

2009 JCO Orthodontic Practice Study

Part 1 Trends

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This series of articles presents the most important results of the 2009 JCO Orthodontic Practice Study. Subscribers to JCO can access the complete Practice Study tables and questionnaire on our website at www.jco-online.com, using the link from this article in the Online Archive, which also contains the results of previous surveys.

In Part 1, we report on trends in the economics and administration of American orthodontic practices since the first biennial Study was conducted in 1981, and particularly over the two years since the previous Study. Succeeding articles will cover practice success, practice growth, staff usage, and other breakdowns of the data.

Practice Activity

The orthodontic economy was relatively flat in 2009 compared to the 2007 Study, in which substantial growth was seen over the previous two surveys. That should come as no surprise considering the nationwide recession. Moreover, because the financial data reported in this Study refer to calendar year 2008, the full depth of the recession may not yet be reflected. In the past two years, median gross income rose by only 4%, while operating expenses increased by more than 12% (Table 1). This combination resulted in a 5% drop in median net income—the first decline since

these studies began—and a 1% rise in the median overhead rate. The median number of case starts remained virtually unchanged over the past two years, although the median number of active cases did rise by 3%. Percentages of adult cases were about the same as in 2007.

The reported increase in child case fees between 2006 and 2008 was the lowest ever, at 6%, following only a 7% increase over the previous two years. Median case fees for both children and adults actually increased by a little less than that over the two-year period between surveys. For the first time, the median initial payment dropped from 25% to 20%, although the median payment period also dropped slightly since the 2007 Study. The percentage of respondents who reported routinely billing patients continued a gradual increase.

The median percentage of income attributable to third parties dropped back to its 1981 level, 20%, but the percentage of practices accepting assignment of benefits reached an all-time high of more than 80%. Fewer respondents (68%) than in 2007 reported offering third-party bank financing.

Years in Practice

The average Practice Study respondent continued to grow older, reaching a median of 52 years of age and 22 years in practice. An earlier

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peak of production was seen than in previous studies, with respondents who had been practicing for 6-10 years recording higher median gross income, net income, and case starts than those with 21-25 years in practice, along with lower median case fees (Table 2). The highest income and numbers of case starts were still reported by the 16-to-20-year practices.

In comparison to the 2007 Study, median gross income was higher for those who had been

in practice for 2-10 or more than 25 years, and net income for those in practice for 2-10, 16-20, and more than 25 years. Only the 2-5, 6-10, and 26-or-more categories showed increases in both median case starts and median active cases.

Geographic Region

The West South Central and Pacific regions were the only areas to record increases in both

METHODOLOGY AND LIMITATIONS

The questionnaire for the 2009 JCO Orthodontic Practice Study was mailed on April 15, 2009, to 10,448 orthodontists, which we believe included virtually every specialty practitioner in the United States. A second, identical questionnaire was mailed as a reminder to the same group on May 21. A total of 545 forms were returned, for a response rate of 5.2%.

After an independent company recorded the questionnaire responses, data analysis was performed using the Statistical Package for the Social Sciences.

Any survey forms that were blank or illegible were not recorded. Additionally, as in previous studies, respondents with less than one year in practice, with more than one orthodontist-owner, or with gross income of less than \$60,000 and fewer than 50 case starts in 2008 were excluded from the analysis. This was intended to ensure that only full-time solo practices were included in the report. There were 458 questionnaires remaining for analysis following these general exclusions. Any individual answers that were clearly erroneous or impossible were recoded as missing so they would not improperly affect the results.

