practicing dentists who graduated from IUSD to the non-IUSD graduates. This study focused on the demographic characteristics, practice description as well as practice location of the dentists.

This report also shows how well the IUSD graduates are doing to meet the oral health needs of the state, especially in the rural and underserved areas, compared to the non-IUSD graduates.

The findings from this report (especially maps) may be used to identify dental health professional shortage areas and develop more targeted recruitment and retention strategies for the Indiana workforce organizations and programs as well as for IUSD, as it is the only school of dentistry in Indiana.

## Chapter 2: Methods

The data used for this report were extracted from the 2010 or 2012 Indiana Professional Licensing Agency (IPLA) survey as well as the IUSD alumni datasets. All practicing dentists in Indiana are required to renew their licenses during even numbered years. The Indiana State Department of Health (ISDH) and the IPLA collaborated in administering the 2010 and 2012 Indiana Dentist Licensure Surveys. Dentists who renewed their licenses online in 2010 or 2012 were asked to complete a voluntary survey instrument. Copies of the 2010 and 2012 Indiana Dentist Licensure Survey instruments have been shown in Appendix A and B, respectively. The dataset included only those who renewed their license electronically and completed the survey. There were 3,424 dentists in 2010 and 2,315 dentists in 2012 who renewed their licenses and completed the surveys (See Figure 1). Those who participated in either the 2010 or 2012 licensure survey were included in the study.

In addition, the Office of Alumni Relations at IUPUI offered a complete list of alumni (n=8,280) from Indiana University School of Dentistry (IUSD). The list included information on the alumni demographic characteristics, professional activities, graduation year, and type of degree. Once the alumni list was obtained, license numbers of IUSD alumni were matched to the license numbers of individuals in the 2010 or 2012 IPLA Dentist Licensure Survey datasets.

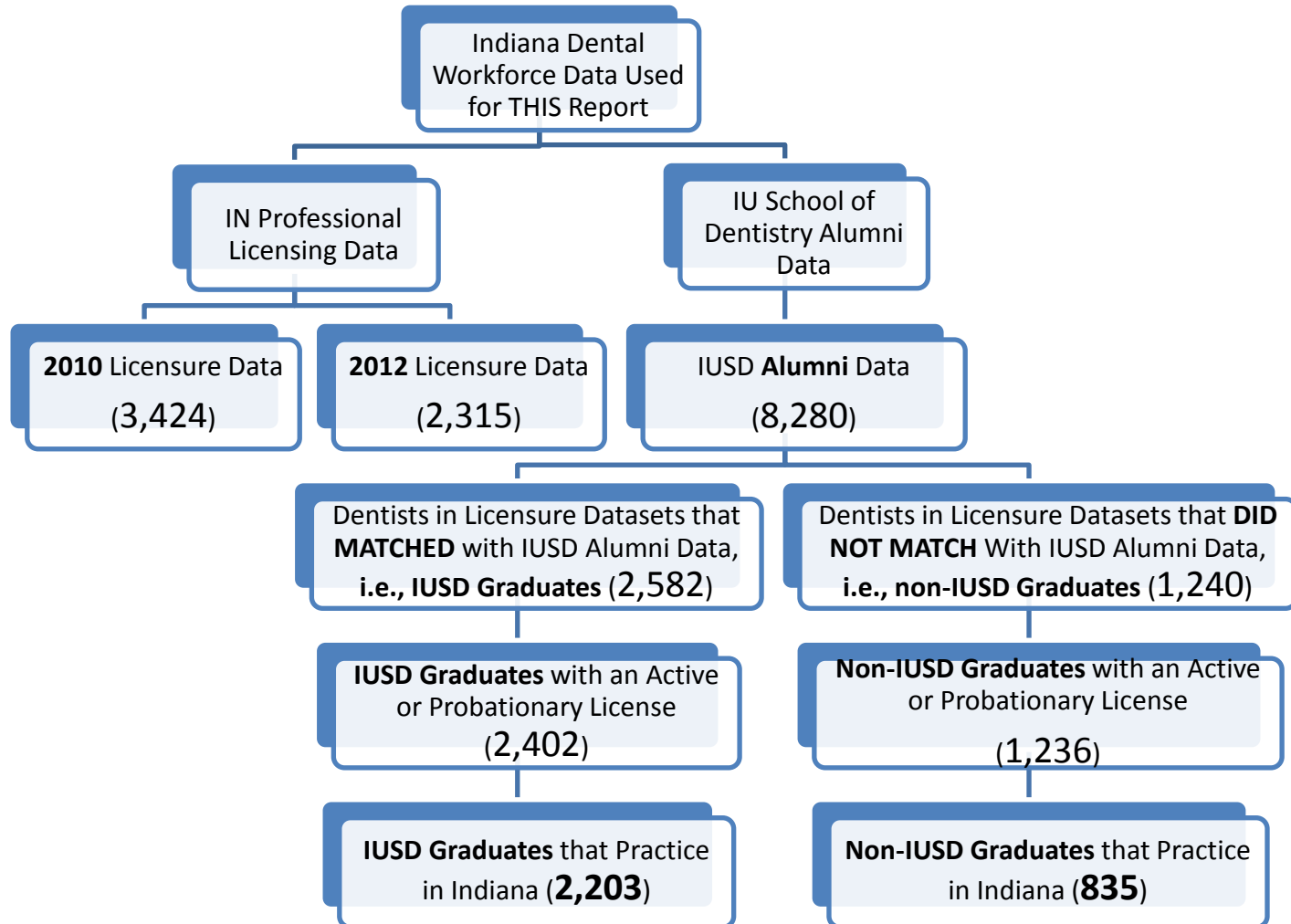
License numbers of 2,582 IUSD graduates matched with the alumni list. And the remaining respondents that did not match were non-IUSD graduates (n=1,240). Of the survey respondents, 2,402 IUSD graduates and 1,236 non-IUSD graduates had an active or probationary license status. Of them, only those respondents who indicated having a principal practice location in Indiana (2,203 IUSD and 835 non-IUSD graduates) were included for the analysis. Dentists who reported practicing outside of Indiana were excluded from the analysis. Dentists who were retired or temporarily active were excluded from the analysis.

As shown in Figure 1, this report compares responses between 2,203 IUSD and 835 non-IUSD graduates who were actively practicing in Indiana and completed the Indiana Dentist Licensure Surveys in 2010 or 2012.



## Number of IUSD and Non-IUSD Graduates Included in the Analysis

**Figure 1: Data used for this report**



### Data Analysis

Frequency and cross-tabulation analyses were performed to show the demographic and professional characteristics of the dentists in the study. Most of the differences were found to be statistically significant due to the large sample size of IUSD graduates (2,203) compared to non-IUSD graduates (835). Thus, for the purposes of this report if the differences between groups were noted to be at least 10 percent they were considered remarkable and reported as such.

The data were coded in Microsoft Excel 2010 and analyzed using SPSS Statistics 21. Graphical information system (GIS) maps were developed to illustrate the number and distribution of IUSD graduates in the state. Rural counties are defined by the United States Department of Agriculture as non-metropolitan counties and designated by hash-marks on the map. The Dental Health Professions Shortage Areas (Dental HPSAs) were those geographical areas that have been designated as dentist shortage areas by the U.S. Health Resources and Services Agency. The GIS maps were designed in ArcGIS™ 10.2.

## Chapter 3: Responses from IUSD and Non-IUSD Graduates to the Indiana Dentist Licensure Survey

This chapter compares the demographic and professional characteristics between IUSD and non-IUSD graduates actively practicing in Indiana. The tables shown below include both valid and missing responses to survey items and the percentage of valid responses.

### Demographic Composition

The demographic variables included in the survey were age, gender, race, and ethnicity. The 2010 and 2012 Indiana Dentist Licensure Survey datasets included date of birth for the licensed dentists. Age was calculated using January 31, 2013 as a reference point for both the 2010 and 2012 datasets.

