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# 2001 JCO Orthodontic Practice Study

## Part 1 Trends

EUGENE L. GOTTLIEB, DDS  
ALLEN H. NELSON, PHD  
DAVID S. VOGELS III

**T**his three-part series will report the key results of the latest JCO Orthodontic Practice Study, which has been conducted every two years since 1981. The first article examines trends in orthodontic economics and practice administration over the past 20 years. In the following two issues, we will discuss factors that seem to be related to practice success and practice growth. The complete Practice Study results, methodology, and questionnaire are published separately (*2001 JCO Orthodontic Practice Study*, Index Publishers Corp., Boulder, CO, 2001).

### Methodology

The 2001 JCO Orthodontic Practice Study questionnaire was mailed on April 23, 2001, to 9,058 orthodontists—virtually all the practicing specialists in the United States. As a reminder, a second questionnaire was mailed to the same group on May 21, 2001. A total of 814 orthodontists returned their survey forms, making a response rate of 9%.

An independent company entered the individual responses on computer. Data analysis was conducted using the Statistical Package for the Social Sciences. Several overall exclusions were made, as had been done in previous reports. To ensure that the Study represented only single-

owner, full-time orthodontic practices, respondents with multiple owners or with gross incomes of less than \$60,000 and fewer than 50 case starts in 2000 were eliminated from the analysis. In addition, any questionnaires that were illegible or obviously invalid were also excluded. This left 683 questionnaires for the final tabulations.

Most of the tables in these articles report the median, which is the middle number when all responses are arranged in order from highest to lowest, instead of the mean, which is the arithmetic average. This is because the median is considered less likely to be influenced by extremely high or low responses. Means must be used, however, for any tests of statistical significance.

Any annual totals, such as numbers of cases and income figures, refer to the preceding calendar year—in this Study, calendar year 2000. For purposes of space and clarity, the tables on trends omit data from 1983, 1987, 1991, 1995, and 1997. Those figures were published in the respective years, but generally reflect the same trends shown in the tables.

### Limitations

Potential limits to the accuracy of this Practice Study include the frequency of responses

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Dr. Gottlieb is Senior Editor and Mr. Vogels is Managing Editor of the *Journal of Clinical Orthodontics*, 1828 Pearl St., Boulder, CO 80302. Dr. Nelson is Director and Research Consultant, Nelson Associates, Nederland, CO.



Dr. Gottlieb



Dr. Nelson



Mr. Vogels

and the possibility that answers were not given accurately. The geographic distribution of the respondents and the consistency of the data over the past 20 years tend to confirm the validity of the data. Although the accuracy of individual responses could not be independently verified, any answers that were illegible or were clearly impossible were excluded from the appropriate tables.

We will attempt to draw reasonable conclusions from the data presented in this series, but we must point out that a statistical relationship does not prove a causal relationship. If practices that use a particular management method have more net income than respondents who didn't use the method, this does not necessarily indicate that the management method *caused* the increased income. Many other factors may have been involved in the success of those practices.

### Practice Activity

The orthodontic boom that began around 1990 continued virtually unabated, with signs of economic slowdown visible only in respondents' current and predicted growth trends (see Part 3, JCO, December 2001). The median number of case starts increased for the fifth consecutive Study, but by only 9%, compared to 11% between 1996 and 1998 (Table 1). The percentages of adult patients and case starts rose for the first time since the 1987 Study.

Median gross income increased by nearly 19% since 1998. Both median expenses and median net income rose by about 17%, and the median overhead rate declined for the second consecutive Study.

The reported fee increase of 10% between 1998 and 2000 was higher than the 8% of the past two studies, but the actual two-year increase in median fees, about 7%, was about the same as in previous reports. With inflation remaining moderate, it appears orthodontists are continuing to raise their fees 4-5% per year.

Acceptance of assignment of benefits and routine billing of patients continued a gradual increase evidenced over the past 20 years. In an additional question not surveyed previously, two-

thirds of the respondents said they used third-party financing such as Orthodontists Fee Plan. Other financial policies were about the same as in past studies.