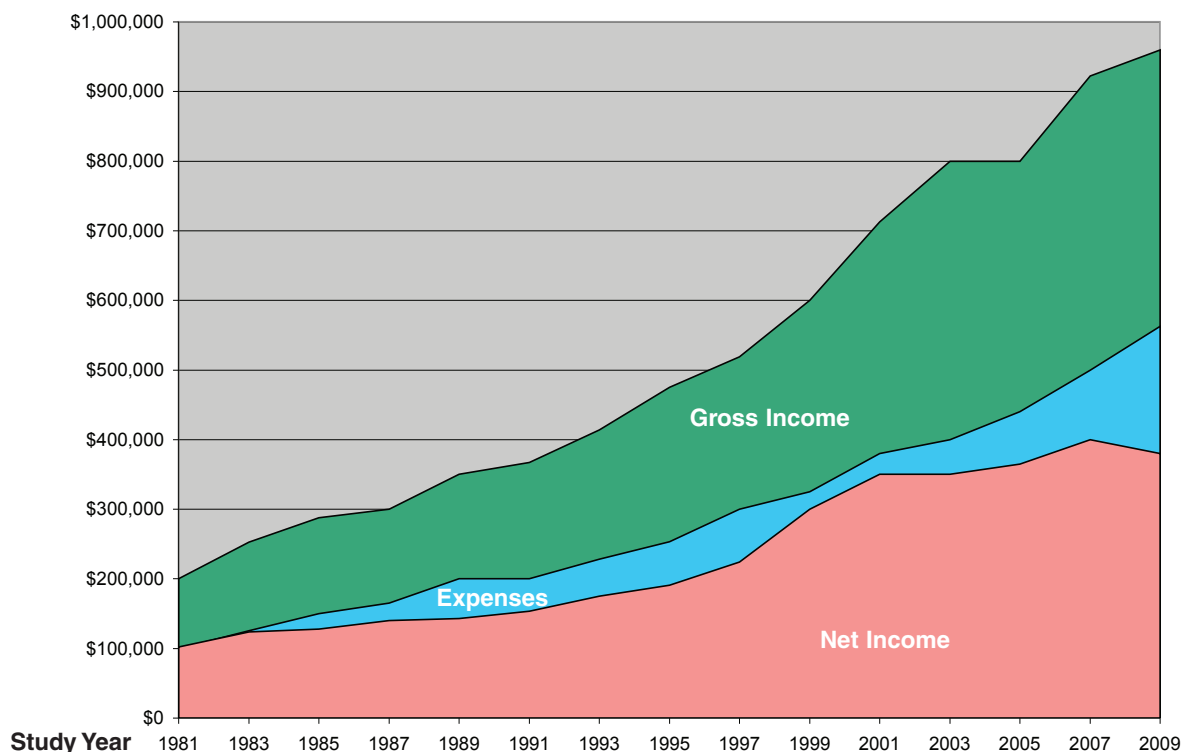
Although some previous Practice Studies have been omitted from the tables in this article for purposes of legibility and clarity, the trends have generally held steady from one survey to the next. When yearly figures such as income and numbers of cases are shown, they refer to the preceding calendar year—in this case, 2008.

The median, which is the middle response when all responses are sorted from highest to lowest, is generally reported here instead of the mean, which is the arithmetic average. The median is less likely than the mean to be affected by extremely high or low responses. Some median figures, such as net income and expenses, may not add up to the expected total (gross income) because each median is calculated independently of the others.

For tests of statistical significance, means were used rather than medians. In this Study, the significance level of "p" = .01 was used instead of the more common "p" = .05 because the large number of variables on the survey questionnaire increased the possibility that the results could be affected by chance.

Readers should note that a statistical relationship does not necessarily indicate a causal relationship. If respondents who routinely delegated a particular task are found to have significantly higher net income than respondents who did not routinely delegate, for instance, it cannot be definitively concluded that the delegation caused the increased income.

In any broad survey, it is impossible to confirm the accuracy or veracity of every single response. Based on the geographic distribution of respondents and the consistency of trends since the first Practice Study in 1981, however, we believe the data presented here to be a valid depiction of orthodontic practice in the United States.