Table 3.1 shows the age distribution of survey respondents. About two-fifths of the IUSD (44.1%) and non-IUSD (42.3%) respondents were between 35 to 54 years of age. Less than one-tenth (7.5%) of IUSD respondents were under 35 years of age, compared to one-fifth (17.4%) of the non-IUSD respondents. The non-IUSD respondents were more likely to be under 35 years of age (17.4%) in comparison to the IUSD respondents (7.5%).

**Table 3.1: Age Groups of the Survey Respondents**

Age Group	IUSD		Non-IUSD	
	Number	Percent	Number	Percent
Under 35	165	7.5	142	17.4
35 - 54	972	44.1	346	42.3
55 - 64	705	32.0	184	22.5
65 and older	361	16.4	146	17.8
Total	2,203	100.0	818	100.0
No Response	0		17	

Table 3.2 shows the gender distribution of survey respondents. Over four-fifths (81.3%) of the IUSD respondents and over two-thirds (68.3%) of non-IUSD respondents were male. Thus, IUSD respondents were more likely to be male while non-IUSD respondents were more likely to be female (31.7% versus 18.7%).

**Table 3.2: Gender of the Survey Respondents**

Gender	IUSD		Non-IUSD	
	Number	Percent	Number	Percent
Female	412	18.7	257	31.7
Male	1791	81.3	553	68.3
Total	2,203	100.0	810	100.0
No Response	0		25	

Table 3.3 shows comparisons stratified by age group and by gender of the survey respondents. The younger dentists have a similar percentage of male and female respondents between IUSD and non-IUSD graduates. Of those under 35 years of age, 42.4 percent of IUSD respondents were female, compared to 50.7 percent of the non-IUSD respondents. The greatest gender differences were in the 35-54 age group and in the 55-64 age group where much larger percentages of non-IUSD respondents were female (43.2% and 17.9% versus 27.2% and 8.8%, respectively). In the 65 years and older age group, the percentages of dentists who were male was similar among IUSD (95.6%) and non-IUSD (97.1%) respondents.

**Table 3.3: Age Group by Gender of the Survey Respondents**

Age Group	Female				Male			
	IUSD		Non-IUSD		IUSD		Non-IUSD	
	#	%	#	%	#	%	#	%
Under 35	70	42.4	71	50.7	95	57.6	69	49.3
35 - 54	264	27.2	146	43.2	708	72.8	192	56.8
55 - 64	62	8.8	32	17.9	643	91.2	147	82.1
65 and older	16	4.4	4	2.9	345	95.6	132	97.1
Total	412	18.7	253	31.9	1,791	81.3	540	68.1
No Response								

Table 3.4 shows the racial distribution of the survey respondents. A majority of the IUSD (93.2%) and non-IUSD (82.7%) respondents were white. IUSD respondents were more likely to be white (93.2% versus 82.7%) and non-IUSD respondents were more likely to be black/African-American (6.2% versus 1.3%) or Asian (6.4% versus 4.0%).

**Table 3.4: Race of the Survey Respondents**

Race	IUSD		Non-IUSD	
	Number	Percent	Number	Percent
White	1,980	93.2	667	82.7
Asian/Pacific Islander	84	4.0	52	6.4
Black/African-American	27	1.3	50	6.2
Other	17	0.8	25	3.1
Multi-racial	16	0.8	13	1.6
American Indian/Native Alaskan	1	0.0	0	0.0
Total	2,125	100.0	807	100.0
No Response	78		28	

Table 3.5 shows the ethnic distribution of the survey respondents. A majority of the IUSD (98.3%) and non-IUSD (96.5%) respondents were non-Hispanic. IUSD respondents were less likely to report being Hispanic or Latino (1.7% versus 3.5%).

**Table 3.5: Ethnicity of the Survey Respondents**

Ethnicity	IUSD		Non-IUSD	
	Number	Percent	Number	Percent
Hispanic or Latino	37	1.7	29	3.5
Not Hispanic or Latino	2,135	98.3	796	96.5
Total	2,172	100.0	825	100.0
No Response	31		10	

## Practice Characteristics

Table 3.6 shows the distribution of respondents across dental practice areas. About three-fourths of the IUSD (76.8%) and non-IUSD (72.9%) respondents indicated their primary practice area was general dental practice. The next three practice areas indicated by IUSD respondents were pediatric dentistry (4.5%), oral and maxillofacial surgery (4.1%), and orthodontics (3.9%), in comparison to oral and maxillofacial surgery (5.2%), pediatric dentistry (4.3%), and periodontics (3.4%) for the non-IUSD respondents.

**Table 3.6 Area of Practice of Survey Respondents**

Area of Practice	IUSD		Non-IUSD	
	Number	Percent	Number	Percent
General Dental Practice	1,689	76.8	606	72.9
Pediatric Dentistry	98	4.5	36	4.3
Oral and Maxillofacial Surgery	90	4.1	43	5.2
Orthodontics	86	3.9	26	3.1
Endodontics	67	3.0	19	2.3
Periodontics	41	1.9	28	3.4
Dental Public Health	34	1.5	23	2.8
Orthodontics and Dentofacial Orthopedics	32	1.5	14	1.7
Prosthodontics	28	1.3	14	1.7
Other Area of Dentistry	22	1.0	11	1.3
Implant Dentistry	5	0.2	3	0.4
Oral and Maxillofacial Pathology	4	0.2	2	0.2
Oral and Maxillofacial Radiology	2	0.1	5	0.6
Forensic Dentistry	0	0.0	1	0.1
Total	2,198	100.0	831	100.0
No Response	5		4	

Table 3.7 shows the comparison between area of practice and age group. Almost one-half of IUSD respondents (47.7%) into general dental practice were 55 years or older compared to just over one-third (37.0%) of the non-IUSD respondents. Similarly, less than one-tenth (7.8%) of the IUSD respondents and 20.1 percent of non-IUSD respondents into general dental practice were under 35 years of age.

**Table 3.7: Area of Practice by Age Group of the Survey Respondents**

Area of Practice	Under 35				35 - 54				55 - 64				65 and older			
	IUSD		Non-IUSD		IUSD		Non-IUSD		IUSD		Non-IUSD		IUSD		Non-IUSD	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Dental Public Health	7	20.6	4	17.4	11	32.4	6	26.1	11	32.4	5	21.7	5	14.7	8	34.8
Endodontics	6	9.0	0	0.0	32	47.8	10	58.8	22	32.8	6	35.3	7	10.4	1	5.9
Forensic Dentistry	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	100.0
General Dental Practice	132	7.8	120	20.1	750	44.4	256	42.9	563	33.3	126	21.1	244	14.4	95	15.9
Implant Dentistry	0	0.0	0	0.0	3	60.0	1	33.3	0	0.0	1	33.3	2	40.0	1	33.3
Oral and Maxillofacial Pathology	0	0.0	0	0.0	1	25.0	1	50.0	1	25.0	1	50.0	2	50.0	0	0.0
Oral and Maxillofacial Radiology	0	0.0	0	0.0	0	0.0	1	20.0	0	0.0	4	80.0	2	100.0	0	0.0
Oral and Maxillofacial Surgery	3	3.3	3	7.0	37	41.1	26	60.5	27	30.0	6	14.0	23	25.6	8	18.6
Orthodontics	3	3.5	1	4.3	46	53.5	5	21.7	18	20.9	10	43.5	19	22.1	7	30.4
Orthodontics and Dentofacial Orthopedics	2	6.3	3	21.4	17	53.1	5	35.7	6	18.8	4	28.6	7	21.9	2	14.3
Other Area of Dentistry	1	4.5	0	0.0	5	22.7	3	27.3	6	27.3	6	54.5	10	45.5	2	18.2
Pediatric Dentistry	8	8.2	6	17.6	42	42.9	19	55.9	24	24.5	4	11.8	24	24.5	5	14.7
Periodontics	3	7.3	2	7.4	16	39.0	9	33.3	15	36.6	7	25.9	7	17.1	9	33.3
Prosthodontics	0	0.0	1	7.1	11	39.3	4	28.6	10	35.7	4	28.6	7	25.0	5	35.7
Total	165	7.5	140	17.2	971	44.2	346	42.5	703	32.0	184	22.6	359	16.3	144	17.7
No Response																

Table 3.8 shows comparison between area of practice and gender. The number of male respondents was substantially higher than the female respondents. A larger proportion of the IUSD (81.2%) respondents than non-IUSD (64.0%) respondents into general dental practice were male. And, over one-third of respondents in dental public health (38.2% IUSD; 31.8% non-IUSD) and pediatric dentistry (32.7% IUSD; 38.9% non-IUSD) were female.

