

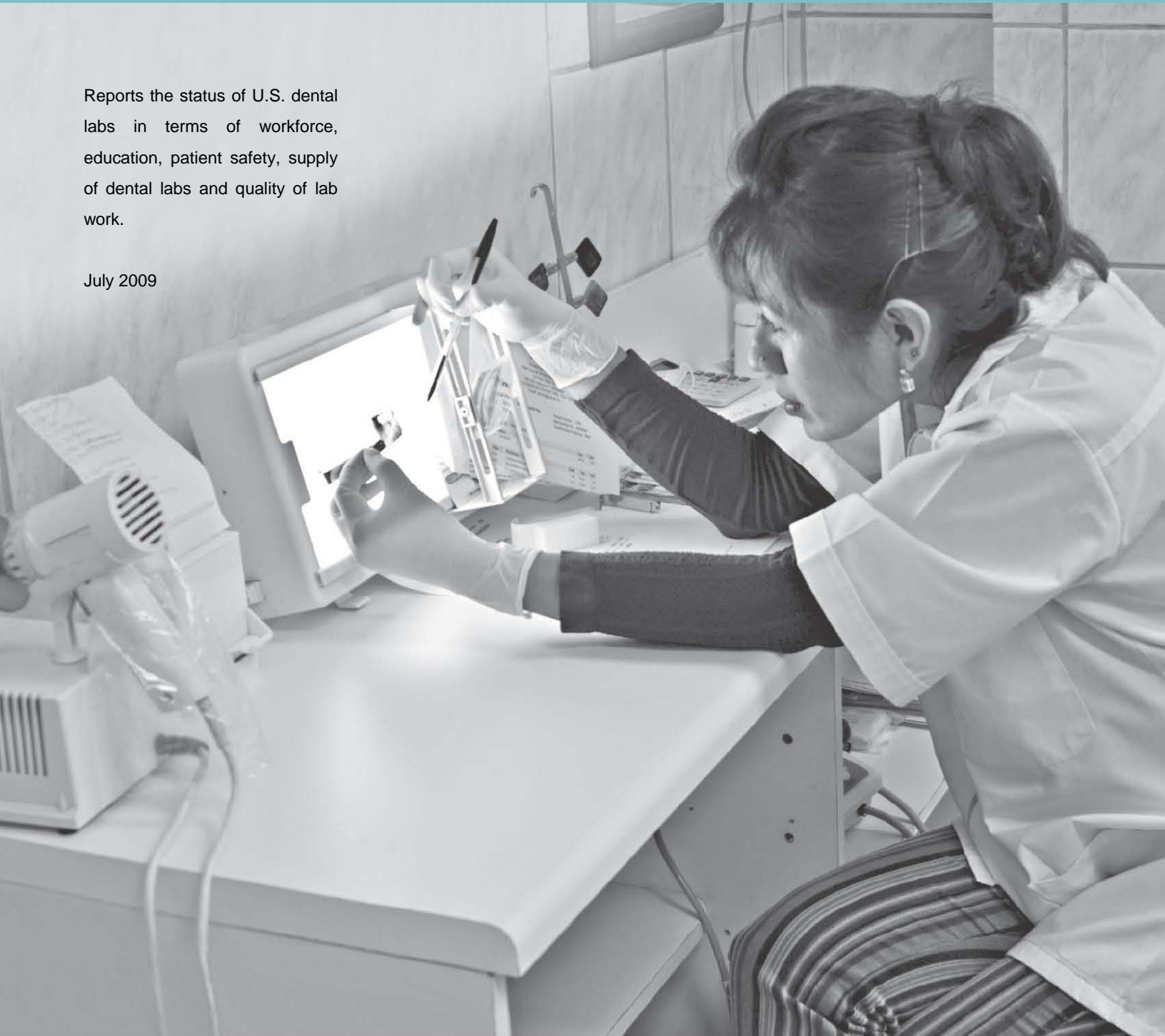
ADA American
Dental
Association®

**2008 Survey on the Use of
Dental Labs**

Dental Issues

Reports the status of U.S. dental labs in terms of workforce, education, patient safety, supply of dental labs and quality of lab work.

July 2009



2008 Survey on the Use of Dental Labs

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INTRODUCTION

The 2008 *Survey on the Use of Dental Labs* was funded by a supplemental appropriation from the ADA Board of Directors to assess the status of U.S. dental labs in terms of workforce, education, patient safety, supply of dental labs and quality of lab work. This survey was conducted and analyzed by the ADA Survey Center.

The 2008 *Survey on the Use of Dental Labs* was initially mailed in June 2008 to 3,150 dentists in private practice who graduated prior to 2008. Follow-up mailings to non-respondents were sent in July and September 2008. A final contact to non-respondents was made by phone in October 2008, with a final mailing taking place to dentists requesting another survey, and those not reachable by phone, in November. When data collection was cut off in December 2008, responses had been received from 1,112 dentists for an adjusted response rate (excluding deceased dentists and dentists with unclaimed addresses) of 42.3%.

Throughout this report, analyses are categorized according to gender, age group, and geographic region whenever possible. Several tables, however, contain only aggregate results due to sample size restrictions.

DEMOGRAPHIC INFORMATION

The sample of responding dentists is described in Table 1 below. The majority of respondents were male (83.3%) and 50 years of age or older (65.9%). Almost half (49.2%) of respondents were concentrated in three regions in the U.S.: East North Central (17.1%), South Atlantic (16.1%), and Pacific (16.0%).

Table 1: Characteristics of Respondents: Gender, Age, Region^{1,2}

Gender	Percent	N³
Male	83.3%	923
Female	16.7	185
Age Group		
Less than 40 years	13.6	151
40 to 49 years	20.5	228
50 to 59 years	33.3	370
60 to 69 years	22.9	255
70 years or older	9.7	108
Region		
New England	5.3	59
Middle Atlantic	15.7	173
East North Central	17.1	189
West North Central	8.0	88
South Atlantic	16.1	178
East South Central	4.0	44
West South Central	10.6	117
Mountain	7.2	80
Pacific	16.0	177
Current Primary Occupation		
Private practice (full- or part-time)	99.6	1,106
Other dental occupation	0.4	4
Other non-dental occupation	0.0	0

Source: American Dental Association, Survey Center, 2008 *Survey on the Use of Dental Labs*

¹ The states that make up each region are listed in Appendix A.

² Response categories with less than 30 responses can vary greatly with repeated sampling. Conclusions made with such small values should be made with caution.

³ Throughout this report "N" is used as an abbreviation for the number of respondents. Please see the Glossary for definitions of all statistical terms.