### Years in Practice

For the first time, respondents' median age and number of years in practice did not increase in the two years between reports. The median age remained at 49, and the median number of years in practice dropped from 19 to 18. Still, the peak of income production shifted from 11-15 years in practice, where it had been since this division was made in the 1987 Study, to 16-20 years in practice (Table 2).

The greatest increase in gross income since the previous survey (39%) was in the 6-to-10-year group, but the 16-to-20-year group showed the greatest increases in net income (43%) and expenses (50%). The newest practices had a considerable drop in the median overhead rate, with other groups staying about the same. As in previous studies, there was little difference in case fees relative to years in practice.

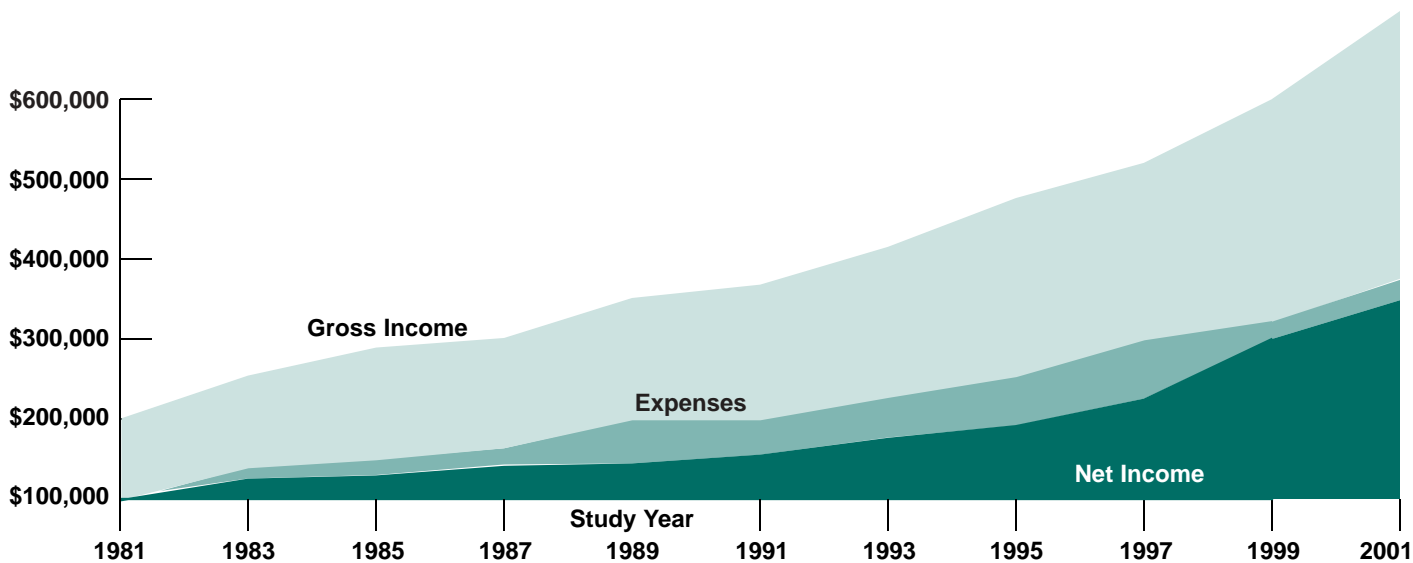
### Geographic Region

Respondents in every geographic region reported higher median gross income than in the 1999 Study, with the greatest increases (27%) in the Middle Atlantic and South Atlantic regions (Table 3). Median net income increased in every region except New England and the Pacific; these two areas, along with the West North Central region, also showed increases in median overhead rates.

Median case starts increased across the country, led by the Mountain (17%) and East North Central (14%) regions. Two-year increases in median child fees were around 8% in every region except the West South Central, where fees rose only about 3%.