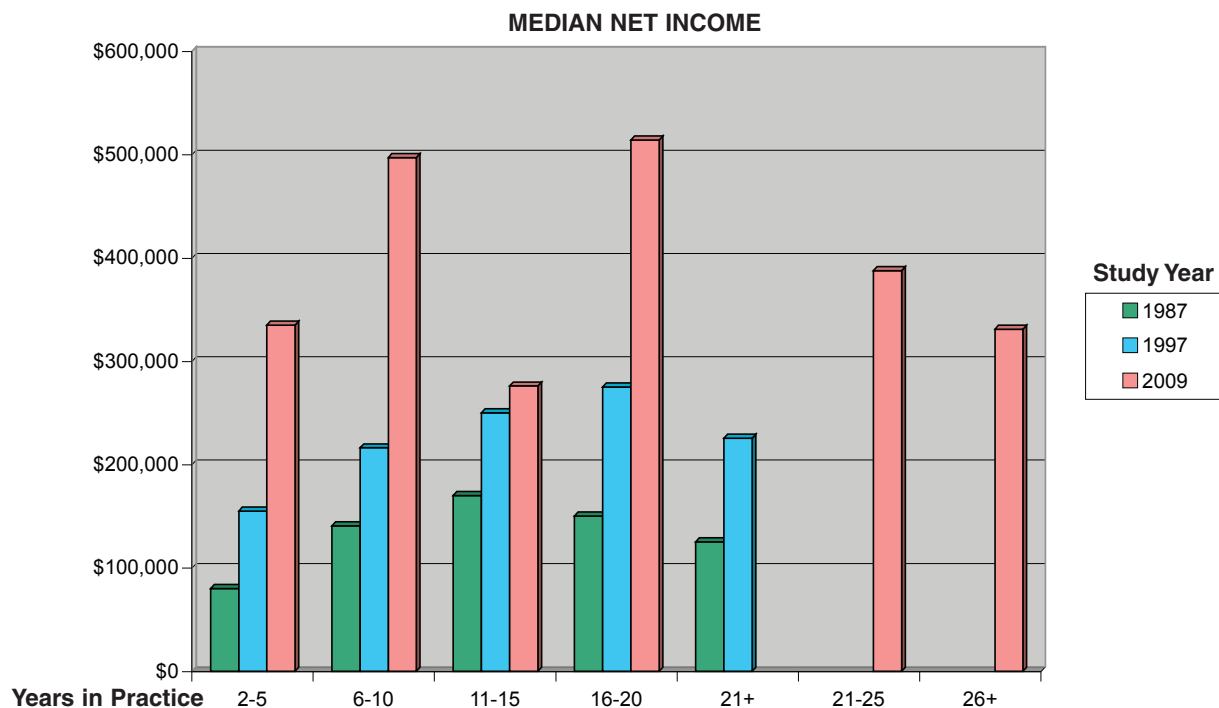


**TABLE 1
PRACTICE ACTIVITY (MEDIANS)**

	Year of Study*					
	1981	1987	1993	1999	2007	2009
Age	42	44	47	49	50	52
Years in Practice	12	15	16	19	20	22
Gross Income	\$200,003	\$300,010	\$414,000	\$600,000	\$922,500	\$960,000
Expenses	\$100,003	\$184,984	\$228,400	\$325,000	\$500,000	\$562,500
Net Income	\$102,000	\$139,993	\$175,000	\$300,000	\$400,000	\$380,000
Overhead Rate	49%	53%	56%	53%	55%	56%
Case Starts	150	150	160	200	222	220
Adult Case Starts	15.4%	23.8%	20.2%	18.8%	20.0%	20.0%
Active Treatment Cases	300	350	366	450	480	495
Female Active Cases	NA	NA	60.0%	60.0%	58.5%	59.1%
Adult Active Cases	15.2%	24.0%	18.2%	15.5%	18.5%	18.0%
Adult Female/Adult Active Cases	NA	NA	70.6%	69.8%	66.7%	66.7%
Child Fee (permanent dentition)	\$1,900	\$2,500	\$3,200	\$3,880	\$4,900	\$5,150
Adult Fee	\$2,100	\$2,700	\$3,500	\$4,200	\$5,300	\$5,500
Two-Year Fee Increase (reported)	15.5%	10.3%	10.0%	8.0%	7.0%	6.0%
Initial Payment	25%	25%	25%	25%	25%	20%
Payment Period (months)	24	24	24	24	22	21
Patients Routinely Billed	30.9%	28.3%	38.5%	47.2%	51.5%	53.2%
Patients per Day	38.4	40.2	40.0	45.0	50.0	50.0
Additional Cases That Could						
Have Been Handled	49.9	50.0	50.0	50.0	50.0	50.0
Patients Covered by Third Party	35.3%	38.7%	45.0%	40.0%	45.0%	45.0%
% Gross Attributed to Third Party	20.0%	20.1%	25.0%	25.0%	25.0%	20.0%
Accept Assignment of Benefits	37.5%	49.5%	68.2%	76.4%	77.2%	80.8%

*Dollar amounts and numbers of patients refer to preceding calendar year.

