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# 1999 JCO Orthodontic Practice Study

## Part 1 Trends

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**T**he three-part report beginning in this issue marks JCO's 10th biennial Orthodontic Practice Study. In this month's article, we will cover trends in orthodontic economics and practice administration since the first Study was conducted in 1981. The next two issues will include reports on factors that seem related to practice success. A published report (*1999 JCO Orthodontic Practice Study*, Index Publishers Corp., Boulder, CO, 1999) contains the complete Study results, methodology, and questionnaire.

### Methodology

The 1999 JCO Orthodontic Practice Study was mailed on April 30, 1999, to 8,934 orthodontists, which we believed to be virtually all the practicing specialists in the United States. A second questionnaire was mailed as a reminder to the same group on May 21, 1999. Of these orthodontists, 883 returned their questionnaires, for a response rate of 9.9%.

The answers to the survey were entered on computer by an independent company and analyzed by the Statistical Package for the Social Sciences. Several exclusions were made to ensure that the Study included only single-owner, full-time orthodontic practices. As in previous reports, any practices with multiple owners

or with gross incomes of less than \$60,000 and fewer than 50 case starts in 1998 were excluded from the tabulations. Questionnaires that were illegible or obviously invalid were also excluded, leaving 746 questionnaires for the final tabulations.

In this report, we usually show the median (the middle number when all responses are arranged in order from highest to lowest) instead of the mean (the arithmetic average), because the median is less likely to be influenced by extremely high or low responses. Means must be used for tests of statistical significance.

Annual totals, such as income and number of cases, refer to the calendar year preceding the Study year—in this case, calendar year 1998. For space and clarity, the tables on trends since the 1981 Study show only the figures from the 1981, 1985, 1989, 1993, and 1997 surveys. Although the 1983, 1987, 1991, and 1995 results are omitted, in almost all cases they were close to the figures on either side.

### Limitations

Responses to the Practice Studies have been remarkably consistent over the 18 years of these surveys, but we cannot exclude the possibility that essentially the same practices are

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responding to each questionnaire. Still, the quantity and geographic distribution of the responses tend to confirm the validity of the data.

The accuracy of individual responses could not, of course, be independently verified, since the questionnaires were mailed anonymously. Any answers that were clearly out of the range of possibility were not included in those particular tabulations.

Another point to remember is that a statistical relationship does not necessarily prove a causal relationship. For example, if the Study shows practices that routinely delegate a certain task have greater numbers of case starts than other practices, this does not mean the delegation was a direct cause of the patient starts. The elements of a successful practice are multifactorial, and can only be appreciated by taking in the overall picture presented in this report.

### Practice Activity

Buoyed by rising numbers of child patients and declining overhead rates, respondents reported the greatest two-year increase in median net income in the history of the Practice Studies—from \$224,000 to \$300,000 (Table 1). While median expenses rose about 8% since the 1997 Study, case starts increased for the fourth consecutive period, by about 11%, and gross income rose by nearly 16%. With percentages of adult patients remaining fairly constant, the added starts can be attributed almost entirely to a demographic surge in the adolescent population per orthodontist.

The median overhead rate declined by the greatest percentage since the first Practice Study, after staying at virtually the same level since the 1989 report. Respondents continued to report about a 4% annual increase in child and adult fees, as in the 1997 Study; for the first time, however, the reported increase was borne out in the actual increase in median fees between 1996 and 1998.

Percentages of third-party cases and acceptance of assignment of benefits stayed about the same as in the last survey, as did other financial

policies. Routine billing of patients showed the first decline (albeit a small one) since the first Practice Study.