### Use of Management Methods

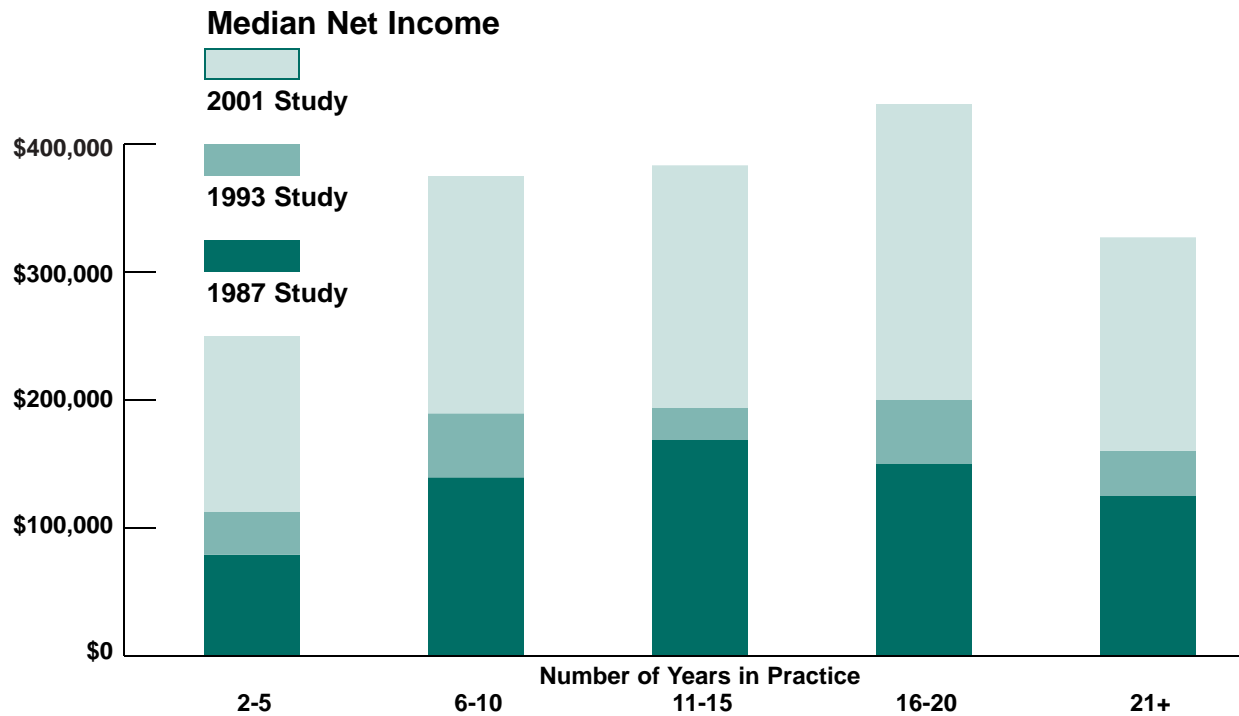
Most of the management surveyed were



**TABLE 1  
PRACTICE ACTIVITY (MEDIAN)**

	Year of Study*					
	1981	1985	1989	1993	1999	2001
Age	42	44	45	47	49	49
Years in Practice	12	14	15	16	19	18
Gross Income	\$200,003	\$288,012	\$350,000	\$414,000	\$600,000	\$713,000
Expenses	\$100,003	\$149,999	\$200,000	\$228,400	\$325,000	\$380,000
Net Income	\$102,000	\$127,603	\$143,000	\$175,000	\$300,000	\$350,000
Overhead Rate	49%	51%	56%	56%	53%	52%
Case Starts	150	150	150	160	200	219
Adult Case Starts	15.4%	20.3%	22.3%	20.2%	18.8%	19.9%
Active Treatment Cases	300	350	350	366	450	488
Female Active Cases	NA	NA	60.0%	60.0%	60%	60%
Adult Active Cases	15.2%	20.2%	20.0%	18.2%	15.5%	16.7%
Adult Female/Adult Active Cases	NA	NA	70.1%	70.6%	69.8%	70.3%
Child Fee (permanent dentition)	\$1,900	\$2,301	\$2,800	\$3,200	\$3,880	\$4,150
Adult Fee	\$2,100	\$2,501	\$3,000	\$3,500	\$4,200	\$4,480
Two-Year Fee Increase (reported)	15.5%	11.2%	10.0%	10.0%	8.0%	10.0%
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%	47.2%	49.5%
Patients per Day	38.4	40.3	40.0	40.0	45.0	50.0
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%	76.4%	78.8%