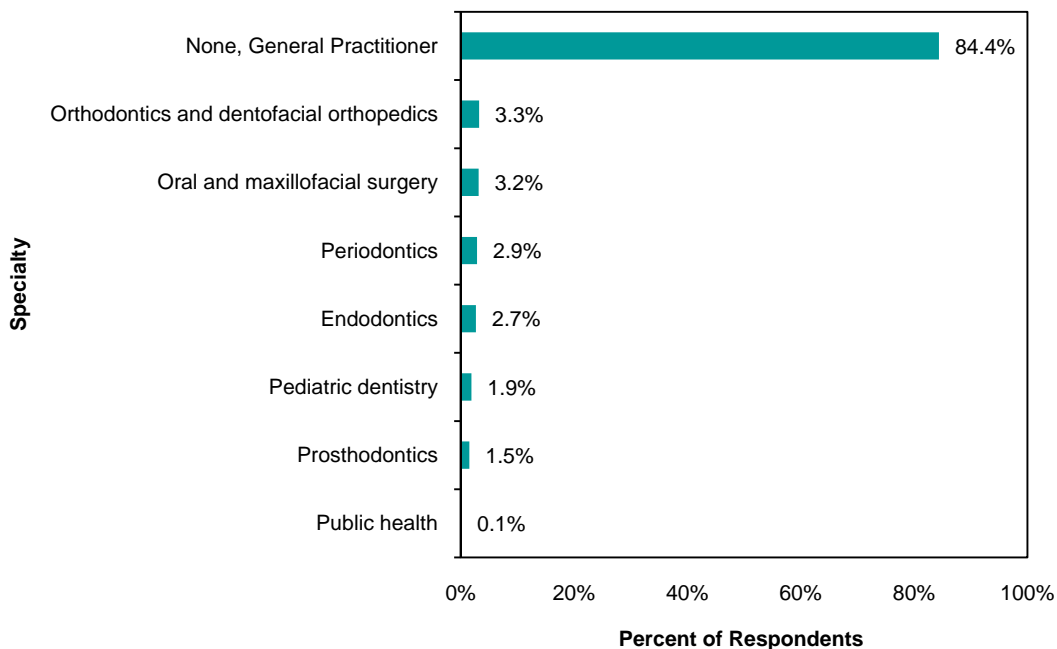
The majority of respondents of the 2008 *Survey on the Use of Dental Labs* were general practitioners (84.4%). Of the 15.6% of respondents that responded as specialists, orthodontics/dentofacial orthopedics (3.3%) and oral and maxillofacial surgery (3.2%) were the most common specialties. (See Table 1 and Figure 1.)

Table 2: Specialty in Primary Practice¹

Specialty	Percent	N
None, General Practitioner	84.4%	930
Oral and maxillofacial surgery	3.2	35
Endodontics	2.7	30
Orthodontics and dentofacial orthopedics	3.3	36
Pediatric dentistry	1.9	21
Periodontics	2.9	32
Prosthodontics	1.5	17
Oral and maxillofacial pathology	0.0	0
Public health	0.1	1
Oral and maxillofacial radiology	0.0	0
Total	100.0	1,102

Source: American Dental Association, Survey Center, 2008 *Survey on the Use of Dental Labs*

Figure 1: Specialty in Primary Practice



Source: American Dental Association, Survey Center, 2008 *Survey on the Use of Dental Labs*

¹ Response categories with less than 30 responses can vary greatly with repeated sampling. Conclusions made with such small values should be made with caution.

USE OF INDEPENDENT DENTAL LABS

More than ninety percent (91.1%) of respondents used independent dental labs in their primary practice. Just over five percent (6.1%) of respondents do not use independent dental labs at all, while less than three percent (2.8%) of respondents have an in-office dental lab. (See Table 3.)

Similar percentages were observed for both genders. A slightly higher percentage of female respondents (95.1%) than male respondents (90.2%) used an independent dental lab. When age groups are examined, less than ninety percent (86.3%) of respondents between the ages of 60 and 69 used an independent dental lab in their primary practice. Over ninety percent of dentists in all other age groups used an independent dental lab. Finally, approximately ninety percent of respondents in every geographic region of the U.S. (88.6 - 95.5%) used an independent dental lab.

Table 3: Use of Independent Dental Labs by Gender, Age and Geographic Region ^{1,2}

	Use an independent dental lab		Have an in-office dental lab		Do not use in their practice		Total	
	Percent	N	Percent	N	Percent	N	Percent	N
Total	91.1%	1,001	2.8%	31	6.1%	67	100.0%	1,099
Gender								
Male	90.2	822	3.3	30	6.5	59	100.0	911
Female	95.1	175	0.5	1	4.3	8	100.0	184
Age Group								
Less than 40	91.2	134	2.7	4	6.1	9	100.0	147
40 to 49 years	92.5	211	3.5	8	3.9	9	100.0	228
50 to 59 years	93.0	343	2.2	8	4.9	18	100.0	369
60 to 69 years	86.3	214	2.4	6	11.3	28	100.0	248
70 years or older	92.5	99	4.7	5	2.8	3	100.0	107
Region								
New England	89.8	53	3.4	2	6.8	4	100.0	59
Middle Atlantic	91.3	158	2.3	4	6.4	11	100.0	173
East North Central	90.3	167	3.8	7	5.9	11	100.0	185
West North Central	88.6	78	3.4	3	8.0	7	100.0	88
South Atlantic	92.6	162	2.9	5	4.6	8	100.0	175
East South Central	95.5	42	0.0	0	4.5	2	100.0	44
West South Central	91.2	104	3.5	4	5.3	6	100.0	114
Mountain	90.9	70	1.3	1	7.8	6	100.0	77
Pacific	90.4	160	2.8	5	6.8	12	100.0	177

Source: American Dental Association, Survey Center, 2008 *Survey on the Use of Dental Labs*

¹ The states that make up each region are listed in Appendix A.

² Response categories with less than 30 responses can vary greatly with repeated sampling. Conclusions made with such small values should be made with caution.

Dentists with an in-office dental lab were asked to explain why they have an in-office dental lab. Table 4 illustrates that over two-thirds (67.7%) of respondents with in-office dental labs decided to fabricate their own prosthetics because the volume of work in the practice made it economically feasible. Less than half of respondents with in-office dental labs chose to have an in-office lab because they wanted an in-office dental lab technician (45.2%), or they were dissatisfied with the quality of work of outside labs (38.7%). (NOTE: The small number of respondents with in-office dental labs, 31, makes the percentages listed in Table 3 highly sensitive to change. These percentages may not remain stable in future samples.)