### Years in Practice

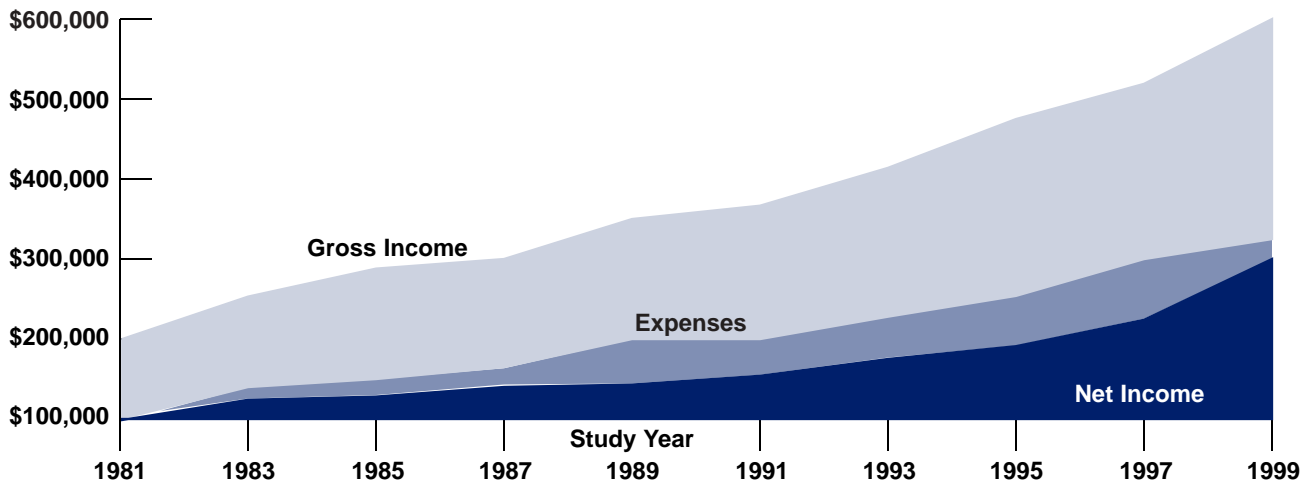
The median age and number of years in practice of respondents continued a gradual increase. With the average practitioner, now 49 years old, having been in practice for 19 years, there was not as sharp a decline in income and numbers of patients after 20 years in practice as in previous studies (Table 2). However, the peak income-producing period still seemed to be at 11-15 years in practice. There was almost no difference in case fees among the different age groups.

Respondents who had been in practice 16-20 years showed lower median expenses and overhead rate since the 1997 Study. Other median income, expense, and case load figures were higher across the board.

### Geographic Region

Every region of the country reported higher median income and case starts than in the previous survey, except that case starts declined slightly in the West South Central region (Table 3). The median overhead rate declined or stayed the same in every region except West South Central and South Atlantic, where it showed modest increases. Median child fees were higher by \$120 (Pacific) to \$450 (New England) than in 1997.

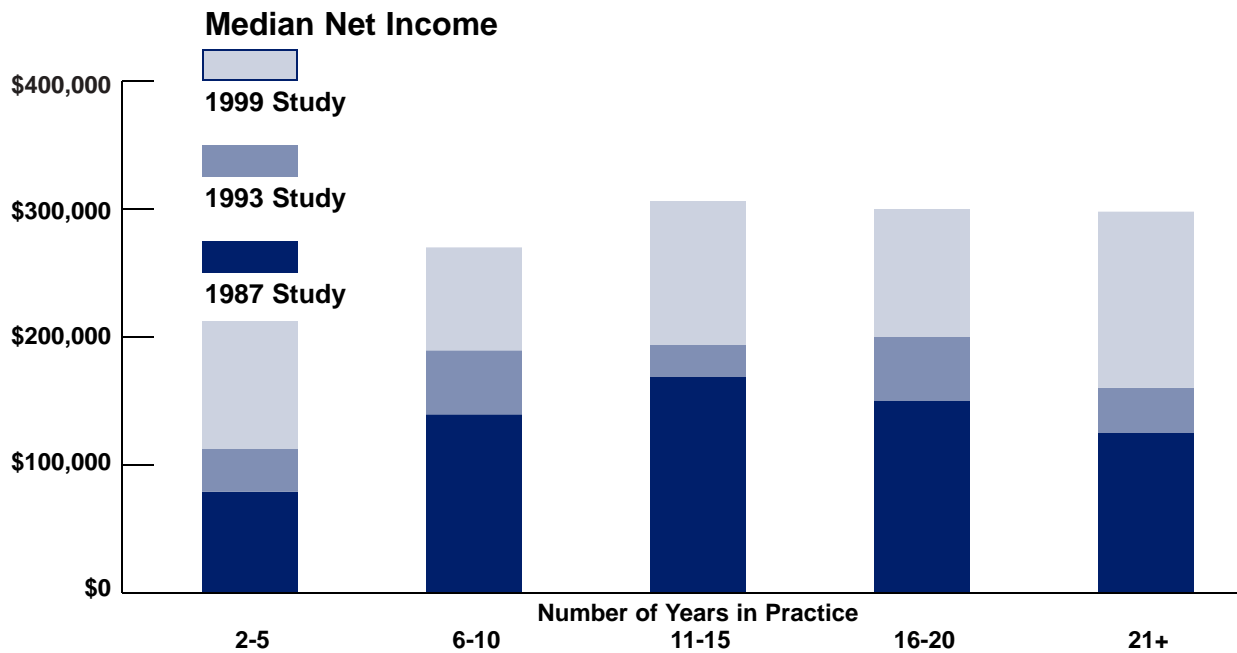
The West North Central region showed the greatest percentage increase in median gross income (32%), followed by the South Atlantic and Mountain (28%) and East South Central (22%) regions. The largest increases in median net income were reported in the New England (50%), Mountain (34%), and West North Central (33%) regions. West North Central (23%) and South Atlantic (14%) orthodontists reported the greatest rises in median case starts.