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

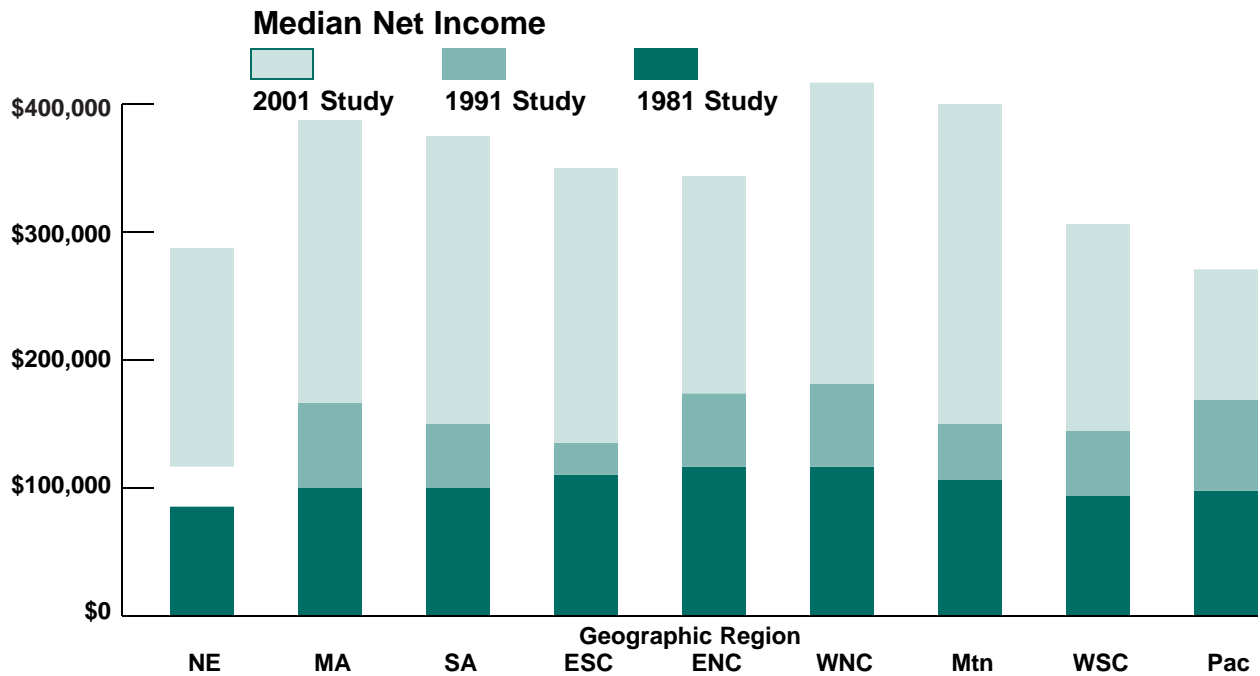


**TABLE 2  
PRACTICE ACTIVITY (MEDIANS) BY YEARS IN PRACTICE**

	2001 Study				
	2-5	6-10	11-15	16-20	21 or more
Gross Income	\$620,000	\$800,000	\$800,000	\$865,000	\$650,000
Expenses	\$308,000	\$400,000	\$420,000	\$450,000	\$360,000
Net Income	\$250,000	\$375,000	\$385,000	\$429,342	\$326,569
Overhead Rate	53%	52%	53%	51%	52%
Case Starts	200	227	250	250	205
Active Cases	400	510	538	500	450
Child Fee	\$4,100	\$4,125	\$4,157	\$4,165	\$4,195
Adult Fee	\$4,365	\$4,400	\$4,500	\$4,400	\$4,500