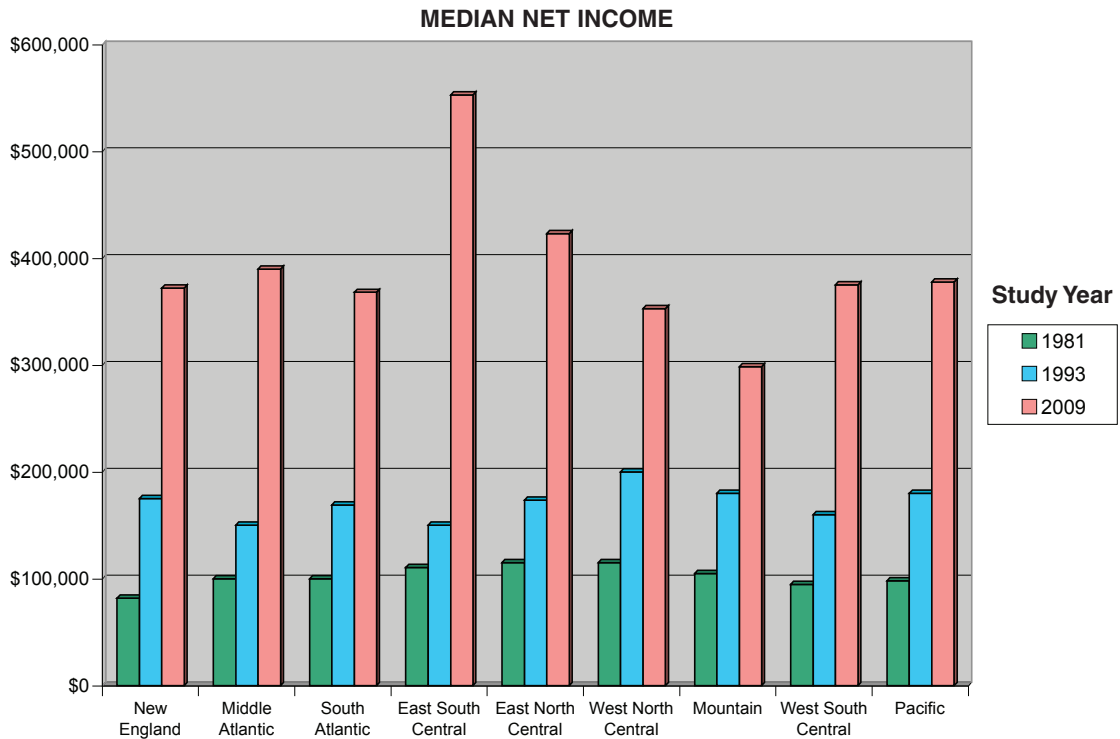
2009 JCO Orthodontic Practice Study



**TABLE 2
PRACTICE ACTIVITY (MEDIANS) BY YEARS IN PRACTICE**

	2009 Study					
	2-5	6-10	11-15	16-20	21-25	26 or more
Gross Income	\$751,147	\$1,076,145	\$790,000	\$1,140,000	\$1,050,000	\$890,000
Expenses	\$463,027	\$650,000	\$550,000	\$643,000	\$629,681	\$450,773
Net Income	\$335,000	\$497,000	\$276,000	\$514,000	\$387,500	\$331,000
Overhead Rate	54%	52%	60%	56%	53%	55%
Case Starts	187	269	215	275	225	197
Active Cases	400	517	500	530	560	400
Child Fee	\$5,000	\$4,873	\$5,200	\$5,150	\$5,000	\$5,200
Adult Fee	\$5,350	\$5,300	\$5,500	\$5,475	\$5,475	\$5,570

	2007 Study					
	2-5	6-10	11-15	16-20	21-25	26 or more
Gross Income	\$700,000	\$960,000	\$1,000,000	\$1,150,000	\$1,200,000	\$696,625
Expenses	\$356,000	\$500,000	\$520,000	\$600,000	\$600,000	\$427,000
Net Income	\$250,000	\$450,500	\$461,735	\$500,000	\$500,000	\$316,000
Overhead Rate	57%	52%	58%	54%	54%	57%
Case Starts	180	240	262	281	245	184
Active Cases	368	500	530	628	500	377
Child Fee	\$4,800	\$4,900	\$4,800	\$4,952	\$4,950	\$4,980
Adult Fee	\$5,200	\$5,200	\$5,200	\$5,490	\$5,350	\$5,350