**TABLE 1  
PRACTICE ACTIVITY (MEDIANS)**

	Year of Study*					
	1981	1985	1989	1993	1997	1999
Age	42	44	45	47	48	49
Years in Practice	12	14	15	16	17	19
Gross Income	\$200,003	\$288,012	\$350,000	\$414,000	\$518,800	\$600,000
Expenses	\$100,003	\$149,999	\$200,000	\$228,400	\$300,000	\$325,000
Net Income	\$102,000	\$127,603	\$143,000	\$175,000	\$224,000	\$300,000
Overhead Rate	49%	51%	56%	56%	55%	53%
Case Starts	150	150	150	160	180	200
Adult Case Starts	15.4%	20.3%	22.3%	20.2%	19.1%	18.8%
Active Treatment Cases	300	350	350	366	400	450
Female Active Cases	NA	NA	60.0%	60.0%	60%	60%
Adult Active Cases	15.2%	20.2%	20.0%	18.2%	15.4%	15.5%
Adult Female/Adult Active Cases	NA	NA	70.1%	70.6%	70.3%	69.8%
Child Fee (permanent dentition)	\$1,900	\$2,301	\$2,800	\$3,200	\$3,600	\$3,880
Adult Fee	\$2,100	\$2,501	\$3,000	\$3,500	\$3,900	\$4,200
Two-Year Fee Increase (reported)	15.5%	11.2%	10.0%	10.0%	8.0%	8.0%
Initial Payment	25%	25%	25%	25%	25%	25%
Payment Period (months)	24	24	24	24	24	24
Patients Routinely Billed	30.9%	27.7%	31.6%	38.5%	47.9%	47.2%
Patients per Day	38.4	40.3	40.0	40.0	45.0	45.0
Additional Cases That Could Have Been Handled	49.9	49.9	50.0	50.0	50.0	50.0
Patients Covered by Third Party	35.3%	40.1%	41.3%	45.0%	40.0%	40.0%
% Gross Attributed to Third Party	20.0%	19.7%	25.0%	25.0%	25.0%	25.0%
Accept Assignment of Benefits	37.5%	34.9%	54.7%	68.2%	76.1%	76.4%