	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



**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)	\$587,500	\$284,500	54%	200	\$4,300
Middle Atlantic (NJ,NY,PA)	700,000	384,400	50%	225	4,190
South Atlantic (DE,DC,FL,GA,MD,NC,SC,VA,WV)	800,000	375,000	53%	228	4,180
East South Central (AL,KY,MS,TN)	717,500	350,000	48%	208	3,993
East North Central (IL,IN,MI,OH,WI)	800,000	343,000	55%	240	4,140
West North Central (IA,KS,MN,MO,NE,ND,SD)	811,000	415,000	52%	222	4,075
Mountain (AZ,CO,ID,MT,NV,NM,UT,WY)	711,000	400,000	50%	230	4,200
West South Central (AR,LA,OK,TX)	650,000	305,000	50%	198	3,950
Pacific (AK,CA,HI,OR,WA)	667,143	269,660	57%	200	4,300

used by about the same percentage of respondents as in the 1999 Study (Table 4). The methods that reached all-time highs in usage in this survey were written practice objectives, office policy manual, office procedure manual, written job descriptions, staff meetings, individual performance appraisals, measurement of staff productivity, cases beyond estimate report, profit and loss statement, accounts-receivable reports, and measurement of case acceptance. Twelve

methods, however, were used less in 2001 than in 1999.

**Delegation**

Nearly all of the tasks listed on the questionnaire were delegated routinely by higher percentages of respondents than ever before (Table 5). The only exceptions were removal of residual adhesive, fabrication of bonds and removable

**TABLE 4  
USE OF MANAGEMENT METHODS**

	Year of Study					
	1981	1985	1989	1993	1999	2001
Written philosophy of practice	22.1%	30.7%	39.1%	44.5%	48.5%	47.7%
Written practice objectives	15.0	22.6	27.8	32.0	30.6	33.0
Written practice plan	NA	NA	16.3	20.4	19.1	20.2
Written practice budget	6.5	8.0	14.4	15.2	17.0	16.7
Office policy manual	54.7	61.5	59.3	69.7	72.9	74.3
Office procedure manual	NA	49.4	46.0	54.4	51.6	56.1
Written job descriptions	38.2	41.7	45.0	53.2	55.7	57.2
Written staff training program	NA	20.2	22.2	34.2	29.2	30.7
Staff meetings	67.7	76.1	80.8	83.0	80.6	83.2
Individual performance appraisals	32.3	42.6	29.8	54.0	59.3	64.2
Measurement of staff productivity	NA	NA	11.1	16.4	15.8	17.7
In-depth analysis of practice activity	24.3	36.5	30.0	34.2	32.3	31.0
Practice promotion plan	NA	26.3	28.4	27.2	35.1	32.3
Dental management consultant	16.2	17.2	18.8	20.8	19.1	17.6
Patient satisfaction surveys	12.6	22.6	27.8	28.6	29.0	27.4
Employee with primary responsibility as communications supervisor	NA	22.1	25.7	29.7	25.9	25.1
Progress reports	NA	41.7	46.7	49.6	44.0	40.8
Post-treatment consultations	NA	36.2	42.5	41.6	36.6	34.4
Pretreatment flow control system	NA	48.5	52.6	50.9	48.4	45.6
Treatment flow control system	NA	20.2	19.2	22.7	25.1	24.3
Cases beyond estimate report	NA	NA	19.7	22.6	25.1	26.6
Profit and loss statement	NA	65.8	67.5	70.3	73.6	73.7
Delinquent account register	NA	61.4	67.8	71.1	77.8	74.6
Accounts-receivable reports	NA	58.0	64.7	72.9	79.4	79.5
Contracts-written reports	NA	42.1	40.6	47.4	54.8	53.8
Measurement of case acceptance	NA	NA	34.4	43.4	46.7	47.6

appliances, progress reports, and post-treatment conferences.

The tasks routinely delegated by more than 80% of the sample were x-rays, impressions for study models, patient instruction and education, and financial arrangements.