**TABLE 3
PRACTICE ACTIVITY (MEDIAN) BY GEOGRAPHIC REGION**

	Gross Income	Net Income	Overhead Rate	Case Starts	Child Fee
New England (CT,ME,MA,NH,RI,VT)	\$734,205	\$372,000	56%	173	\$5,430
Middle Atlantic (NJ,NY,PA)	980,000	390,000	54%	197	5,275
South Atlantic (DE,DC,FL,GA,MD,NC,SC,VA,WV)	950,000	368,126	55%	233	5,200
East South Central (AL,KY,MS,TN)	1,100,000	552,943	50%	300	4,800
East North Central (IL,IN,MI,OH,WI)	1,000,000	423,000	59%	250	5,200
West North Central (IA,KS,MN,MO,NE,ND,SD)	906,116	352,948	63%	223	4,880
Mountain (AZ,CO,ID,MT,NV,NM,UT,WY)	881,880	298,500	58%	220	5,100
West South Central (AR,LA,OK,TX)	1,000,000	375,000	59%	232	4,980
Pacific (AK,CA,HI,OR,WA)	1,000,000	377,917	55%	220	5,200

median gross income and median net income since the 2007 Study (Table 3). Median overhead rates were higher in every region except the Mountain and Pacific.

Orthodontists in the East North Central, Mountain, West South Central, and Pacific regions did report higher median numbers of case starts compared to the previous survey. Although median child case fees varied widely among the nine regions, fees actually declined in the West North Central region.

Use of Management Methods

With economic pressures limiting case starts and fee increases, many orthodontists apparently paid more attention to practice management. The only management methods used by fewer respondents in 2009 than in 2007 were measurement of staff productivity, communications supervisor, progress reports, profit and loss statement, delinquent account register, and contracts-written reports (Table 4). On the other hand, 14 methods were

**TABLE 4
USE OF MANAGEMENT METHODS**

	Year of Study					
	1981	1987	1993	1999	2007	2009
Written philosophy of practice	22.1%	34.2%	44.5%	48.5%	53.3%	59.8%
Written practice objectives	15.0	24.6	32.0	30.6	33.1	39.4
Written practice plan	NA	12.6	20.4	19.1	21.2	21.8
Written practice budget	6.5	11.7	15.2	17.0	19.1	19.7
Office policy manual	54.7	59.7	69.7	72.9	79.6	83.7
Office procedure manual	NA	48.0	54.4	51.6	53.3	60.1
Written job descriptions	38.2	42.7	53.2	55.7	58.2	61.7
Written staff training program	NA	18.0	34.2	29.2	29.3	34.4
Staff meetings	67.7	78.5	83.0	80.6	83.7	84.2
Individual performance appraisals	32.3	48.9	54.0	59.3	66.4	66.5
Measurement of staff productivity	NA	11.8	16.4	15.8	17.4	16.6
In-depth analysis of practice activity	24.3	31.5	34.2	32.3	31.9	32.6
Practice promotion plan	NA	25.3	27.2	35.1	34.6	42.2
Dental management consultant	16.2	17.3	20.8	19.1	18.9	22.7
Patient satisfaction surveys	12.6	26.1	28.6	29.0	34.2	35.3
Employee with primary responsibility as communications supervisor	NA	25.8	29.7	25.9	25.3	23.6
Progress reports	NA	45.0	49.6	44.0	40.3	36.7
Post-treatment consultations	NA	44.3	41.6	36.6	31.6	32.3
Pretreatment flow control system	NA	48.4	50.9	48.4	46.1	46.6
Treatment flow control system	NA	18.6	22.7	25.1	23.4	23.6
Cases beyond estimate report	NA	18.7	22.6	25.1	28.7	33.9
Profit and loss statement	NA	65.6	70.3	73.6	75.8	73.6
Delinquent account register	NA	65.7	71.1	77.8	80.7	79.4
Monthly accounts-receivable reports	NA	62.3	72.9	79.4	78.8	83.5
Monthly contracts-written reports	NA	39.3	47.4	54.8	54.3	50.0
Measurement of case acceptance	NA	NA	43.4	46.7	50.5	52.8

used by more practices than in any previous Study: written philosophy of practice, written practice objectives, written practice budget, office policy manual, office procedure manual, written job descriptions, staff meetings, individual performance appraisals, practice promotion plan, dental management consultant, patient satisfaction surveys, cases beyond estimate report, accounts-receivable reports, and measurement of case acceptance.