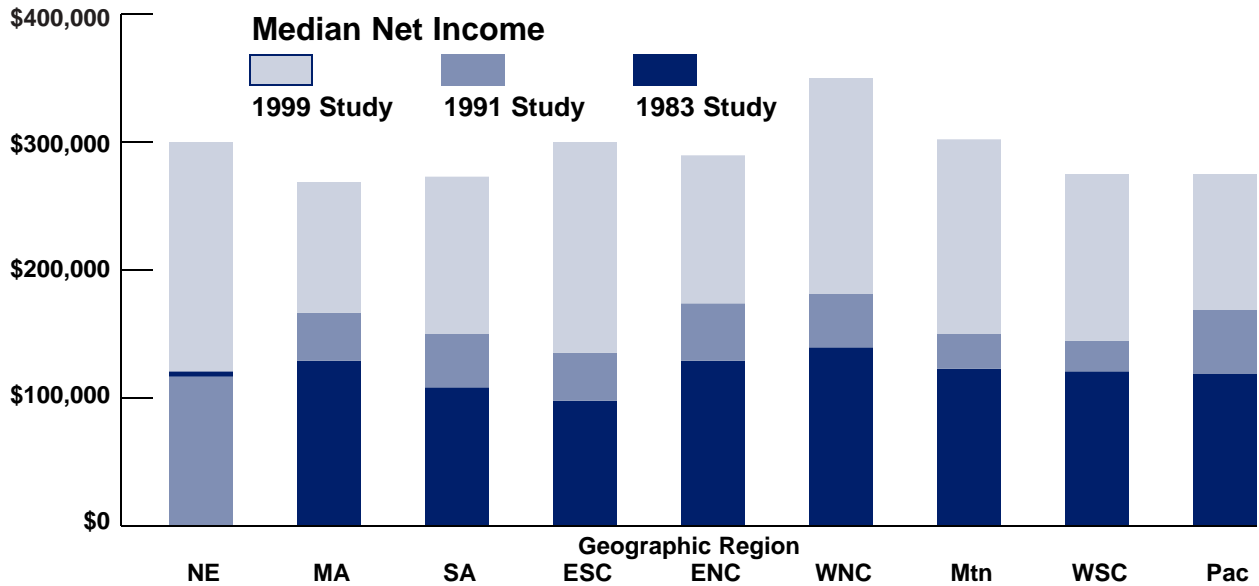
\*Dollar amounts and numbers of patients refer to preceding calendar year.



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

	1999 Study				
	2-5	6-10	11-15	16-20	21 or more
Gross Income	\$499,000	\$575,000	\$720,000	\$650,000	\$600,000
Expenses	\$273,477	\$309,000	\$383,000	\$300,000	\$333,783
Net Income	\$213,219	\$270,000	\$306,025	\$300,000	\$298,200
Overhead Rate	60%	52%	53%	50%	52%
Case Starts	180	200	240	200	199
Active Cases	390	415	550	481	425
Child Fee	\$3,820	\$3,880	\$3,870	\$3,900	\$3,900
Adult Fee	\$4,100	\$4,100	\$4,100	\$4,200	\$4,200

	1997 Study				
	2-5	6-10	11-15	16-20	21 or more
Gross Income	\$391,000	\$506,000	\$600,000	\$550,000	\$540,000
Expenses	\$250,000	\$291,500	\$297,500	\$328,246	\$303,246
Net Income	\$155,000	\$216,204	\$250,000	\$275,000	\$225,342
Overhead Rate	57%	56%	52%	55%	55%
Case Starts	140	182	207	200	175
Active Cases	300	400	450	450	400
Child Fee	\$3,600	\$3,600	\$3,615	\$3,600	\$3,685
Adult Fee	\$3,870	\$3,800	\$3,880	\$3,900	\$4,000



**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)	\$550,000	\$300,000	50%	175	\$3,950
Middle Atlantic (NJ,NY,PA)	550,000	264,375	52%	200	3,975
South Atlantic (DE,DC,FL,GA,MD,NC,SC,VA,WV)	629,000	272,500	54%	200	3,860
East South Central (AL,KY,MS,TN)	673,000	300,000	50%	200	3,700
East North Central (IL,IN,MI,OH,WI)	645,000	290,000	55%	210	3,880
West North Central (IA,KS,MN,MO,NE,ND,SD)	700,000	350,000	50%	221	3,800
Mountain (AZ,CO,ID,MT,NV,NM,UT,WY)	646,000	300,500	50%	196	3,850
West South Central (AR,LA,OK,TX)	600,000	275,000	54%	190	3,850
Pacific (AK,CA,HI,OR,WA)	600,000	275,000	55%	185	4,000

**Use of Management Methods**

Routine delegation and usage of most of the management and practice-building methods surveyed have leveled out since the 1991 Study. Over the past two years, at least, orthodontists appear to have concentrated on practice administration rather than on marketing techniques (other than direct advertising).