### Use of Practice-Building Methods

Of the 42 practice-building methods surveyed, 20 were used by fewer respondents than in the 1999 Study (Table 6). Ten methods were used by greater percentages of respondents than ever before, including entertainment of and gifts

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

	Year of Study					
	1981	1985	1989	1993	1999	2001
<i>Record-Taking</i>						
Impressions for study models	59.2%	68.7%	74.8%	80.8%	88.0%	88.4%
X-rays	84.4	84.6	89.3	89.1	91.8	94.5
Cephalometric tracings	57.3	55.4	50.9	45.0	40.8	42.6
<i>Clinical</i>						
Impressions for appliances	47.3	56.3	62.1	66.7	72.3	76.5
Removal of residual adhesive	74.6	75.0	70.1	67.5	39.3	37.3
Fabrication of:						
Bands	37.5	43.1	49.4	53.4	53.7	57.6
Bonds	30.8	30.4	33.4	31.1	31.9	31.6
Archwires	20.4	25.5	28.7	29.9	30.1	32.9
Removable appliances	46.1	40.6	45.9	42.1	45.0	44.1
Insertion of:						
Bands	7.0	8.8	12.7	14.3	18.9	24.0
Bonds	9.3	8.0	9.0	7.8	9.9	10.6
Archwires	26.2	31.8	38.5	43.2	47.7	50.8
Removable appliances	9.6	12.1	14.9	15.2	16.2	20.1
Adjustment of:						
Archwires	3.4	5.6	5.6	8.7	9.7	11.4
Removable appliances	2.3	3.9	4.5	5.1	7.6	9.8
Removal of:						
Bands	28.2	35.4	41.0	45.7	50.3	53.5
Bonds	24.8	36.0	38.8	42.6	48.7	51.8
Archwires	66.0	66.5	72.1	74.6	75.2	77.5
<i>Administrative</i>						
Case presentation	3.6	7.3	11.8	13.7	19.6	22.7
Fee presentation	15.9	23.3	30.0	39.9	60.8	62.6
Financial arrangements	50.3	59.5	64.8	70.9	80.0	82.5
Progress reports	9.0	17.9	16.5	18.2	21.9	23.0
Post-treatment conferences	3.9	12.1	12.3	11.9	16.0	14.0
Patient instruction and education	73.8	78.9	80.9	82.7	85.1	87.2