**Table 3.8: Area of Practice by Gender of the Survey Respondents**

Area of Practice	Female				Male			
	IUSD		Non-IUSD		IUSD		Non-IUSD	
	#	%	#	%	#	%	#	%
Dental Public Health	13	38.2	7	31.8	21	61.8	15	68.2
Endodontics	7	10.4	3	15.8	60	89.6	16	84.2
Forensic Dentistry	0	0.0	0	0.0	0	0.0	1	100.0
General Dental Practice	318	18.8	212	36.0	1,371	81.2	377	64.0
Implant Dentistry	1	20.0	1	33.3	4	80.0	2	66.7
Oral and Maxillofacial Pathology	2	50.0	1	50.0	2	50.0	1	50.0
Oral and Maxillofacial Radiology	0	0.0	2	40.0	2	100.0	3	60.0
Oral and Maxillofacial Surgery	4	4.4	0	0.0	86	95.6	42	100.0
Orthodontics	18	20.9	5	20.8	68	79.1	19	79.2
Orthodontics and Dentofacial Orthopedics	4	12.5	3	21.4	28	87.5	11	78.6
Other Area of Dentistry	4	18.2	4	36.4	18	81.8	7	63.6
Pediatric Dentistry	32	32.7	14	38.9	66	67.3	22	61.1
Periodontics	4	9.8	1	3.6	37	90.2	27	96.4
Prosthodontics	5	17.9	3	25.0	23	82.1	9	75.0
Total	412	18.7	256	31.7	1,786	81.3	552	68.3
No Response								



Table 3.9 displays the average number of hours worked per week in all work-related activities. About one-half of the respondents reported working between 30 and 39 hours per week. However, a larger percentage of the IUSD respondents (56.1%) reported working between 30 and 39 hours per week compared to the non-IUSD respondents (46.1%). Over one-tenth of the IUSD (13.1%) and non-IUSD (18.0%) respondents reported working less than 30 hours per week.

**Table 3.9: Average Number of Hours Worked per Week**

Average Number of Weekly Hours	IUSD		Non-IUSD	
	Number	Percent	Number	Percent
1-9	33	1.6	17	2.2
10-19	62	2.9	35	4.4
20 - 29	182	8.6	90	11.4
30 - 39	1,184	56.1	363	46.1
40 or more	651	30.8	283	35.9
Total	2,112	100.0	788	100.0
No Response	91		47	

Table 3.10 shows the average number of hours worked per week by gender. The male respondents outnumbered their female counterparts in each category due to their predominance in the workforce. Over one-fourth of the IUSD (27.4%) and non-IUSD respondents (31.4%) who reported working between 10 to 19 hours per week were female. A larger proportion of the IUSD male respondents (84.3%) reported working between 30 and 39 hours per week, compared to the non-IUSD male respondents (64.0%). The female respondents were much less likely to work 40 hours or more per week.

**Table 3.10: Average Number of Hours Worked per Week by Gender**

Average Number of Weekly Hours	Female				Male			
	IUSD		Non-IUSD		IUSD		Non-IUSD	
	#	%	#	%	#	%	#	%
1-9	12	36.4	5	29.4	21	63.6	12	70.6
10-19	17	27.4	11	31.4	45	72.6	24	68.6
20 - 29	66	36.3	38	43.2	116	63.7	50	56.8
30 - 39	201	17.0	127	36.0	983	83.0	226	64.0
40 or more	102	15.7	69	25.4	549	84.3	203	74.6
Total	398	18.8	250	32.7	1,714	81.2	515	67.3
No Response								

Table 3.11 shows the average number of hours worked per week by age category. About one-tenth of the IUSD respondents (12.4%) who reported working between 40 hours or more per week were less than 35 years of age, compared to 25.0 percent of non-IUSD respondents. And, over one-third of the IUSD (39.6%) and non-IUSD (33.3%) respondents who reported working 40 hours or more per week were 55 years or older. The younger respondents were less likely to work 40 or more hours per week, while those who worked fewer hours were more often in the older age groups.

**Table 3.11: Average Number of Hours Worked per Week by Age Category**

Average Number of Weekly Hours	Under 35				35 - 54				55 - 64				65 and older			
	IUSD		Non-IUSD		IUSD		Non-IUSD		IUSD		Non-IUSD		IUSD		Non-IUSD	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
1-9	0	0.0	0	0.0	11	33.3	4	23.5	6	18.2	2	11.8	16	48.5	11	64.7
10-19	1	1.6	2	6.1	13	21.0	11	33.3	13	21.0	6	18.2	35	56.5	14	42.4
20 - 29	12	6.6	6	6.7	58	31.9	37	41.6	52	28.6	18	20.2	60	33.0	28	31.5
30 - 39	66	5.6	61	17.0	549	46.4	167	46.6	410	34.6	84	23.5	159	13.4	46	12.8
40 or more	81	12.4	69	25.0	312	47.9	115	41.7	193	29.6	61	22.1	65	10.0	31	11.2
Total	160	7.6	138	17.9	943	44.6	334	43.2	674	31.9	171	22.1	335	15.9	130	16.8
No Response																

## Additional Information from IUSD Alumni Dataset

The following tables present information for the IUSD alumni only. Table 3.12 shows the distribution of professional activities in which the IUSD alumni spend a majority of their time. Most of the IUSD alumni (96.2%) indicated they spend a majority of their time in activities related to direct patient care.

**Table 3.12: Professional Activities of the IUSD Alumni**

Professional Activity in which Majority of Time Spent	Number	Percent
Direct patient care or patient-care related activities	2,098	96.2
Administration	21	1.0
Teaching	51	2.4
Research	5	0.2
Other	5	0.2
Total	2,180	100.0
Missing	23	

Table 3.13 shows a distribution of the types of degree that were conferred to the IUSD alumni. A majority of the IUSD alumni (90.8%) received a Doctor of Dental Surgery degree (DDS).

**Table 3.13: Type of Degree Received by IUSD Alumni**

IUSD Degree	Number	Percent
AS Dental Hygiene	3	0.2
Doctor of Dental Surgery	2,001	90.8
Doctor of Philosophy	1	0.1
Master of Science in Dentistry	164	7.4
Residency	34	1.5
Total	2,203	100.0
Missing	0	

Table 3.14 shows the year of graduation from IUSD. Over two-fifths of the IUSD alumni (43.6%) graduated between 1990 and 2013.

**Table 3.14: Year of Graduation of IUSD Alumni**

<b>IU Graduation Year</b>	<b>Number</b>	<b>Percent</b>
1950-1959	24	1.1
1960-1969	105	4.8
1970-1979	498	22.6
1980-1989	615	27.9
1990-1999	495	22.5
2000-2009	446	20.2
2010-2013	20	0.9
<b>Total</b>	<b>2,203</b>	<b>100.0</b>
Missing	0	

## Chapter 4: Distribution of Dentists in Indiana and in the U.S.

This chapter displays the distribution of IUSD graduates in Indiana and the United States. The distribution of IUSD graduates is based on the respondents principal practice location and were adjusted (i.e., weighted) for the response rate of the 2012 survey (80.7%). Thus, the counts of IUSD graduates used in the maps are *estimates* of the actual number of IUSD graduates in each county. Rural counties, as defined by the United States Department of Agriculture (USDA), are non-metropolitan counties and designated by hash-marks on the maps. The Dental Health Professions Shortage Areas (Dental HPSAs) were those geographical areas that have been designated as dentist shortage areas by the U.S. Health Resources and Services Agency.