The management methods that reached all-time highs in usage in the 1999 Study were office

policy manual, individual performance appraisals, practice promotion plan, treatment flow control system, profit and loss statement, delinquent account register, accounts-receivable reports, and contracts-written reports (Table 4). On the other hand, eight methods declined in usage since the 1997 Study.

Computer ownership continued to rise, although at this point nearly every practice in the country appears to own or lease a computer.

**TABLE 4  
USE OF MANAGEMENT METHODS**

	Year of Study					
	1981	1985	1989	1993	1997	1999
Written philosophy of practice	22.1%	30.7%	39.1%	44.5%	48.6%	48.5%
Written practice objectives	15.0	22.6	27.8	32.0	29.4	30.6
Written practice plan	NA	NA	16.3	20.4	17.8	19.1
Written practice budget	6.5	8.0	14.4	15.2	16.2	17.0
Office policy manual	54.7	61.5	59.3	69.7	71.8	72.9
Office procedure manual	NA	49.4	46.0	54.4	51.8	51.6
Written job descriptions	38.2	41.7	45.0	53.2	55.7	55.7
Written staff training program	NA	20.2	22.2	34.2	27.1	29.2
Staff meetings	67.7	76.1	80.8	83.0	82.2	80.6
Individual performance appraisals	32.3	42.6	49.8	54.0	56.9	59.3
Measurement of staff productivity	NA	NA	11.1	16.4	15.7	15.8
In-depth analysis of practice activity	24.3	36.5	30.0	34.2	30.6	32.3
Practice promotion plan	NA	26.3	28.4	27.2	31.0	35.1
Dental management consultant	16.2	17.2	18.8	20.8	18.7	19.1
Patient satisfaction surveys	12.6	22.6	27.8	28.6	29.9	29.0
Employee with primary responsibility as communications supervisor	NA	22.1	25.7	29.7	29.6	25.9
Progress reports	NA	41.7	46.7	49.6	42.5	44.0
Post-treatment consultations	NA	36.2	42.5	41.6	38.5	36.6
Pretreatment flow control system	NA	48.5	52.6	50.9	48.6	48.4
Treatment flow control system	NA	20.2	19.2	22.7	23.4	25.1
Cases beyond estimate report	NA	NA	19.7	22.6	26.5	25.1
Profit and loss statement	NA	65.8	67.5	70.3	72.1	73.6
Delinquent account register	NA	61.4	67.8	71.1	76.2	77.8
Accounts-receivable reports	NA	58.0	64.7	72.9	78.9	79.4
Contracts-written reports	NA	42.1	40.6	47.4	49.0	54.8
Measurement of case acceptance	NA	NA	34.4	43.4	47.0	67.7
Own or lease in-office computer	4.0	31.7	51.7	72.7	87.4	93.1

**Delegation**

While overall delegation did not increase appreciably since the last report, many of the tasks still reached their highest level of routine delegation (Table 5). These were impressions for study models and appliances; fabrication of arch-

wires; insertion of bands, bonds, archwires, and removable appliances; adjustment of archwires and removable appliances; removal of bands and bonds; case and fee presentations; financial arrangements; and patient instruction and education.