Table 4: Reasons for Having an In-Office Dental Lab¹

Response	Percent	N
I wanted my own in-house dental laboratory technician	45.2%	14
Volume of work in the practice made it economically feasible	67.7	21
Dissatisfied with the quality of the work of outside dental labs	38.7	12
Concerned about the safety of the work of outside dental labs	16.1	5
It was cheaper to buy my own equipment	9.7	3
Other	45.2	14
Total Respondents		31

Source: American Dental Association, Survey Center, 2008 *Survey on the Use of Dental Labs*

¹ Response categories with less than 30 responses can vary greatly with repeated sampling. Conclusions made with such small values should be made with caution.

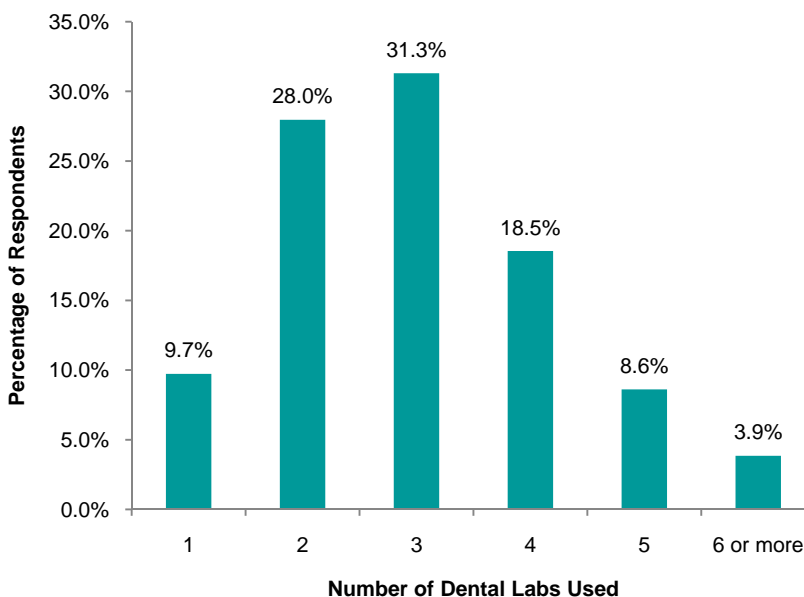
Approximately ninety percent (90.3%) of respondents that use independent dental labs use at least two different labs. Over three quarters of respondents (77.8%) use between two and four dental labs, while just over ten percent (12.5%) of respondents use five or more different dental labs. (See Table 5 and Figure 2.)

Table 5: Number of Dental Labs Used by Respondents

Number of Dental Labs	Percent	N
One	9.7%	96
Two	28.0	276
Three	31.3	309
Four	18.5	183
Five	8.6	85
Six or more	3.9	38
Total	100.0	987

Source: American Dental Association, Survey Center, 2008 *Survey on the Use of Dental Labs*

Figure 2: Number of Dental Labs Used by Respondents



Source: American Dental Association, Survey Center, 2008 *Survey on the Use of Dental Labs*

As seen in Table 6, respondents, on average, used three different dental labs in their primary practice. The number of dental labs used by respondents ranged from a minimum of 1 to a maximum of 9 different dental labs.

Male and female respondents both used three different dental labs on average. In addition, all age groups (2.7 – 3.2) and geographic regions (2.8 – 3.3) used approximately three different dental labs.

Table 6: Average Number of Different Dental Labs Used by Gender, Age, and Region¹

	N	Mean	S.D.	Minimum	Median	Maximum
Total	987	3.0	1.3	1	3	9
Gender						
Male	813	3.0	1.3	1	3	9
Female	170	3.0	1.3	1	3	8
Age Group						
Less than 40	134	2.9	1.1	1	3	6
40 to 49 years	207	3.1	1.4	1	3	8
50 to 59 years	338	3.2	1.3	1	3	8
60 to 69 years	210	2.9	1.2	1	3	6
70 years or older	98	2.7	1.2	1	2	9
Region						
New England	53	3.0	1.2	1	3	5
Middle Atlantic	154	2.9	1.3	1	3	8
East North Central	165	3.3	1.5	1	3	8
West North Central	78	2.8	1.3	1	3	6
South Atlantic	161	2.9	1.2	1	3	9
East South Central	42	3.0	1.2	1	3	6
West South Central	102	2.8	1.1	1	3	7
Mountain	70	3.3	1.2	1	3	6
Pacific	156	3.0	1.2	1	3	7

Source: American Dental Association, Survey Center, 2008 *Survey on the Use of Dental Labs*

¹ The states that make up each region are listed in Appendix A.

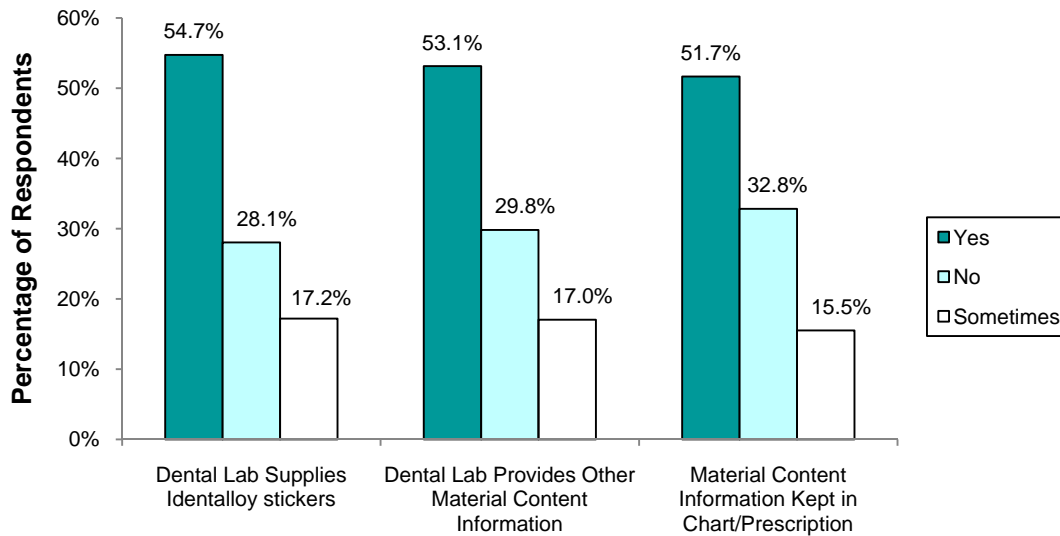
Over one-half (54.7%) of the respondents who used independent labs noted that those labs provided Identalloy®¹ stickers for prosthetics containing metal. In addition, dental labs provided over half of the respondents with material content information in another format (53.1%). Approximately half (51.7%) of respondents whose dental labs provided such information include this information in a patient's chart or with the prescription order. (See Table 7 and Figure 3.)