Map 4.1 displays the distribution of principal practice locations by state of the 2010 or 2012 Indiana Dentist Licensure Survey respondents that graduated from IUSD. Their response to the 2010 (Q12) or 2012 (Q14) survey was used to determine the primary practice location address.

Map 4.2 and Table 4.1 show the percent of the total practicing dentists who were IUSD graduates per county in Indiana. The denominator includes *all* (IUSD and non-IUSD) licensed dentists who responded to the 2010 (Q12) or 2012 (Q14) Indiana Dentist Licensure Survey, respectively. Only those respondents who provided an Indiana address were included in the analysis.

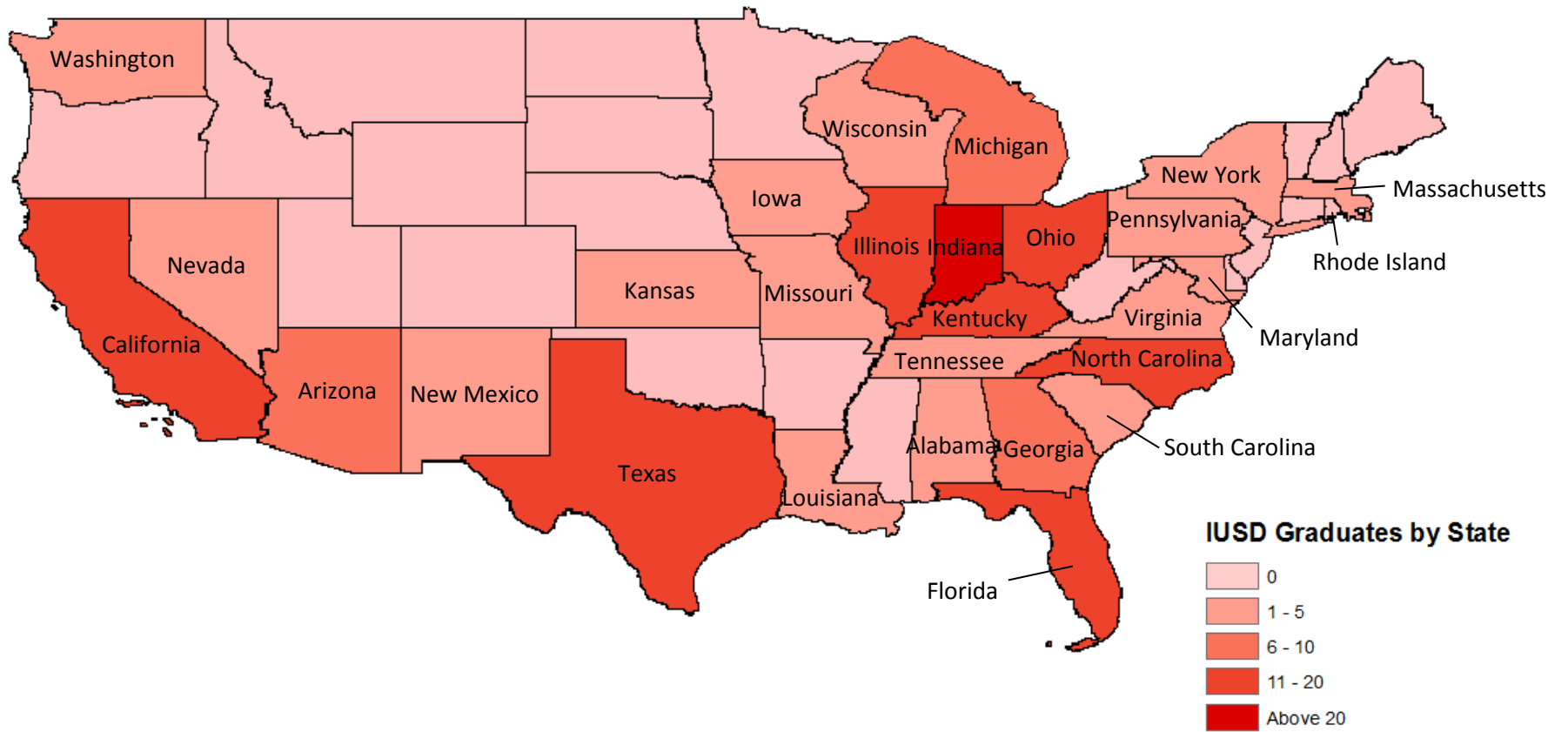
As shown in Table 4.2, the FTEs per county were estimated by using data from the survey question, “How many hours per week on average do you spend practicing dentistry?” Dentists who worked full-time in patient care were considered 1.0 FTE, whereas dentists who worked less than full-time were given an appropriate proportion of a full FTE.

Map 4.3 and Table 4.3 show the distribution of *estimated* number of IUSD graduate FTEs per county in Indiana.

Table 4.4 shows the Dental HPSA-designated counties that IUSD and non-IUSD graduates indicated as their primary practice location. In addition, Table 4.5 shows the USDA-designated rural counties that IUSD and non-IUSD graduates indicated as their primary practice location. Lastly, Table 4.6 shows the counties with a low ratio (i.e., less than 25 dentists per population) that IUSD and non-IUSD graduates considered as their primary practice location.

### Map 4.1: Distribution of Principal Practice Location of Survey Respondents that Graduated from IUSD

Map 4.1 displays the distribution of principal practice locations of the 2010 and 2012 Indiana Dentist Licensure Survey respondents that graduated from IUSD. Their response to the 2010 (Q12) or 2012 (Q14) survey was used to determine the primary practice location address. The IUSD graduates were dispersed over 29 states including Alaska and Hawaii. Nearly all of the IUSD graduates (93.1%) practiced in Indiana. The states with no name titles on the map did not have any practicing IUSD dentists.