Computer Usage

Computers were generally used more routinely than ever before, although fewer respondents than in 2007 reported using them for payroll, inventory control, and cephalometric analysis (Table 5). Tasks that were routinely computerized by more than 80% of the practices included patient accounting and billing, patient recall, insurance forms, appointment scheduling, practice analysis reports,

word processing and correspondence, and e-mail and Internet access. In addition, more than half of the respondents routinely used computers for payroll and expense records, treatment records, cephalometric analysis, digital diagnostic records, and practice website service.

Delegation

Delegation to staff members reached all-time highs in the 2007 Study, but dropped back closer to 2005 levels in the current survey (Table 6). That trend could be related to a slight decline in mean numbers of full-time employees, as will be reported in Part 3 of this series. Still, as many respondents or more than in any previous Study reported routinely delegating fabrication of archwires, insertion of removable appliances, adjustment of archwires and removable appliances, fee presentation, and post-treatment conferences. Removal of residual

**TABLE 5
ROUTINE COMPUTER USAGE**

	Year of Study					
	1981	1987	1993	1999	2007	2009
Patient accounting/billing	68.0%	74.1%	87.9%	92.2%	93.5%	94.3%
Payroll/expense records	45.0	41.5	51.2	47.8	65.0	63.4
Inventory control	NA	NA	NA	11.7	17.7	17.2
Patient recall	NA	52.0	71.7	82.3	84.2	85.7
Insurance forms	27.0	29.9	47.9	69.3	81.9	83.2
Appointment scheduling	14.0	22.1	46.0	71.1	89.4	92.2
Practice analysis reports	45.0	65.0	73.7	79.6	80.8	81.2
Word processing/correspondence	64.0	77.9	90.2	95.4	96.3	96.3
E-mail/Internet	NA	NA	NA	42.5	83.5	89.4
Treatment records	16.0	9.2	13.6	23.7	48.3	55.6
Cephalometric analysis	NA	NA	19.4	29.5	54.4	54.3
Digital diagnostic records	11.0	9.2	9.8	38.3	52.7	59.5
Monitoring treatment progress	18.0	9.2	13.1	17.0	30.8	34.5
Practice newsletter	NA	NA	8.9	11.7	18.8	25.5
Website service	NA	NA	NA	NA	57.5	66.7
Patient access to account and schedule	NA	NA	NA	NA	29.4	38.6
Patient access to own records	NA	NA	NA	NA	14.4	16.3
Referring dentist access to records	NA	NA	NA	NA	9.6	15.9
Remote access by orthodontist and staff	NA	NA	NA	NA	NA	45.1

adhesive and case presentations were also routinely delegated by higher percentages of respondents in 2009 than in 2007. Cephalometric tracings continued a gradual decline in routine delegation from a high in the inaugural 1981 Practice Study.

Use of Practice-Building Methods

Orthodontists appeared to focus on practice-building methods associated with patient relationships, especially fee-payment arrangements, during the economic downturn. Methods used by more