Table 7: Use of Material Content Information

	For prosthetics containing metal, dental lab supplies Identalloy stickers in each case.		Dental lab provides material content information in another format.		Doctor keeps the Identalloy sticker or other material content information in the patient's chart or with the prescription order.	
	Percent	N	Percent	N	Percent	N
Yes	54.7%	525	53.1%	515	51.7%	403
No	28.1	269	29.8	289	32.8	256
Sometimes	17.2	165	17.0	165	15.5	121
Total	100.0	959	100.0	969	100.0	780

Source: American Dental Association, Survey Center, 2008 *Survey on the Use of Dental Labs*

Figure 3: Use of Material Content Information by Independent Dental Labs



Source: American Dental Association, Survey Center, 2008 *Survey on the Use of Dental Labs*

¹ Identalloy is a registered service mark of the Identalloy Council.

Table 8 shows that more males (56.2%) than females (48.5%) indicated that their dental labs supplied Identalloy stickers in each case for prosthetics containing metal. That was also more common among respondents over the age of 40 (53.0% or greater compared to 45.7% for those under 40), and respondents from the West North Central Region (66.7%). Dental labs supplying Identalloy stickers were least common in the Middle Atlantic (46.7%) and Pacific (48.7%) regions.

Table 8: Dental Lab Supplies Identalloy Stickers for Prosthetics Containing Metal, by Gender, Age and Geographic Region^{1,2}

	Yes		No		Sometimes		Total	
	Percent	N	Percent	N	Percent	N	Percent	N
Gender								
Male	56.2%	442	27.1%	213	16.8%	132	100.0%	787
Female	48.5	82	32.0	54	19.5	33	100.0	169
Age Group								
Less than 40	45.7	59	36.4	47	17.8	23	100.0	129
40 to 49 years	57.5	115	22.5	45	20.0	40	100.0	200
50 to 59 years	56.8	189	25.2	84	18.0	60	100.0	333
60 to 69 years	53.0	107	30.7	62	16.3	33	100.0	202
70 years or older	57.9	55	32.6	31	9.5	9	100.0	95
Region								
New England	57.7	30	26.9	14	15.4	8	100.0	52
Middle Atlantic	46.7	70	38.7	58	14.7	22	100.0	150
East North Central	58.0	94	22.8	37	19.1	31	100.0	162
West North Central	66.7	50	20.0	15	13.3	10	100.0	75
South Atlantic	52.9	83	31.2	49	15.9	25	100.0	157
East South Central	62.5	25	20.0	8	17.5	7	100.0	40
West South Central	55.6	55	23.2	23	21.2	21	100.0	99
Mountain	59.7	40	23.9	16	16.4	11	100.0	67
Pacific	48.7	73	31.3	47	20.0	30	100.0	150

Source: American Dental Association, Survey Center, 2008 *Survey on the Use of Dental Labs*

¹ The states that make up each region are listed in Appendix A.

² Response categories with less than 30 responses can vary greatly with repeated sampling. Conclusions made with such small values should be made with caution.

Table 9 demonstrates that dental labs that provided material content information in another format were more commonly found among female dentists (59.1%), dentists under the age of 40 (60.5%), and dentists in the New England (60.4%) and East North Central (60.0%) regions.

Table 9: Dental Lab Provides Material Content Information in Another Format, by Gender, Age and Geographic Region^{1,2}

	Yes		No		Sometimes		Total	
	Percent	N	Percent	N	Percent	N	Percent	N
Gender								
Male	51.9%	413	30.4%	242	17.6%	140	100.0%	795
Female	59.1	101	26.3	45	14.6	25	100.0	171
Age Group								
Less than 40	60.5	78	24.8	32	14.7	19	100.0	129
40 to 49 years	53.4	109	30.4	62	16.2	33	100.0	204
50 to 59 years	56.8	189	26.7	89	16.5	55	100.0	333
60 to 69 years	47.6	98	32.0	66	20.4	42	100.0	206
70 years or older	42.3	41	41.2	40	16.5	16	100.0	97
Region								
New England	60.4	32	26.4	14	13.2	7	100.0	53
Middle Atlantic	47.4	72	34.2	52	18.4	28	100.0	152
East North Central	60.0	99	23.6	39	16.4	27	100.0	165
West North Central	53.8	42	26.9	21	19.2	15	100.0	78
South Atlantic	56.1	87	27.7	43	16.1	25	100.0	155
East South Central	45.0	18	27.5	11	27.5	11	100.0	40
West South Central	54.5	55	24.8	25	20.8	21	100.0	101
Mountain	49.2	32	36.9	24	13.8	9	100.0	65
Pacific	47.7	73	38.6	59	13.7	21	100.0	153

Source: American Dental Association, Survey Center, 2008 *Survey on the Use of Dental Labs*

¹ The states that make up each region are listed in Appendix A.

² Response categories with less than 30 responses can vary greatly with repeated sampling. Conclusions made with such small values should be made with caution.

Table 10 illustrates that dentists who kept the Identalloy sticker or other material content information in the patient's chart or with the prescription order are more prevalent among female dentists (53.8%), dentists between the ages of 40 and 69 (51.8% - 54.5%), and dentists in the New England region (62.5%).

Table 10: Doctor Keeps Material Content Information in the Patient's Chart or with the Prescription Order, by Gender, Age and Geographic Region^{1,2}

	Yes		No		Sometimes		Total	
	Percent	N	Percent	N	Percent	N	Percent	N
Gender								
Male	51.2%	325	33.5%	213	15.3%	97	100.0%	635
Female	53.8	77	29.4	42	16.8	24	100.0	143
Age Group								
Less than 40	47.2	50	39.6	42	13.2	14	100.0	106
40 to 49 years	51.8	85	32.9	54	15.2	25	100.0	164
50 to 59 years	54.5	150	28.4	78	17.1	47	100.0	275
60 to 69 years	51.9	82	34.2	54	13.9	22	100.0	158
70 years or older	46.8	36	36.4	28	16.9	13	100.0	77
Region								
New England	62.5	25	27.5	11	10.0	4	100.0	40
Middle Atlantic	49.6	57	33.9	39	16.5	19	100.0	115
East North Central	56.7	80	31.2	44	12.1	17	100.0	141
West North Central	58.2	39	31.3	21	10.4	7	100.0	67
South Atlantic	45.2	56	38.7	48	16.1	20	100.0	124
East South Central	27.3	9	48.5	16	24.2	8	100.0	33
West South Central	52.7	39	25.7	19	21.6	16	100.0	74
Mountain	54.2	32	25.4	15	20.3	12	100.0	59
Pacific	52.1	63	33.1	40	14.9	18	100.0	121

Source: American Dental Association, Survey Center, 2008 *Survey on the Use of Dental Labs*

¹ The states that make up each region are listed in Appendix A.