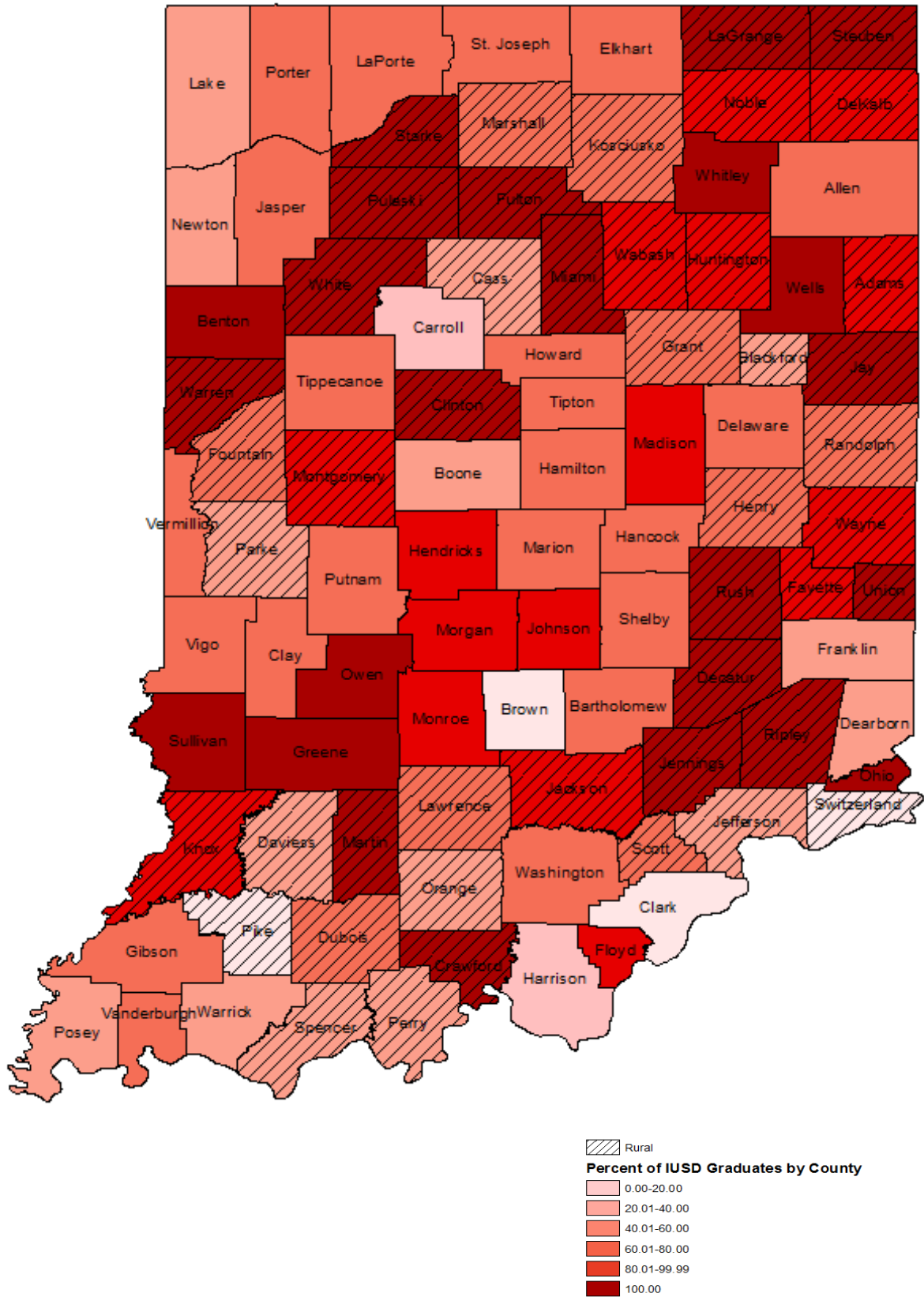


Map 4.2 shows the percent of total practicing dentists who were IUSD graduates within each county in Indiana. The denominator includes *all* (IUSD and non-IUSD) licensed dentists who responded to the 2010 (Q12) or 2012 (Q14) Indiana Dentist Licensure Survey, respectively.

Of all the survey respondents, only 1,979 IUSD and 827 non-IUSD graduates provided an Indiana primary practice location address and thus were included in the maps. Zip-codes were used to determine the county. Few respondents who were currently not practicing in Indiana may have opted to renew their license nonetheless, because it is less expensive to renew a license versus obtaining a new license, especially if their future intent is to practice in Indiana. Thus, the numbers for dentists in each county are only *estimates* of the actual number of dentists. The hash-marks on Map 4.2 indicate rural counties as defined by the United States Department of Agriculture.

Map 4.2 shows counties with the *smallest* percent of IUSD graduates to total licensed dentists. The *smallest* percent (i.e., between 0.0% and 40.0%) of IUSD graduates included Pike (0.0%) and Switzerland (0.0%), followed by Clark (14.6%), Brown (16.7%), Harrison (26.7%) and Carroll (36.4%) county. In addition, Table 4.1 shows the distribution of IUSD graduates as a percent of the total licensed dentists within each county in Indiana. Only six of the 92 Indiana counties had a small percent (i.e., 40.0% or less) of IUSD graduates.

**Map 4.2: Percent of Total Practicing Dentists who were IUSD Graduates per County in Indiana**





**Table 4.1: Number and Percent of Total Practicing Dentists who were IUSD Graduates by County in Indiana**

<b>County</b>	<b>IUSD Weighted (A)</b>	<b>Non-IUSD Weighted (B)</b>	<b>Percent of IUSD Graduates (A/A+B)</b>	<b>Dentists per 100,000 population</b>
Adams	12	1	92.3	34.9
Allen	156	64	70.9	57.4
Bartholomew	33	19	63.5	58.6
Benton	1	0	100.0	11.3
Blackford	4	2	66.7	39.2
Boone	30	27	52.6	84.7
Brown	1	6	14.3	19.7
Carroll	5	9	35.7	34.7
Cass	5	4	55.6	20.5
Clark	15	87	14.7	29.9
Clay	5	1	83.3	26.0
Clinton	9	0	100.0	39.1
Crawford	1	0	100.0	9.3
Daviess	5	5	50.0	28.4
Dearborn	6	5	54.5	35.0
Decatur	2	0	100.0	11.8
DeKalb	15	1	93.8	11.8
Delaware	52	21	71.2	48.4
Dubois	20	7	74.1	64.5
Elkhart	68	17	80.0	38.5
Fayette	6	1	85.7	28.8
Floyd	25	1	96.2	75.1
Fountain	2	1	66.7	17.4
Franklin	4	4	50.0	52.0
Fulton	9	0	100.0	43.2
Gibson	12	4	75.0	38.8
Grant	24	6	80.0	35.7
Greene	12	0	100.0	30.2
Hamilton	181	58	75.7	105.6
Hancock	21	9	70.0	51.4
Harrison	5	14	26.3	40.6
Hendricks	58	12	82.9	46.8
Henry	19	5	79.2	32.3
Howard	50	17	74.6	65.3
Huntington	10	1	90.9	32.3
Jackson	19	2	90.5	40.1
Jasper	9	4	69.2	35.8

<b>County</b>	<b>IUSD Weighted (A)</b>	<b>Non-IUSD Weighted (B)</b>	<b>Percent of IUSD Graduates (A/A+B)</b>	<b>Dentists per 100,000 population</b>
Jay	7	0	100.0	23.5
Jefferson	9	11	45.0	58.6
Jennings	7	0	100.0	14.0
Johnson	68	16	81.0	64.4
Knox	14	2	87.5	39.0
Kosciusko	17	9	65.4	33.6
LaPorte	41	19	68.3	49.6
LaGrange	6	0	100.0	18.9
Lake	139	157	47.0	49.6
Lawrence	11	5	68.8	39.0
Madison	53	9	85.5	41.8
Marion	498	150	76.9	66.1
Marshall	15	4	78.9	36.1
Martin	2	0	100.0	19.4
Miami	10	0	100.0	21.7
Monroe	58	7	89.2	57.3
Montgomery	16	2	88.9	44.6
Morgan	24	1	96.0	42.1
Newton	1	1	50.0	14.0
Noble	10	1	90.9	27.3
Ohio	2	0	100.0	32.6
Orange	4	4	50.0	25.2
Owen	4	0	100.0	13.9
Parke	4	2	66.7	28.8
Perry	2	2	50.0	41.4
Pike	0	2	0.0	23.4
Porter	55	25	68.8	52.9
Posey	4	5	44.4	19.3
Pulaski	2	0	100.0	14.9
Putnam	9	4	69.2	26.3
Randolph	2	1	66.7	19.1
Ripley	10	0	100.0	10.4
Rush	7	0	100.0	40.2
Scott	5	2	71.4	24.8
Shelby	12	4	75.0	27.0
Spencer	2	2	50.0	38.2
St. Joseph	108	45	70.6	49.8
Starke	2	0	100.0	12.8
Steuben	11	0	100.0	35.1

County	IUSD Weighted (A)	Non-IUSD Weighted (B)	Percent of IUSD Graduates (A/A+B)	Dentists per 100,000 population
Sullivan	9	0	100.0	27.9
Switzerland	0	0	0.0	9.4
Tippecanoe	64	27	70.3	46.9
Tipton	7	2	77.8	50.2
Union	1	0	100.0	13.3
Vanderburgh	72	38	65.5	58.4
Vermillion	4	1	80.0	18.5
Vigo	41	17	70.7	48.2
Wabash	12	1	92.3	39.5
Warren	1	0	100.0	11.8
Warrick	16	17	48.5	57.0
Washington	5	2	71.4	21.2
Wayne	29	5	85.3	47.9
Wells	7	0	100.0	32.6
White	7	0	100.0	32.5
Whitley	11	0	100.0	36.0
<b>Total</b>	<b>2,448</b>	<b>1,017</b>		