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

	Year of Study					
	1981	1985	1989	1993	1999	2001
Change practice location	20.1%	27.2%	29.2%	31.9%	29.3%	27.4%
Expand practice hours:						
Open one or more evenings/week	NA	18.1	29.6	31.5	24.8	17.9
Open one or more Saturdays/month	NA	17.8	23.0	22.4	16.7	12.9
Open a satellite office	39.9	40.4	46.9	41.9	36.4	32.2
Participate in community activities	61.5	53.5	59.1	60.1	56.2	58.6
Participate in dental society activities	67.0	57.3	64.6	62.6	57.0	60.6
Seek referrals from general dentists:						
Letters of appreciation	81.9	80.4	83.7	80.5	77.7	71.9
Entertainment	61.6	58.6	62.6	62.5	56.2	54.9
Gifts	45.2	52.3	62.2	64.2	68.2	68.9
Education of GPs	41.2	37.9	42.7	37.9	35.9	36.6
Reports to GPs	64.5	68.7	75.2	72.2	73.1	68.6
Seek referrals from patients and parents:						
Letters of appreciation	62.8	71.4	78.2	71.0	66.1	64.0
Follow-up calls after difficult appts.	NA	57.3	67.5	67.4	65.7	64.0
Entertainment	17.1	9.0	10.7	12.9	16.4	19.8
Gifts	16.3	17.0	23.0	25.3	32.6	36.2
Seek referrals from staff members	NA	43.9	53.9	51.1	49.3	49.7
Seek referrals from other professionals (non-dentists)	NA	30.5	33.5	32.0	23.1	27.0
Treat adult patients	51.0	89.2	88.0	84.5	85.9	81.1
Improve scheduling:						
On time for appointments	47.4	68.2	72.7	72.8	74.4	69.7
On-time case finishing	NA	54.7	58.8	60.1	63.3	61.4
Improve case presentation	44.4	NA	48.9	48.6	53.1	52.3
Improve staff management	47.5	48.5	46.1	46.8	45.2	43.1
Improve patient education	27.7	43.7	39.7	40.3	45.1	42.3
Expand services:						
TMJ	NA	54.4	55.7	42.8	29.5	27.0
Functional appliances	NA	63.8	58.8	47.2	34.6	32.9
Lingual orthodontics	NA	39.0	24.3	15.6	11.0	11.6
Surgical orthodontics	NA	71.6	69.9	58.9	45.9	43.6
Patient motivation techniques	NA	28.2	34.0	34.9	41.6	36.4
No-charge initial visit	42.6	50.3	60.5	65.9	68.7	72.1
No-charge diagnostic records	NA	NA	NA	NA	NA	14.6
No initial payment	NA	NA	NA	NA	NA	15.5
Extended payment period	NA	NA	NA	NA	NA	28.5
Practice newsletter	NA	14.5	19.6	16.6	13.9	15.2
Practice website	NA	NA	NA	NA	NA	19.4
Personal publicity in local media	NA	9.9	14.0	12.3	14.9	17.2
Advertising:						
Telephone yellow pages	35.5	NA	NA	NA	NA	NA
Boldface listing	NA	36.6	42.2	49.4	47.9	56.9
Display listing	NA	7.0	12.2	16.2	21.0	21.6
Local newspapers	2.4	5.2	8.0	9.2	16.4	18.7
Local TV and/or radio	0.5	1.0	1.9	1.4	NA	NA
TV	NA	NA	NA	NA	3.0	3.7
Radio	NA	NA	NA	NA	4.8	5.9
Direct-mail promotion	1.0	4.7	6.3	6.6	8.2	8.9
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	16.1	13.1
Affiliation with mgt. service organization	NA	NA	NA	NA	7.7	5.4



to patients and parents, no-charge initial visit, personal publicity in local media, and all forms of advertising.

**Sources of Referrals**

As in past studies, virtually every respondent reported receiving referrals from general dentists and patients (Table 7). The percentages reporting referrals from other specialists, personal contacts, transfer cases, staff members, other professionals, and dental referral services continued their gradual declines since this item was first surveyed in the 1983 Study. On the other

hand, slightly more practices used the yellow pages and commercial advertising for referrals than in the 1999 Study. Dental franchises, direct mail, and managed care were used by fewer respondents than in 1999.

As in every previous survey, general dental referrals accounted for a median of 50% of all referrals, patients for a median of 30%, and other sources for a median of 2% or less. (The columns of percentages in the table do not add up to 100% because medians are reported instead of means.)

(TO BE CONTINUED)

**TABLE 7  
SOURCES OF REFERRALS**

	% of Practices Using Source				Median % of Referrals (All Practices)			
	1983	1989	1995	2001	1983	1989	1995	2001
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	64.5	2.4	2.0	2.0	2.0
Patients	97.8	98.8	98.7	98.6	30.7	30.0	30.0	30.0
Personal Contacts	NA	66.6	66.9	65.9	NA	2.0	2.0	2.0
Transfers	NA	74.2	72.1	60.5	NA	1.0	1.0	1.0
Staff	54.0	51.5	53.1	48.9	0.8	1.0	1.0	0.0
Other Professionals	41.2	32.9	27.2	22.7	0.3	0.0	0.0	0.0
Dental Franchises	NA	0.7	0.6	0.9	NA	0.0	0.0	0.0
Dental Referral Service	3.8	2.9	2.7	1.9	0.0	0.0	0.0	0.0
Direct-Mail Advertising	1.2	2.6	3.5	4.1	0.0	0.0	0.0	0.0
Yellow Pages	47.2	45.8	47.1	42.6	0.4	0.0	0.0	0.0
Commercial Advertising	1.8	4.2	6.7	10.7	0.0	0.0	0.0	0.0
Managed Care (including Capitation/Closed Panel)	3.7	6.9	11.5	11.8	0.0	0.0	0.0	0.0