² Response categories with less than 30 responses can vary greatly with repeated sampling. Conclusions made with such small values should be made with caution.

Just under forty-five percent (44.6%) of respondents stated that their patients have requested material content information for a dental prosthesis or inquired about the materials that comprise a prosthesis. Patients of female dentists requested material content information slightly more frequently than they did of male dentists (46.2% compared to 44.3%). Patients of dentists between the ages of 50 and 59 (46.9%) requested material content information slightly more frequently than dentists of other age groups. In addition, patients in the Mountain region requested material content information from over half of respondents (55.1%), while just over one-third (35.8%) of patients in the New England region did so.

In the past 12 months, patients have requested this information approximately 4.3 times from responding dentists on average. This was slightly higher for dentists 70 years old and older (5.1 times) and dentists in the Pacific region (5.3 times). (See Table 11 below and Figure 4 on page 12.)

Table 11: Frequency of Patient Requests for Material Content Information by Gender, Age and Geographic Region^{1,2}

	Percent	N	How many times in last 12 months?				
			Average	S.D.	Min	Median	Max
Total	44.6%	441	4.3	5.9	0	2	40
Gender							
Male	44.3	361	4.3	5.6	0	2	40
Female	46.2	80	4.5	7.1	0	2	40
Age Group							
Less than 40	45.9	61	3.6	5.7	0	2	40
40 to 49 years	44.9	93	4.8	5.3	0	2.5	30
50 to 59 years	46.9	161	4.0	5.4	0	2	40
60 to 69 years	41.7	88	4.6	6.4	0	2	40
70 years or older	38.8	38	5.1	8.1	0	2	40
Region							
New England	35.8	19	3.1	3.2	0	2	10
Middle Atlantic	43.6	68	5.1	6.2	0	2	30
East North Central	48.2	80	4.0	5.5	0	2	40
West North Central	38.5	30	5.1	7.5	0	3	40
South Atlantic	44.1	71	4.0	4.1	0	2.5	25
East South Central	42.9	18	4.1	4.1	0	2	12
West South Central	41.2	42	2.9	4.7	0	2	24
Mountain	55.1	38	3.9	4.2	1	2	20
Pacific	46.8	74	5.3	8.2	0	2	40

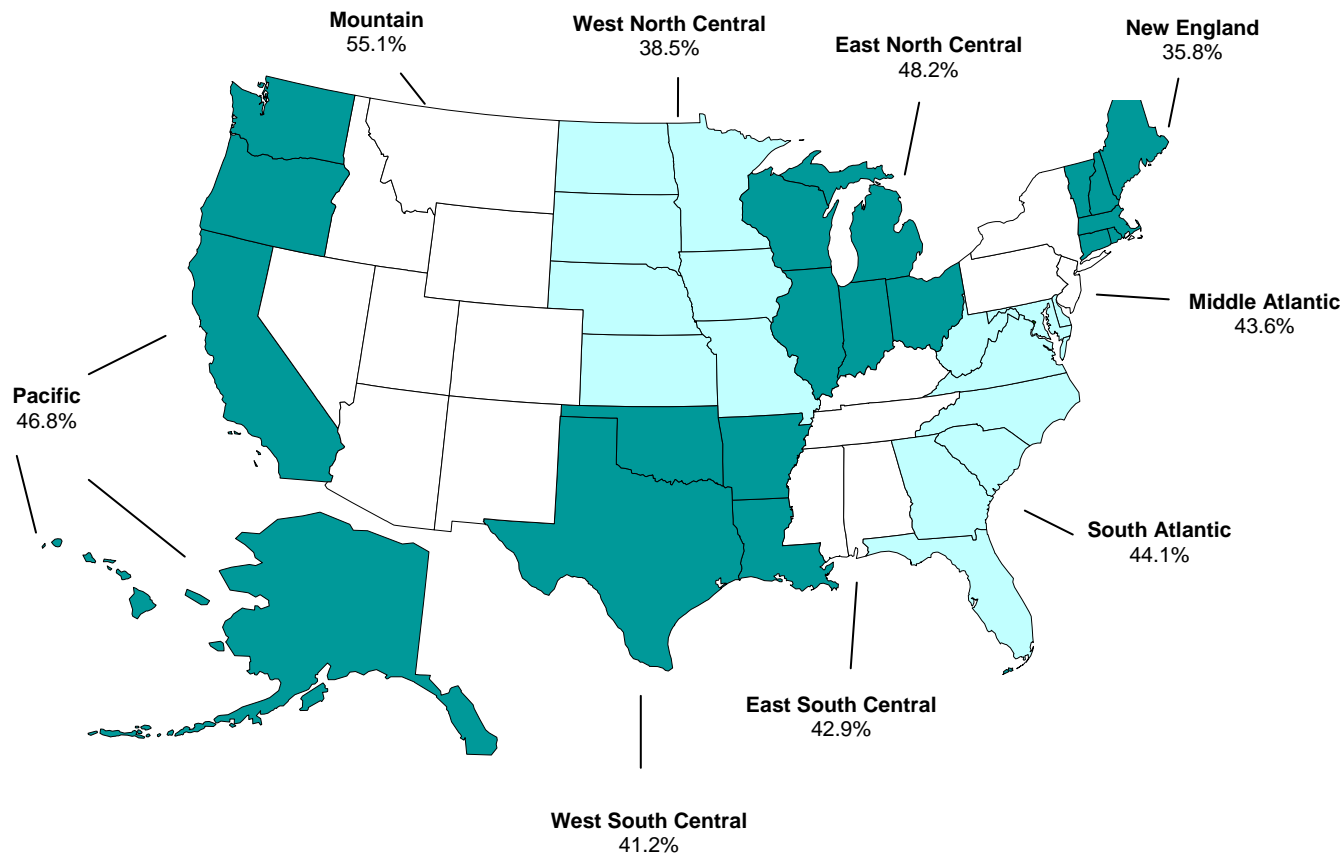
Source: American Dental Association, Survey Center, 2008 *Survey on the Use of Dental Labs*

¹ The states that make up each region are listed in Appendix A.

² Response categories with less than 30 responses can vary greatly with repeated sampling. Conclusions made with such small values should be made with caution.