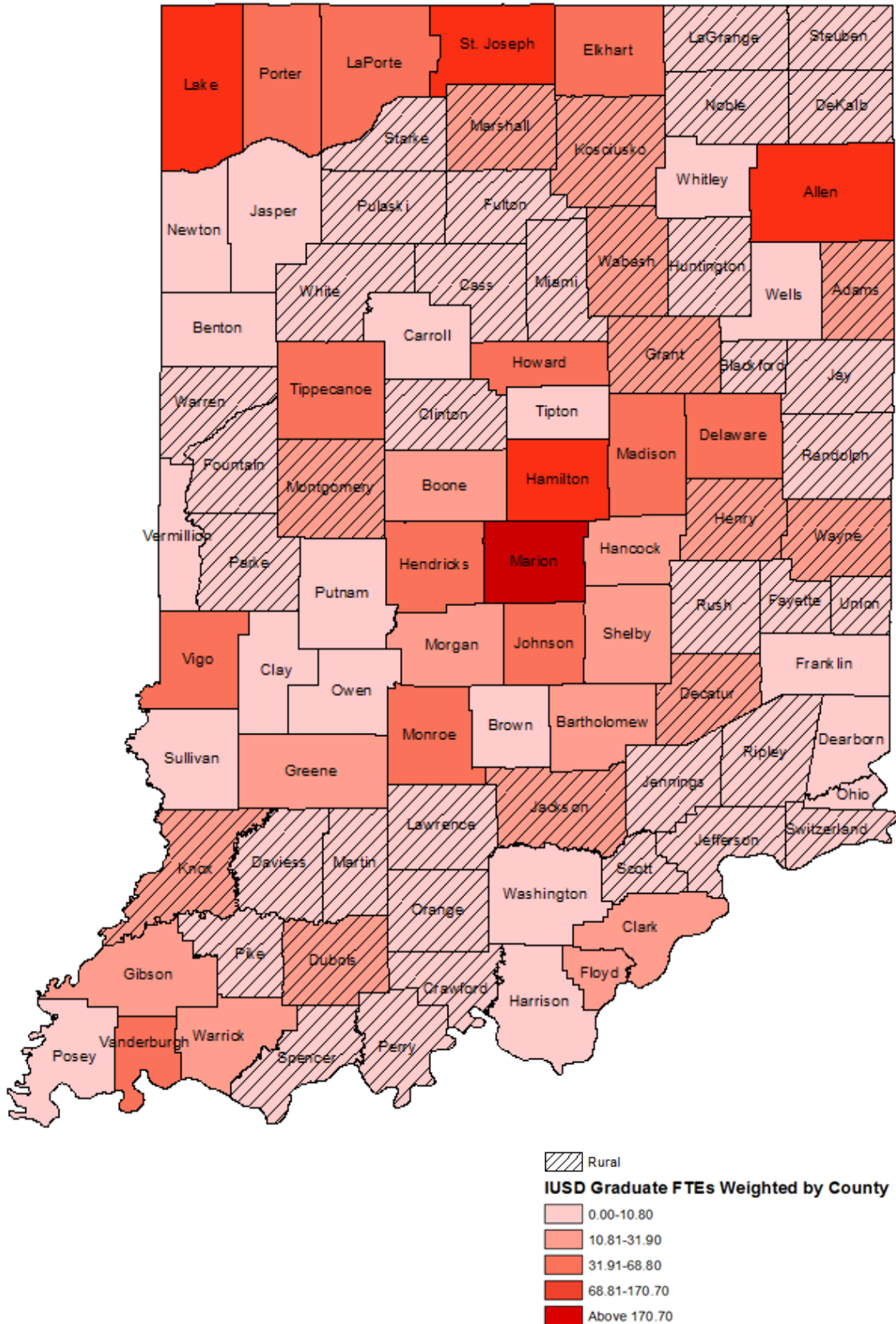
Table 4.2 shows the FTE assignment. The FTEs per county were estimated by using data from the survey question, “How many hours per week on average do you spend practicing dentistry?” Dentists who worked full-time in patient care were considered 1.0 FTE, whereas dentists who worked less than full-time were given an appropriate proportion of a full FTE.

**Table 4.2: FTE Calculation for IUSD Respondents**

Average Number of Weekly Hours	FTE
1 - 9	0.25
10 - 19	0.50
20 - 29	0.75
30 - 39	1.00
40 or more	1.00

Map 4.3 shows the distribution of an *estimated* number of IUSD graduate FTEs (weighted) per county in Indiana. The hash-marks on the map indicate rural counties as defined by the United States Department of Agriculture. Counties with the *largest* populations had the largest number of IUSD graduate FTEs that include Marion, followed by Hamilton, Allen, Lake and St. Joseph. In addition, Table 4.3 shows the *estimated* number of IUSD graduate FTEs (actual and weighted) per county in Indiana.

**Map 4.3: Distribution of *Estimated* Number of IUSD Graduate FTEs (Weighted) per County in Indiana**



**Table 4.3: Estimated Number of IUSD Graduate FTEs (Actual and Weighted) per County in Indiana**

<b>County</b>	<b>IUSD Graduate FTEs</b>	<b>IUSD Graduate FTEs Weighted</b>
Adams	10	12
Allen	124	153
Bartholomew	26	32
Benton	1	1
Blackford	3	4
Boone	21	26
Brown	1	1
Carroll	3	3
Cass	4	5
Clark	12	15
Clay	4	5
Clinton	7	8
Crawford	1	1
Daviess	4	5
Dearborn	2	2
Decatur	12	14
DeKalb	5	6
Delaware	39	49
Dubois	15	19
Elkhart	53	66
Fayette	5	6
Floyd	19	23
Fountain	2	2
Franklin	3	4
Fulton	7	8
Gibson	10	12
Grant	19	23
Greene	10	12
Hamilton	138	171
Hancock	17	21
Harrison	4	5
Hendricks	44	55
Henry	13	16
Howard	36	45
Huntington	8	10
Jackson	13	16
Jasper	7	8
Jay	6	7
Jefferson	6	7
Jennings	5	6
Johnson	51	64
Knox	10	12

<b>County</b>	<b>IUSD Graduate FTEs</b>	<b>IUSD Graduate FTEs Weighted</b>
Kosciusko	13	16
LaGrange	5	6
Lake	107	132
LaPorte	32	39
Lawrence	9	11
Madison	41	50
Marion	385	476
Marshall	11	13
Martin	1	1
Miami	8	10
Monroe	45	56
Montgomery	13	16
Morgan	18	23
Newton	1	1
Noble	8	10
Ohio	2	2
Orange	2	2
Owen	3	4
Parke	2	2
Perry	2	2
Pike	0	0
Porter	40	50
Posey	3	4
Pulaski	2	2
Putnam	7	9
Randolph	2	2
Ripley	8	10
Rush	4	5
Scott	4	5
Shelby	10	12
Spencer	2	2
St. Joseph	82	101
Starke	1	1
Steuben	9	11
Sullivan	7	8
Switzerland	0	0
Tippecanoe	49	61
Tipton	5	6
Union	1	1
Vanderburgh	56	69
Vermillion	3	3
Vigo	33	41
Wabash	10	12
Warren	1	1

County	IUSD Graduate FTEs	IUSD Graduate FTEs Weighted
Warrick	12	15
Washington	4	5
Wayne	21	26
Wells	6	7
White	6	7
Whitley	8	9
<b>Total</b>	<b>1,884</b>	<b>2,317</b>

Table 4.4 shows the number and percent of IUSD and non-IUSD graduates practicing in the Dental Health Professional Shortage Area (Dental HPSA) designated counties. The dental HPSA-designated counties with the *highest* number (i.e., 100 or more) of IUSD graduates included Marion, Allen, Lake and St. Joseph. And, the dental HPSA-designated counties with the *highest* number (i.e., 100 or more) of non-IUSD graduates included Lake and Marion. IUSD graduates (61.1%) were less likely to go to a dental HPSA than non-IUSD graduates (69.1%).