**TABLE 6
ROUTINE DELEGATION**

	Year of Study					
	1981	1987	1993	1999	2007	2009
<i>Record-Taking</i>						
Impressions for study models	59.2%	72.3%	80.8%	88.0%	93.6%	89.2%
X-rays	84.4	88.9	89.1	91.8	96.1	93.3
Cephalometric tracings	57.3	54.3	45.0	40.8	40.0	36.2
<i>Clinical</i>						
Impressions for appliances	47.3	62.6	66.7	72.3	83.7	80.6
Removal of residual adhesive	74.6	75.4	67.5	39.3	33.0	33.7
Fabrication of:						
Bands	37.5	45.6	53.4	53.7	55.6	53.2
Archwires	20.4	25.0	29.9	30.1	31.8	32.9
Removable appliances	46.1	43.0	42.1	45.0	47.9	41.6
Insertion of:						
Bands	7.0	12.0	14.3	18.9	32.0	30.1
Bonds	9.3	8.5	7.8	9.9	11.8	11.4
Archwires	26.2	34.6	43.2	47.7	61.6	61.3
Removable appliances	9.6	12.8	15.2	16.2	22.8	24.2
Adjustment of:						
Archwires	3.4	6.4	8.7	9.7	11.3	13.3
Removable appliances	2.3	4.5	5.1	7.6	9.2	10.5
Removal of:						
Bands	28.2	41.2	45.7	50.3	58.9	55.5
Bonds	24.8	40.3	42.6	48.7	54.2	53.7
Archwires	66.0	73.1	74.6	75.2	82.9	80.1
<i>Administrative</i>						
Case presentation	3.6	10.2	13.7	19.6	23.7	23.9
Fee presentation	15.9	24.0	39.9	60.8	73.4	75.1
Financial arrangements	50.3	61.0	70.9	80.0	88.1	87.4
Progress reports	9.0	17.7	18.2	21.9	28.4	26.0
Post-treatment conferences	3.9	12.5	11.9	16.0	16.2	18.6
Patient instruction and education	73.8	83.3	82.7	85.1	89.2	88.2

TABLE 7
USE OF PRACTICE-BUILDING METHODS

	Year of Study					
	1981	1987	1993	1999	2007	2009
Change practice location	20.1%	28.1%	31.9%	29.3%	31.2%	29.5%
Expand practice hours:						
Open one or more evenings/week	NA	24.0	31.5	24.8	16.0	17.4
Open one or more Saturdays/month	NA	21.4	22.4	16.7	9.5	11.6
Open a satellite office	39.9	45.2	41.9	36.4	34.5	32.6
Participate in community activities	61.5	57.3	60.1	56.2	53.8	62.1
Participate in dental society activities	67.0	63.1	62.6	57.0	57.4	60.8
Seek referrals from general dentists:						
Letters of appreciation	81.9	85.7	80.5	77.7	72.5	70.5
Entertainment	61.6	59.2	62.5	56.2	54.9	57.4
Gifts	45.2	65.4	64.2	68.2	76.5	74.5
Education of GPs	41.2	40.5	37.9	35.9	36.3	40.8
Reports to GPs	64.5	70.4	72.2	73.1	69.7	69.2
Seek referrals from patients and parents:						
Letters of appreciation	62.8	78.1	71.0	66.1	58.7	62.1
Follow-up calls after difficult appts.	NA	62.5	67.4	65.7	66.8	67.9
Entertainment	17.1	10.4	12.9	16.4	22.4	27.6
Gifts	16.3	22.0	25.3	32.6	41.3	46.6
Seek referrals from staff members	NA	52.1	51.1	49.3	55.8	56.8
Seek referrals from other professionals (non-dentists)	NA	32.6	32.0	23.1	24.2	25.8
Treat adult patients	51.0	91.0	84.5	85.9	83.1	85.0
Improve scheduling:						
On time for appointments	47.4	68.2	72.8	74.4	69.7	77.1
On-time case finishing	NA	57.8	60.1	63.3	59.8	68.9
Improve case presentation	44.4	42.9	48.6	53.1	48.6	49.7
Improve staff management	47.5	45.0	46.8	45.2	42.6	44.7
Improve patient education	27.7	37.0	40.3	45.1	42.4	45.3
Expand services:						
TMJ	NA	55.1	42.8	29.5	22.2	24.2
Functional appliances	NA	64.8	47.2	34.6	26.2	28.9
Lingual orthodontics	NA	32.4	15.6	11.0	7.3	17.4
Surgical orthodontics	NA	73.0	58.9	45.9	38.0	43.2
Invisalign treatment	NA	NA	NA	NA	60.2	53.5
Cosmetic/laser treatment	NA	NA	NA	NA	NA	15.8
Patient motivation techniques	NA	30.5	34.9	41.6	40.4	40.3
No-charge initial visit	42.6	56.4	65.9	68.7	76.7	79.7
No-charge diagnostic records	NA	NA	NA	NA	21.8	27.6
No initial payment	NA	NA	NA	NA	15.2	17.1
Discount for up-front payment	NA	NA	NA	NA	NA	81.3
Extended payment period	NA	NA	NA	NA	35.4	48.4
Practice newsletter	NA	20.0	16.6	13.9	18.7	21.3
Personal publicity in local media	NA	14.2	12.3	14.9	18.2	19.5
Advertising:						
Telephone yellow pages	35.5	NA	NA	NA	NA	NA
Boldface listing	NA	38.9	49.4	47.9	63.1	60.0
Display listing	NA	10.3	16.2	21.0	30.5	30.5
Local newspapers	2.4	8.8	9.2	16.4	24.0	22.6
Local TV and/or radio	0.5	1.3	1.4	NA	NA	NA
TV	NA	NA	NA	3.0	6.4	5.5
Radio	NA	NA	NA	4.8	7.9	7.1
Direct-mail promotion	1.0	5.8	6.6	8.2	21.3	17.9
Managed care	NA	NA	NA	16.1	13.2	13.2
Affiliation with mgt. service organization	NA	NA	NA	7.7	1.7	3.3