As seen in Figure 4, patients of over half of respondents in the Mountain region (55.1%) requested material content information. On the other hand, slightly over one-third (35.8%) of patients in the New England region asked for material content information.

Figure 4: Percentage of Respondents Who Received Patient Requests for Material Content Information, by Region



Source: American Dental Association, Survey Center, 2008 *Survey on the Use of Dental Labs*

Foreign dental labs were not used by the majority of respondents (90.1%). Additionally, the majority of domestic dental labs that respondents did employ did not outsource to foreign labs (75.1%). (See Table 12.)

Table 12: Use of Foreign Dental Labs¹

	Percent	N
Foreign Dental Lab		
Yes	2.9%	29
No	90.1	898
Don't know	7.0	70
Dental Lab Outsources to Foreign Labs		
Yes	4.1%	40
No	75.1	725
Don't know	20.7	200

Source: American Dental Association, Survey Center, 2008 *Survey on the Use of Dental Labs*

Responding dentists were also asked which countries their dental work was outsourced to in both of the above situations. Most respondents who outsource dental lab work in one form or another do so to China. Due to the small sample size for these items, detailed analyses are not presented here.

¹ Response categories with less than 30 responses can vary greatly with repeated sampling. Conclusions made with such small values should be made with caution.

As seen in table 13, the most important criteria for respondents when selecting a dental lab were the quality of work (96.7% extremely important), the reliability of the lab (85.4% extremely important), and on-time delivery (79.5% extremely important). Over two-thirds of respondents indicated that the least two important criteria were not at all important; these criteria were sales calls from labs (68.2%) and advertisements (67.3%).

Table 13: Importance of Criteria When Selecting Dental Lab¹

N					
Criteria	Extremely Important			Not important at all	Total
	1	2	3	4	
Recommendation of colleagues	335	360	177	83	955
Sales calls from labs	20	47	237	652	956
Advertisements	14	46	252	641	953
Quality of work	960	22	1	10	993
Price	249	553	147	28	977
Time to complete restoration	364	516	84	20	984
Reliability of lab	847	128	6	11	992
On-time delivery	785	178	11	13	987
Availability of technician for in-office patient consultation	286	318	241	137	982
Laboratory certification, such as a Certified Dental Laboratory (CDL)	336	347	196	97	976
Location	147	359	284	183	973
Domestic lab only, no outsourcing	543	208	132	88	971
Certification of dental lab technicians, such as Certified Dental Technicians (CDT)	362	361	183	68	974
Percent					
Criteria	Extremely Important			Not important at all	Total
	1	2	3	4	
Recommendation of colleagues	35.1%	37.7%	18.5%	8.7%	100.0%
Sales calls from labs	2.1	4.9	24.8	68.2	100.0
Advertisements	1.5	4.8	26.4	67.3	100.0
Quality of work	96.7	2.2	0.1	1.0	100.0
Price	25.5	56.6	15.0	2.9	100.0
Time to complete restoration	37.0	52.4	8.5	2.0	100.0
Reliability of lab	85.4	12.9	0.6	1.1	100.0
On-time delivery	79.5	18.0	1.1	1.3	100.0
Availability of technician for in-office patient consultation	29.1	32.4	24.5	14.0	100.0
Laboratory certification, such as a Certified Dental Laboratory (CDL)	34.4	35.6	20.1	9.9	100.0
Location	15.1	36.9	29.2	18.8	100.0
Domestic lab only, no outsourcing	55.9	21.4	13.6	9.1	100.0
Certification of dental lab technicians, such as Certified Dental Technicians (CDT)	37.2	37.1	18.8	7.0	100.0

Source: American Dental Association, Survey Center, 2008 *Survey on the Use of Dental Labs*

¹ Response categories with less than 30 responses can vary greatly with repeated sampling. Conclusions made with such small values should be made with caution.

Over half (51.9%) of respondents indicated they had no problems or concerns with the dental lab work they received in the past year. The most common problem, indicated by 41.1% of respondents, was that the cost of the work increased. Less than one-in-five respondents stated that the quality of the work declined (17.3%) or that the work was not done on time (14.7%). Very few respondents (0.9%) had safety concerns about the dental lab's work. (See Table 14.)

Table 14: Concerns with Dental Lab Work¹

Concern	Percent	N
No problems or concerns	51.9%	520
Cost of the work increased	41.1	411
Quality of the work declined	17.3	173
Work is not done on time	14.7	147
Trouble finding local labs	3.6	36
Other	3.5	35
Safety of the dental lab's work	0.9	9
Total Respondents		1,001

Source: American Dental Association, Survey Center, 2008 *Survey on the Use of Dental Labs*

The great majority of respondents (87.4%) had to return dental work to a dental lab for correction in the past year. Those respondents that returned dental work did so an average of 7.2 times in the past 12 months. (See Table 15.)

Table 15: Returned Dental Lab Work for Correction

	Percent	N
Returned Lab Work	87.4%	874
Did Not Return Work	12.6	126
Total	100.0	1,000
	Mean	S.D.
If "Yes", how many times in the last 12 months?	7.2	7.8

Source: American Dental Association, Survey Center, 2008 *Survey on the Use of Dental Labs*

¹ Response categories with less than 30 responses can vary greatly with repeated sampling. Conclusions made with such small values should be made with caution.

Most respondents in every U.S. geographic region did not know if dental labs in their area were going out of business (56.8% - 74.5%) or had been bought by larger labs (46.2 – 69.0%). Respondents in the Pacific region (10.1%) thought that dental labs were going out of business more than any other region. In addition, over a quarter (26.4%) of respondents in the New England region thought that dental labs have been consolidated with other dental labs, more than any other region. (See Table 16.)

Table 16: Financial Status of Area Dental Labs by Region^{1,2}

Labs Going Out of Business							
Region	Yes		No		Don't Know		Total
	Percent	N	Percent	N	Percent	N	
U.S. Total	6.6%	66	28.2%	280	65.2%	647	993
New England	3.8	2	22.6	12	73.6	39	53
Middle Atlantic	4.5	7	21.0	33	74.5	117	157
East North Central	7.3	12	29.1	48	63.6	105	165
West North Central	5.1	4	41.0	32	53.8	42	78
South Atlantic	7.5	12	28.1	45	64.4	103	160
East South Central	4.9	2	24.4	10	70.7	29	41
West South Central	6.7	7	27.9	29	65.4	68	104
Mountain	4.3	3	31.4	22	64.3	45	70
Pacific	10.1	16	27.8	44	62.0	98	158
Dental Lab Consolidation							
Region	Yes		No		Don't Know		Total
	Percent	N	Percent	N	Percent	N	
U.S. Total	15.0%	150	22.6%	226	62.4%	623	999
New England	26.4	14	17.0	9	56.6	30	53
Middle Atlantic	15.2	24	15.8	25	69.0	109	158
East North Central	16.9	28	25.3	42	57.8	96	166
West North Central	17.9	14	35.9	28	46.2	36	78
South Atlantic	13.0	21	21.6	35	65.4	106	162
East South Central	11.9	5	23.8	10	64.3	27	42
West South Central	9.6	10	23.1	24	67.3	70	104
Mountain	11.4	8	25.7	18	62.9	44	70
Pacific	16.4	26	19.5	31	64.2	102	159

Source: American Dental Association, Survey Center, 2008 Survey on the Use of Dental Labs

¹ The states that make up each region are listed in Appendix A.