**Table 4.4: Number and Percent of IUSD and Non-IUSD Graduates Practicing in Dental HPSA-Designated Counties in Indiana**

Dental HPSA-designated County	IUSD Weighted (A)	Non-IUSD Weighted (B)	Percent of IUSD Graduates (A/A+B)	Dentists per 100,000 Population
Allen	156	64	70.9	57.4
Clark	15	87	14.7	29.9
Delaware	52	21	71.2	48.4
Elkhart	68	17	80.0	38.5
Gibson	12	4	75.0	38.8
Greene	12	0	100.0	30.2
Henry	19	5	79.2	32.3
Jefferson	9	11	45.0	58.6
Johnson	68	16	81.0	64.4
LaGrange	17	9	65.4	33.6
Lake	139	157	65.4	33.6
Madison	53	9	85.5	41.8
Marion	498	150	76.9	66.1
Porter	55	25	68.8	52.9
Pulaski	3	0	100.0	14.9
Randolph	3	1	66.7	19.1
Rush	7	0	100.0	40.2
St. Joseph	108	45	70.6	49.8
Starke	3	0	100.0	12.8

Dental HPSA-designated County	IUSD Weighted (A)	Non-IUSD Weighted (B)	Percent of IUSD Graduates (A/A+B)	Dentists per 100,000 Population
Switzerland	0	0	0.0	9.4
Tippecanoe	64	27	70.3	46.9
Vanderburgh	72	38	65.5	58.4
Vermillion	4	1	80.0	18.5
Vigo	41	17	70.7	48.2
Wayne	29	5	85.3	47.9
<b>Total in Dental HPSAs</b>	<b>1,506</b>	<b>710</b>		
<b>Total in Non-Dental HPSAs</b>	<b>955</b>	<b>317</b>		

Table 4.5 shows the number and percent of IUSD and non-IUSD graduates practicing in the United States Department of Agriculture (USDA) designated rural counties. The USDA-designated rural county with the *highest* number (i.e., 20 or more) of IUSD graduates included Wayne, Grant and Dubois. The USDA-designated rural county with the *highest* number (i.e., 10 or more) of non-IUSD graduates included LaGrange and Jefferson. IUSD graduates (15.9%) were more likely to go to a USDA-designated rural county than non-IUSD graduates (11.0%).

**Table 4.5: Number and Percent of IUSD and non-IUSD Graduates Practicing in USDA-designated Rural Counties in Indiana**

USDA-designated Rural County	IUSD Weighted (A)	Non-IUSD Weighted (B)	Percent of IUSD Graduates (A/A+B)	Dentists per 100,000 Population
Adams	12	1	92.3	34.9
Blackford	4	2	66.7	39.2
Cass	5	4	55.6	20.5
Clinton	9	0	100.0	39.1
Crawford	1	0	100.0	9.3
Daviess	5	5	50.0	28.4
Decatur	2	0	100.0	11.8
DeKalb	15	1	93.8	11.8
Dubois	20	7	74.1	64.5
Fayette	6	1	85.7	28.8
Fountain	2	1	66.7	17.4
Fulton	9	0	100.0	43.2
Grant	24	6	80.0	35.7



<b>USDA-designated Rural County</b>	<b>IUSD Weighted (A)</b>	<b>Non-IUSD Weighted (B)</b>	<b>Percent of IUSD Graduates (A/A+B)</b>	<b>Dentists per 100,000 Population</b>
Henry	19	5	79.2	32.3
Huntington	10	1	90.9	32.3
Jackson	19	2	90.5	40.1
Jay	7	0	100.0	23.5
Jefferson	9	11	45.0	58.6
Jennings	7	0	100.0	14.0
Knox	14	2	87.5	39.0
Kosciusko	17	9	65.4	33.6
LaGrange	6	19	65.4	33.6
Lawrence	11	5	68.8	39.0
Marshall	15	4	78.9	36.1
Martin	2	0	100.0	19.4
Miami	10	0	100.0	21.7
Montgomery	16	2	88.9	44.6
Noble	10	1	90.9	27.3
Orange	4	4	50.0	25.2
Parke	4	2	66.7	28.8
Perry	2	2	50.0	41.4
Pike	0	2	0.0	23.4
Pulaski	2	0	100.0	14.9
Randolph	2	1	66.7	19.1
Ripley	10	0	100.0	10.4
Rush	7	0	100.0	40.2
Scott	5	2	71.4	24.8
Spencer	2	2	50.0	38.2
Starke	2	0	100.0	12.8
Steuben	11	0	100.0	35.1
Switzerland	0	0	0.0	9.4
Union	1	0	100.0	13.3
Wabash	12	1	92.3	39.5
Warren	1	0	100.0	11.8
Wayne	29	5	85.3	47.9
White	7	0	100.0	32.5
<b>Total in Rural Counties</b>	<b>390</b>	<b>115</b>		
<b>Total in Urban Counties</b>	<b>2,061</b>	<b>926</b>		

Table 4.6 shows the number and percent of IUSD and non-IUSD graduates in counties with less than 25 dentists per 100,000 population (i.e., low ratio). Among the counties with a low ratio, LaGrange, Miami and Ripley had the *most* IUSD graduates; and, LaGrange, Brown and Posey had the *most* non-IUSD graduates. IUSD graduates (4.0%) were as likely to practice in a county with a low ratio as the non-IUSD graduates (3.5%).

**Table 4.6: Number and Percent of IUSD and non-IUSD Graduates in Counties with <25 Dentists/100,000 Population in Indiana**

<b>County with Low Ratio</b>	<b>IUSD Weighted (A)</b>	<b>Non-IUSD Weighted (B)</b>	<b>Percent of IUSD Graduates (A/A+B)</b>	<b>Dentists per 100,000 population</b>
Benton	1	0	100.0	11.3
Brown	1	6	14.3	19.7
Cass	5	4	55.6	20.5
Crawford	1	0	100.0	9.3
Decatur	2	0	100.0	11.8
Fountain	2	1	66.7	17.4
Jay	7	0	100.0	23.5
Jennings	7	0	100.0	14.0
LaGrange	17	9	100.0	18.9
Martin	2	0	100.0	19.4
Miami	10	0	100.0	21.7
Newton	1	1	50.0	14.0
Owen	4	0	100.0	13.9
Pike	0	2	0.0	23.4
Posey	4	5	44.4	19.3
Pulaski	2	0	100.0	14.9
Randolph	2	1	66.7	19.1
Ripley	10	0	100.0	10.4
Scott	5	2	71.4	24.8
Starke	2	0	100.0	12.8
Switzerland	0	0	0.0	9.4
Union	1	0	100.0	13.3
Vermillion	4	1	80.0	18.5
Warren	1	0	100.0	11.8
Washington	5	2	71.4	21.2
<b>Total in Low Ratio Counties</b>	<b>100</b>	<b>36</b>		
<b>Total in Other Counties</b>	<b>2,363</b>	<b>992</b>		

## Chapter 5: Conclusions

### Conclusions

Based on the responses to the Indiana Dentist Licensure Surveys in 2010 or 2012, the following observations were noted: IUSD respondents were more likely to be male, white, non-Hispanic-Latino. Younger IUSD respondents were more likely to work between 30 and 39 hours per week. A larger proportion of the IUSD respondents than non-IUSD respondents into general dental practice were male. Nearly all of the IUSD graduates remained in Indiana.

Only six of the 92 Indiana counties had a small percent of IUSD graduates. Counties with the *largest* populations had the largest number of IUSD graduate FTEs that include Marion, followed by Hamilton, Allen, Lake and St. Joseph. IUSD graduates (61.1%) were less likely to go to a dental HPSA than non-IUSD graduates (69.1%). IUSD graduates (15.9%) were more likely to go to a USDA-designated rural county than non-IUSD graduates (11.0%). And, IUSD graduates (4.0%) were as likely to practice in a county with a low ratio of dentists to population as the non-IUSD graduates (3.5%).