**TABLE 5**  
**ROUTINE DELEGATION**

	Year of Study					
	1981	1985	1989	1993	1997	1999
<i>Record-Taking</i>						
Impressions for study models	59.2%	68.7%	74.8%	80.8%	86.9%	88.0%
X-rays	84.4	84.6	89.3	89.1	91.9	91.8
Cephalometric tracings	57.3	55.4	50.9	45.0	40.5	40.8
<i>Clinical</i>						
Impressions for appliances	47.3	56.3	62.1	66.7	71.9	72.3
Removal of residual adhesive	74.6	75.0	70.1	67.5	39.4	39.3
Fabrication of:						
Bands	37.5	43.1	49.4	53.4	56.0	53.7
Bonds	30.8	30.4	33.4	31.1	30.8	31.9
Archwires	20.4	25.5	28.7	29.9	27.3	30.1
Removable appliances	46.1	40.6	45.9	42.1	40.6	45.0
Insertion of:						
Bands	7.0	8.8	12.7	14.3	17.4	18.9
Bonds	9.3	8.0	9.0	7.8	8.5	9.9
Archwires	26.2	31.8	38.5	43.2	46.4	47.7
Removable appliances	9.6	12.1	14.9	15.2	15.8	16.2
Adjustment of:						
Archwires	3.4	5.6	5.6	8.7	9.4	9.7
Removable appliances	2.3	3.9	4.5	5.1	5.9	7.6
Removal of:						
Bands	28.2	35.4	41.0	45.7	48.4	50.3
Bonds	24.8	36.0	38.8	42.6	46.6	48.7
Archwires	66.0	66.5	72.1	74.6	75.6	75.2
<i>Administrative</i>						
Case presentation	3.6	7.3	11.8	13.7	18.5	19.6
Fee presentation	15.9	23.3	30.0	39.9	51.6	60.8
Financial arrangements	50.3	59.5	64.8	70.9	76.8	80.0
Progress reports	9.0	17.9	16.5	18.2	24.3	21.9
Post-treatment conferences	3.9	12.1	12.3	11.9	15.1	16.0
Patient instruction and education	73.8	78.9	80.9	82.7	84.2	85.1

**TABLE 6**  
**USE OF PRACTICE-BUILDING METHODS**

	Year of Study					
	1981	1985	1989	1993	1997	1999
Change practice location	20.1%	27.2%	29.2%	31.9%	27.8%	29.3%
Expand practice hours:	16.2	NA	NA	NA	NA	NA
Open one or more evenings/week	NA	18.1	29.6	31.5	26.9	24.8
Open one or more Saturdays/month	NA	17.8	23.0	22.4	15.7	16.7
Open a satellite office	39.9	40.4	46.9	41.9	40.1	36.4
Participate in community activities	61.5	53.5	59.1	60.1	58.8	56.2
Participate in dental society activities	67.0	57.3	64.6	62.6	59.3	57.0
Seek referrals from general dentists:						
Letters of appreciation	81.9	80.4	83.7	80.5	79.0	77.7
Entertainment	61.6	58.6	62.6	62.5	58.7	56.2
Gifts	45.2	52.3	62.2	64.2	68.9	68.2
No-charge initial visit	42.6	50.3	60.5	65.9	67.9	68.7
Education of GPs	41.2	37.9	42.7	37.9	37.5	35.9
Reports to GPs	64.5	68.7	75.2	72.2	71.8	73.1
Seek referrals from patients and parents:						
Letters of appreciation	62.8	71.4	78.2	71.0	70.1	66.1
Follow-up calls after difficult appts.	NA	57.3	67.5	67.4	68.6	65.7
Entertainment	17.1	9.0	10.7	12.9	14.5	16.4
Gifts	16.3	17.0	23.0	25.3	33.2	32.6
Seek referrals from staff members	NA	43.9	53.9	51.1	53.9	49.3
Seek referrals from other professionals (non-dentists)	NA	30.5	33.5	32.0	30.0	23.1
Treat adult patients	51.0	89.2	88.0	84.5	84.7	85.9
Improve scheduling:						
On time for appointments	47.4	68.2	72.7	72.8	71.2	74.4
On-time case finishing	NA	54.7	58.8	60.1	61.1	63.3
Improve case presentation	44.4	NA	48.9	48.6	52.4	53.1
Improve staff management	47.5	48.5	46.1	46.8	44.1	45.2
Improve patient education	27.7	43.7	39.7	40.3	43.5	45.1
Expand services:						
TMJ	NA	54.4	55.7	42.8	34.4	29.5
Functional appliances	NA	63.8	58.8	47.2	36.6	34.6
Lingual orthodontics	NA	39.0	24.3	15.6	12.3	11.0
Surgical orthodontics	NA	71.6	69.9	58.9	51.8	45.9
Patient motivation techniques	NA	28.2	34.0	34.9	38.2	41.6
Reduced fee incentives	9.1	15.1	15.8	19.0	24.8	21.0
More lenient fee payment arrangements	30.6	56.7	56.2	62.0	66.3	55.6
Practice newsletter	NA	14.5	19.6	16.6	13.9	13.9
Personal publicity in local media	NA	9.9	14.0	12.3	15.3	14.9
Advertising:						
Telephone yellow pages	35.5	NA	NA	NA	NA	NA
Boldface listing	NA	36.6	42.2	49.4	53.2	47.9
Display listing	NA	7.0	12.2	16.2	20.3	21.0
Local newspapers	2.4	5.2	8.0	9.2	15.3	16.4
Local TV and/or radio	0.5	1.0	1.9	1.4	NA	NA
TV	NA	NA	NA	NA	1.8	3.0
Radio	NA	NA	NA	NA	3.5	4.8
Direct-mail promotion	1.0	4.7	6.3	6.6	6.5	8.2
Closed-panel contracting	1.8	5.0	8.1	8.3	NA	NA
Capitation contracting	NA	NA	5.1	4.6	NA	NA
Managed care	NA	NA	NA	NA	20.1	16.1
Affiliation with mgt. service organization	NA	NA	NA	NA	NA	7.7