² Response categories with less than 30 responses can vary greatly with repeated sampling. Conclusions made with such small values should be made with caution.

As seen in Table 17, approximately one in five respondents (18.9%) felt there was a shortage of dental lab technicians in their area. This figure varied by geographic region considering that almost one-third of respondents (31.0%) from the East South Central Region felt that there was a shortage. On the other hand, less than one in six dentists (13.9%) in the Pacific region felt that there was a shortage of technicians in their area.

Table 17: Shortage of Dental Laboratory Technicians in Area by Region^{1,2}

Region	Yes		No		Don't Know		Total
	Percent	N	Percent	N	Percent	N	
U.S. Total	18.9%	188	40.1%	399	41.1%	409	996
New England	13.2	7	37.7	20	49.1	26	53
Middle Atlantic	17.1	27	32.3	51	50.6	80	158
East North Central	17.5	29	38.0	63	44.6	74	166
West North Central	15.6	12	53.2	41	31.2	24	77
South Atlantic	21.7	35	37.9	61	40.4	65	161
East South Central	31.0	13	31.0	13	38.1	16	42
West South Central	24.0	25	38.5	40	37.5	39	104
Mountain	21.4	15	45.7	32	32.9	23	70
Pacific	13.9	22	47.5	75	38.6	61	158

Source: American Dental Association, Survey Center, 2008 *Survey on the Use of Dental Labs*

¹ The states that make up each region are listed in Appendix A.

² Response categories with less than 30 responses can vary greatly with repeated sampling. Conclusions made with such small values should be made with caution.

As seen in Table 18 below over forty percent (40.5%) of respondents said their states' dental labs were regulated by their state's dental practice act. On the other hand, over half (53.1%) of all respondents did not know if dental labs were regulated by their state's dental practice act.

This was not the same for every geographic region in the U.S. For example, over half of respondents in three regions (South Atlantic, 50.3%, West North Central, 53.9%, and West South Central, 77.5%) said that their states' dental labs were regulated by the state's dental practice act, while less than 30 percent of respondents in three other regions stated that their dental labs were regulated (New England, 26.9%, Middle Atlantic, 23.7%, and Mountain, 22.9%). (Also see Figure 5 on page 19.)

Table 18: Regulation of Dental Labs by State Dental Practice Act by Region^{1,2}

Region	Yes		No		Don't Know		Total
	Percent	N	Percent	N	Percent	N	
U.S. Total	40.5%	392	6.4%	62	53.1%	514	968
New England	26.9	14	1.9	1	71.2	37	52
Middle Atlantic	23.7	36	7.2	11	69.1	105	152
East North Central	34.4	55	5.0	8	60.6	97	160
West North Central	53.9	41	5.3	4	40.8	31	76
South Atlantic	50.3	77	4.6	7	45.1	69	153
East South Central	46.2	18	12.8	5	41.0	16	39
West South Central	77.5	79	2.0	2	20.6	21	102
Mountain	22.9	16	15.7	11	61.4	43	70
Pacific	32.5	51	8.3	13	59.2	93	157

Source: American Dental Association, Survey Center, 2008 *Survey on the Use of Dental Labs*

Table 19 shows that the majority of respondents (86.3%) do not know if domestic dental labs are regulated by a federal agency.

Table 19: Regulation of Dental Labs by Federal Agency

	Percent	N
Yes	6.5%	63
No	7.2	69
Don't know	86.3	832
Total	100.0	964

Source: American Dental Association, Survey Center, 2008 *Survey on the Use of Dental Labs*

¹ The states that make up each region are listed in Appendix A.

² Response categories with less than 30 responses can vary greatly with repeated sampling. Conclusions made with such small values should be made with caution.

APPENDIX A:
GLOSSARY OF TERMS

GLOSSARY

Below, you will find definitions for the various descriptive statistical terms used in this report. In addition, the states included in the regional breakdown are also specified.

MEAN	The arithmetic average calculated by adding all responses together and then dividing by the number of respondents.																		
MEDIAN	A statistical measure that divides ranked numeric responses into halves. The median is the response which falls at the fifty percent mark. The responses in one half are all smaller than the median and those in the other half are all larger than the median.																		
NUMBER (N)	The number of respondents. Also, the number of responses used to calculate a particular statistic.																		
REGIONS	<table><tr><td>New England:</td><td>Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont.</td></tr><tr><td>Middle Atlantic:</td><td>New Jersey, New York, and Pennsylvania</td></tr><tr><td>East North Central:</td><td>Illinois, Indiana, Michigan, Ohio, and Wisconsin</td></tr><tr><td>West North Central:</td><td>Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota.</td></tr><tr><td>South Atlantic:</td><td>Delaware, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, Washington D.C., and West Virginia.</td></tr><tr><td>East South Central:</td><td>Alabama, Kentucky, Mississippi, and Tennessee.</td></tr><tr><td>West South Central:</td><td>Arkansas, Louisiana, Oklahoma, and Texas.</td></tr><tr><td>Mountain:</td><td>Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming.</td></tr><tr><td>Pacific:</td><td>Alaska, California, Hawaii, Oregon, and Washington.</td></tr></table>	New England:	Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont.	Middle Atlantic:	New Jersey, New York, and Pennsylvania	East North Central:	Illinois, Indiana, Michigan, Ohio, and Wisconsin	West North Central:	Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota.	South Atlantic:	Delaware, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, Washington D.C., and West Virginia.	East South Central:	Alabama, Kentucky, Mississippi, and Tennessee.	West South Central:	Arkansas, Louisiana, Oklahoma, and Texas.	Mountain:	Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming.	Pacific:	Alaska, California, Hawaii, Oregon, and Washington.
New England:	Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont.																		
Middle Atlantic:	New Jersey, New York, and Pennsylvania																		
East North Central:	Illinois, Indiana, Michigan, Ohio, and Wisconsin																		
West North Central:	Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota.																		
South Atlantic:	Delaware, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, Washington D.C., and West Virginia.																		
East South Central:	Alabama, Kentucky, Mississippi, and Tennessee.																		
West South Central:	Arkansas, Louisiana, Oklahoma, and Texas.																		
Mountain:	Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming.																		
Pacific:	Alaska, California, Hawaii, Oregon, and Washington.																		
STANDARD DEVIATION (S.D.)	The typical deviation of sample values from the mean. The size of the standard deviation reflects the accuracy of the sample mean in representing the population. In a normal population, 68.0% of the observations fall within one standard deviation of the mean, 95.5% within two standard deviations, and 99.7% within three standard deviations.																		