**TABLE 8
SOURCES OF REFERRALS**

	% of Practices Using Source					Median % of Referrals (All Practices)				
	1983	1989	1997	2007	2009	1983	1989	1997	2007	2009
Other Dentists (GPs)	98.0	99.2	98.7	99.4	97.8	50.2	50.0	50.0	48.0	41.0
Other Dentists (specialists)	68.4	71.7	65.9	69.4	69.5	2.4	2.0	2.0	2.0	2.0
Patients	97.8	98.8	97.6	99.2	97.4	30.7	30.0	30.0	30.0	35.0
Personal Contacts	NA	66.6	65.5	64.6	64.4	NA	2.0	2.0	2.0	2.0
Transfers	NA	74.2	67.6	64.2	57.9	NA	1.0	1.0	1.0	1.0
Staff	54.0	51.5	51.2	52.5	48.8	0.8	1.0	1.0	1.0	0.0
Other Professionals	41.2	32.9	23.8	18.9	20.7	0.3	0.0	0.0	0.0	0.0
Dental Franchises	NA	0.7	1.5	1.4	0.7	NA	0.0	0.0	0.0	0.0
Dental Referral Service	3.8	2.9	2.3	1.8	1.9	0.0	0.0	0.0	0.0	0.0
Direct-Mail Advertising	1.2	2.6	3.6	9.9	8.7	0.0	0.0	0.0	0.0	0.0
Yellow Pages	47.2	45.8	43.8	45.9	40.1	0.4	0.0	0.0	0.0	0.0
Commercial Advertising	1.8	4.2	7.7	15.1	13.7	0.0	0.0	0.0	0.0	0.0
Drive-By Signage	NA	NA	NA	28.8	26.9	NA	NA	NA	0.0	0.0
Managed Care (Capitation/Closed Panel)	3.7	6.9	18.1	9.3	11.3	0.0	0.0	0.0	0.0	0.0

respondents than ever before included participate in community activities, entertainment of and gifts to patients and parents, seek referrals from staff members, on time for appointments, on-time case finishing, improve patient education, no-charge initial visit, no-charge diagnostic records, no initial payment, extended payment period, practice newsletter, and personal publicity in local media (Table 7).

The use of functional appliances, lingual orthodontics, and surgical orthodontics continued a modest upsurge first noted in the 2007 Study, while Invisalign usage declined in comparison to the previous survey. Cosmetic and laser treatment, which had not been measured before, was offered by about 16% of the practices. For the first time, fewer respondents reported using advertising methods than two years earlier.

Sources of Referrals

The median percentage of referrals attributed to general dentists dropped further from its previous low in the 2007 Study, while respondents relied more heavily on patient referrals than ever before (Table 8). The percentages do not add up to 100% because medians are reported instead of means. As in previous surveys, other dentists and personal contacts each provided a median of 2% and transfers 1% of respondents' referrals. Advertising methods declined in usage compared to the 2007 Study, corroborating the findings of Table 7.

(TO BE CONTINUED)