Of the administrative tasks listed, the majority of orthodontists seemed to be delegating financial arrangements and patient education, while retaining case presentation and treatment conferences as duties of the doctor.

**Use of Practice-Building Methods**

As with management methods, respondents appeared to be focusing on practice administration, while still paying attention to patient recruitment. Methods that were used by greater percentages of respondents than ever before were no-charge initial visit, on time for appointments, on-time case finishing, improved case presentation, improved patient education, patient motivation techniques, and advertising by yellow pages display listing, newspapers, TV, and radio (Table 6).

On the other hand, such traditional practice-building techniques as changing practice location, expanded hours, opening a satellite office, participating in community and dental society activities, letters of appreciation, seeking

referrals from staff members and from other professionals, and expanded services continued a general decline.

**Sources of Referrals**

Referral sources remained about the same as they have since the subject was first surveyed in 1983 (Table 7). Referrals from general dentists still made up a median of 50% of all referrals, patients 30%, and other sources 2% or less. (Because medians are reported rather than means, the columns of percentages in the table do not add up to 100%.)

Nearly all practices reported receiving referrals from general dentists and patients, while about two-thirds of the respondents said they had referrals from other specialists, personal contacts, or transfer cases. Slightly less than half used staff members or the yellow pages for referrals, and less than one-fourth reported referrals from other professionals.

(TO BE CONTINUED)

**TABLE 7  
SOURCES OF REFERRALS**

	% of Practices Using Source				Median % of Referrals (All Practices)			
	1983	1989	1995	1999	1983	1989	1995	1999
Other Dentists (GPs)	98.0	99.2	98.8	98.9	50.2	50.0	50.0	50.0
Other Dentists (specialists)	68.4	71.7	69.3	65.3	2.4	2.0	2.0	2.0
Patients	97.8	98.8	98.7	98.4	30.7	30.0	30.0	30.0
Personal Contacts	NA	66.6	66.9	64.6	NA	2.0	2.0	2.0
Transfers	NA	74.2	72.1	65.0	NA	1.0	1.0	1.0
Staff	54.0	51.5	53.1	49.4	0.8	1.0	1.0	0.0
Other Professionals	41.2	32.9	27.2	23.9	0.3	0.0	0.0	0.0
Dental Franchises	NA	0.7	0.6	1.3	NA	0.0	0.0	0.0
Dental Referral Service	3.8	2.9	2.7	2.0	0.0	0.0	0.0	0.0
Direct-Mail Advertising	1.2	2.6	3.5	4.6	0.0	0.0	0.0	0.0
Yellow Pages	47.2	45.8	47.1	40.9	0.4	0.0	0.0	0.0
Commercial Advertising	1.8	4.2	6.7	9.1	0.0	0.0	0.0	0.0
Managed Care (Capitation/Closed Panel)	3.7	6.9	11.5	14.6	0.0	0.0	0.0	0.0