APPENDIX B:

2008 *SURVEY ON THE USE OF DENTAL LABS* SURVEY INSTRUMENT



2008 Survey on the Use of Dental Labs

Please circle the number corresponding to the most appropriate response or fill in the blank. Please do not report ranges.

1. Which one of the following best describes your current primary occupation?

- a. Private practice (full- or part-time) 1
b. Other dental occupation 2
c. Other non-dental occupation 3

Please complete this questionnaire if you are currently in private practice, either full- or part-time. Otherwise, stop here and return the questionnaire by folding and placing tape as indicated. Thank you.

2. In your primary practice, in which one of the following ADA-recognized specialty areas are you announcing yourself and practicing as a licensed specialist? (Choose one.)

- a. No specialty, I am a general practitioner 0
b. Oral and maxillofacial surgery 1
c. Endodontics 2
d. Orthodontics and dentofacial orthopedics 3
e. Pediatric dentistry 4
f. Periodontics 5
g. Prosthodontics 6
h. Oral and maxillofacial pathology 7
i. Public health 8
j. Oral and maxillofacial radiology 9

3a. In your primary practice, do you use an independent dental lab?

- 1. Yes (Skip to Question 4) 1
2. No, I have an in-office dental lab 2
3. No, I don't use them in my practice 3

3b. If you have an in-office dental lab, why did you decide to fabricate your own prosthetics? (Circle all that apply.)

- 1. I wanted my own in-house dental laboratory technician 1
2. Volume of work in the practice made it economically feasible 2
3. Dissatisfied with the quality of the work of outside dental labs 3
4. Concerned about the safety of the work of outside dental labs 4
5. It was cheaper to buy my own equipment 5
6. Other, please specify: _____

If you don't use dental labs in your primary practice or if you only use an in-office dental lab, please stop here and return the questionnaire by folding and placing tape as indicated. Thank you.

4. How many different dental labs does your primary practice use? _____

5. How important are each of the following criteria when selecting a dental lab? (Use the following scale: 1=extremely important, 2=somewhat important; 3=not too important, 4=not at all important)

Table with 4 columns: Criterion, Extremely Important, Not at all Important. Rows include Recommendation of colleagues, Sales calls from labs, Advertisements, Quality of work, Price, Time to complete restoration, Reliability of lab, On-time delivery, Availability of technician, Laboratory certification, Location, Domestic lab only, Certification of dental lab technicians.

6a. For prosthetics containing metal, does your dental lab supply Identalloy stickers in each case?

- 1. Yes 1
2. No 2
3. Sometimes 3

6b. Does your dental lab provide material content information in another format, such as on an invoice or in a separate certificate of authenticity?

- 1. Yes 1
2. No 2
3. Sometimes 3

6c. If you answered yes to either Questions 6a or 6b, do you keep the Identalloy sticker or other material content information in the patient's chart or with the prescription order?

- 1. Yes 1
2. No 2
3. Sometimes 3

7a. Has a patient ever asked you for material content information for a dental prosthesis or inquired about the materials that comprise a prosthesis?

- 1. Yes 1
2. No (Skip to Question 8.) 2

- 7b. If "Yes", how many times in the last 12 months?
8. Have you had any problems or concerns with the dental lab work you have received in the past year from any of the labs you have used? (Circle **all** that apply.)
- a. No problems or concerns 1
 - b. The quality of the work has declined 2
 - c. The work is not done on time 3
 - d. The cost of the work has increased..... 4
 - e. I have concerns about the safety of the dental lab's work 5
 - f. I'm having trouble finding local labs that will do my work..... 6
 - g. Other, please specify:.....
- 9a. Have you had to return dental work to your dental lab for correction in the past year?
- 1. Yes..... 1
 - 2. No (Skip to Question 10.)..... 2
- 9b. If "Yes", how many times in the last 12 months?
10. If you have quality or safety concerns about the dental lab work you have had done in the past year, please explain below. **PLEASE PRINT.**
11. Have any dental labs in your area gone out of business in the last twelve months?
- a. Yes 1
 - b. No 2
 - c. Don't know 3
12. Have any dental labs in your area been bought by larger labs or consolidated with other dental labs?
- a. Yes 1
 - b. No 2
 - c. Don't know 3
13. In your opinion, is there a shortage of dental laboratory technicians in the labs in your area?
- a. Yes 1
 - b. No 2
 - c. Don't know 3
- 14a. Does your practice use foreign (offshore) dental laboratories?
- 1. Yes..... 1
 - 2. No (Skip to Question 15a.)..... 2
 - 3. Don't know (Skip to Question 15a.)..... 3
- 14b. If yes, in which of the following foreign countries do you use dental labs? (Circle **all** that apply.)
- 1. Don't know 1
 - 2. China..... 2
 - 3. Costa Rica 3
 - 4. European countries..... 4
 - 5. India 5
 - 6. Mexico..... 6
 - 7. Philippines..... 7
 - 8. Turkey 8
 - 9. Other, please specify:.....

15a. Does your domestic dental laboratory outsource to foreign (offshore) laboratories?

- 1. Yes 1
- 2. No (Skip to Question 16.) 2
- 3. Don't know (Skip to Question 16.) 3

15b. If yes, in which of the following foreign countries do you use dental labs? (Circle **all** that apply.)

- 1. Don't know 1
- 2. China 2
- 3. Costa Rica 3
- 4. European countries 4
- 5. India 5
- 6. Mexico 6
- 7. Philippines 7
- 8. Turkey 8
- 9. Other, please specify: _____

16. To your knowledge, are dental labs regulated by your state's dental practice act?

- a. Yes 1
- b. No 2
- c. Don't know 3

17. To your knowledge, are domestic dental labs regulated by (or required to register with) a federal agency regardless of whether they outsource to a foreign country?

- a. Yes 1
- b. No 2
- c. Don't know 3

Any comments?

SAMPLE

Thank you for participating in this research project. Please return this questionnaire by folding and placing tape as indicated. Drop it in the mail; postage is already paid.

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