### Limitations

Data presented in this report were based on self-reported information and may be subject to self-report errors. Completion of the survey during licensure was not mandatory; therefore some individuals may have submitted the form without verifying the information or they may have chosen to partially respond to survey questions, if they responded at all. The licensure survey data did not capture the entire dentist workforce in Indiana, but only represented the sample who renewed their license online and participated in the survey.

## Appendix A: 2010 Indiana Dentist Licensure Survey Instrument

**Your answers to these questions will help the Indiana State Department of Health to respond to emergencies and to identify health professional shortages and geographic shortage areas. The survey is voluntary and will not affect the status of your license.**

1. What is your current work status in dentistry? Consider yourself active as a dentist if you are engaged in direct patient care, administration, teaching, or research. **Please select only one.**  
DROP-DOWN LIST  
Dentist active in dentistry  
Dentist in training (trainee in a dental residency, fellowship or graduate program)  
Dentist active in dentistry, federally-employed  
Retired from active dental practice  
Temporarily inactive in dentistry
  
2. In which dental practice area do you spend most of your time? **Please select only one.** If you are retired or temporarily inactive, please choose the dental practice area in which you are most experienced.  
DROP-DOWN LIST  
Dental public health  
Endodontics  
Forensic dentistry  
General dental practice  
Implant dentistry  
Oral and/or maxillofacial radiology  
Oral and/or maxillofacial surgery  
Oral pathology  
Orthodontics  
Orthodontics and dentofacial orthopedics  
Pediatric dentistry  
Periodontics  
Prosthodontics  
Other area of dentistry
  
3. If forensic dentistry is not your principal practice area, do you have any training in forensic dentistry?  
DROP-DOWN LIST  
Yes No
  
4. Would you be willing to provide services in case of a bio-terrorism event or other public health emergency? If you answer "Yes," we may contact you using your PLA contact information.  
DROP-DOWN LIST  
Yes No
  
5. Are you fluent in any of the following languages? PLEASE SELECT ALL THAT APPLY.  
SELECT ALL THAT APPLY LIST  
African languages

Arabic  
Burmese  
Cambodian  
Chinese  
Filipino  
French  
German  
Greek  
Hindi  
Italian  
Japanese  
Korean  
Pennsylvania Dutch  
Polish  
Portuguese  
Russian  
Sign language  
Spanish  
Tagalog  
Thai  
Turkish  
Vietnamese

6. In which professional activity do you spend most of your time? **Please select only one. If you are retired or temporarily inactive, please skip to Questions 9-12.**

DROP-DOWN LIST

Direct patient care or patient-care-related activities  
Administration  
Teaching  
Research  
Other

7. How many hours per week on average do you spend in ALL activities in dentistry? **Please select only one.**

DROP-DOWN LIST

1-9  
10-19  
20-29  
30-39  
40 or more

8. Which of the following age groups do you treat in your patient care practice? **Please select all that apply.**

SELECT ALL THAT APPLY LIST

Infants (0-4)  
Children (5-9)

Adolescents (10-14)

Youth (15-19)

Adults (20-64)

Elders (65 and older)

I do not provide direct patient care services.

9. Are you of Hispanic origin?

DROP-DOWN LIST

Yes No

10. Which of the following best describes your race? **Please select only one.**

DROP-DOWN LIST

White

Black/African American

Asian/Pacific Islander

American Indian/Native Alaskan

Multi-racial

Other

11. What is your gender?

DROP-DOWN LIST

Female Male

12. Please provide the street address, city, state, and zip code of your principal practice location.

## Appendix B: 2012 Indiana Dentist Licensure Survey Instrument

Your answers to these questions will help the Indiana State Department of Health to respond to emergencies and to identify health professional shortages and geographic shortage areas. The survey is voluntary and will not affect the status of your license.

1. What is your current work status in dentistry? Consider yourself **a practicing** dentist if you are engaged in direct patient care, administration, teaching, or research. **Please select only one.**  
DROP-DOWN LIST  
Dentist with active license and **in private practice**  
Dentist with active license and in training (dental residency, fellowship or graduate program)  
Dentist with active license and federally-employed  
Dentist renewing license, but retired  
Dentist renewing license but temporarily not practicing
2. What area of specialty are you clinically qualified in? **Please select only one.** If you are retired or temporarily inactive, please choose the dental practice area in which you are most experienced.  
DROP-DOWN LIST  
General dental practice  
Dental public health  
Endodontics  
Oral and maxillofacial pathology  
Oral and maxillofacial radiology  
Oral and maxillofacial surgery  
Orthodontics and dentofacial orthopedics  
Pediatric dentistry  
Periodontics  
Prosthodontics  
Other (please specify): \_\_\_\_\_
3. Please type the specialty area in which you spend the most time practicing and the number of half days per month you spend at each of those areas in the space provided below. If you are retired or temporarily inactive, please choose the dental practice area in which you are most experienced.  
  
General dental practice \_\_\_\_\_  
(# of half days/month)  
Dental public health \_\_\_\_\_  
(# of half days/month)  
Endodontics \_\_\_\_\_  
(# of half days/month)  
Oral and maxillofacial pathology \_\_\_\_\_  
(# of half days/month)  
Oral and maxillofacial radiology \_\_\_\_\_  
(# of half days/month)  
Oral and maxillofacial surgery \_\_\_\_\_  
(# of half days/month)

Orthodontics and dentofacial orthopedics \_\_\_\_\_  
 (# of half days/month)

Pediatric dentistry \_\_\_\_\_  
 (# of half days/month)

Periodontics \_\_\_\_\_  
 (# of half days/month)

Prosthodontics \_\_\_\_\_  
 (# of half days/month)

Other (please specify area): \_\_\_\_\_  
 (# of half days/month)

4. If forensic dentistry is not your principal practice area, do you have any training in forensic dentistry?

DROP-DOWN LIST

Yes No

5. Would you be willing to provide services in case of a bio-terrorism event or other public health emergency? If you answer "Yes," we may contact you using your PLA contact information.

DROP-DOWN LIST

Yes No

6. Are you fluent in any of the following languages? **Please select ALL that apply.**

SELECT ALL THAT APPLY LIST

African languages

Arabic

Burmese

Cambodian

Chinese

Filipino

French

German

Greek

Hindi

Italian

Japanese

Korean

Pennsylvania Dutch

Polish

Portuguese

Russian

Sign language

Spanish

Tagalog

Thai

Turkish

Vietnamese



7. In your practice, how do you spend most of your time? **Please select only one. If you are retired or temporarily not practicing dentistry, please skip to Questions 11-14.**  
 DROP-DOWN LIST  
 Direct patient care or patient-care-related activities  
 Administration  
 Teaching  
 Research  
 Other
8. How many hours per week on average do you spend practicing dentistry? **Please select only one.**  
 DROP-DOWN LIST  
 1-9  
 10-19  
 20-29  
 30-39  
 40 or more
9. Which of the following age groups do you treat in your patient care practice? **Please select ALL that apply.**  
 SELECT ALL THAT APPLY LIST  
 Elders (65 and older)  
 Adults (35-64)  
 Adults(18-34)  
 Adolescents (12-17)  
 Children (2-11)  
 Infants (0-1)  
 I do not provide direct patient care services.
10. Who makes the predominance of your patient base? **Please select only one.**  
 SELECT ALL THAT APPLY LIST  
 Elders (65 and older)  
 Adults (35-64)  
 Adults (18-34)  
 Adolescents (12-17)  
 Children (2-11)  
 Infants (0-1)  
 I do not provide direct patient care services.
11. Are you of Hispanic origin?  
 DROP-DOWN LIST  
 Yes No
12. Which of the following best describes your race? **Please select only one.**  
 DROP-DOWN LIST

