

# 2007 JCO Orthodontic Practice Study

## Part 4 Additional Breakdowns

ROBERT G. KEIM, DDS, EDD, PHD  
EUGENE L. GOTTLIEB, DDS  
ALLEN H. NELSON, PHD  
DAVID S. VOGELS III

The previous three articles in this series of reports on the 2007 JCO Orthodontic Practice Study (JCO, October-December 2007) have covered trends in orthodontic economics and practice administration since our first biennial survey was conducted in 1981; factors that appear to be related to practice success and growth in terms of income and numbers of cases; and staff numbers, salaries, and benefits. In this concluding article, we will compare the data of male and female orthodontists and of practices that were affiliated or unaffiliated with management service organizations. For the complete Practice Study tables, click on the link from this article in the JCO Online Archive at [www.jco-online.com](http://www.jco-online.com).

Medians are usually reported instead of means in these articles because they tend to be less affected by extremely high and low responses. In some of the tables, however, means are required so that we can test the statistical significance of differences among groups. A significance level (“p”) of .01 is used, instead of the more conventional .05, because the large number of variables on the questionnaire raises the likelihood of chance influencing the data. Annual figures, such as income and numbers of cases, refer to the preceding calendar year, which, in the present case, was 2006. For the complete Practice Study methodology, see Part 1 (JCO, October 2007).

### Breakdowns by Sex of Orthodontist

For the first time in the quarter-century that we have conducted these surveys, the overall percentage of female respondents did not increase, remaining at just above 14% since the 2005 Study. Still, the percentage of women in the newest practices was higher in the current Study than in any Study since 1999, when these breakdowns were first analyzed (Table 28). The highest percentages of female respondents were in the Middle Atlantic, South Atlantic, and West North Central regions.

Any disparity between male and female orthodontists was less discernible than in previous surveys, with only the number of years in practice showing a statistically significant difference (Table 29). Even though women tended to have newer practices, they reported higher child case fees and more net income per case. Female orthodontists showed slightly lower income and numbers of cases, but also had a lower mean overhead rate.

As in other recent surveys, there were no major differences in the use of management and practice-building methods and in routine delegation between male and female respondents. The management methods used by higher percentages of men than of women orthodontists were written philosophy of practice, written practice plan, written practice budget, office policy manual, office pro-

Dr. Keim is Editor, 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. Keim



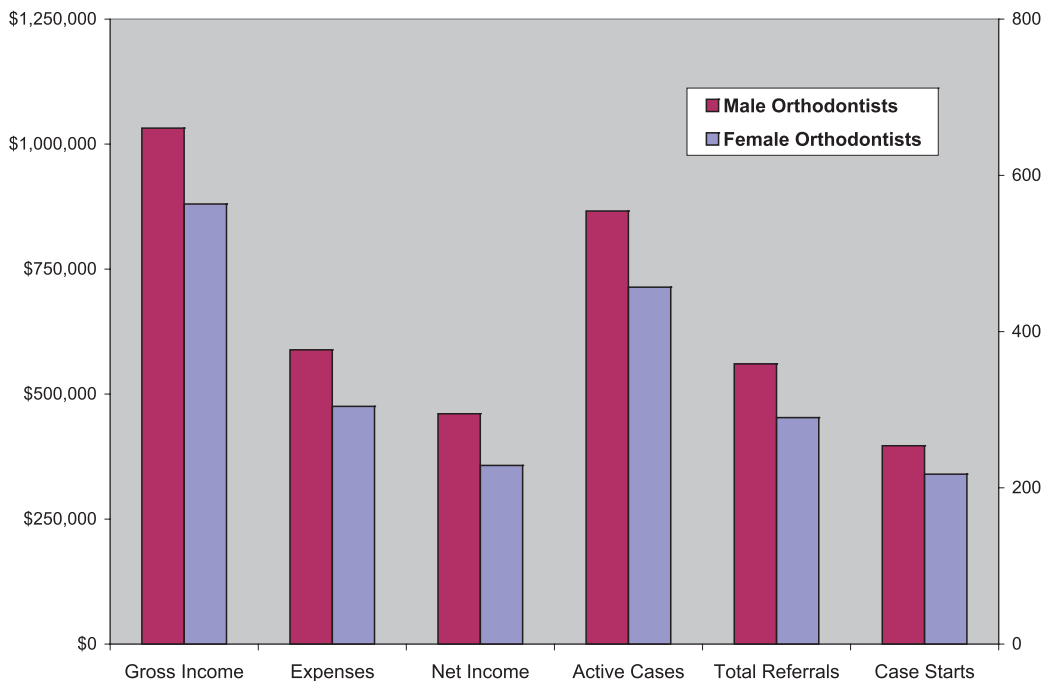
Dr. Gottlieb



Dr. Nelson



Mr. Vogels



**TABLE 28  
SEX OF ORTHODONTIST BY  
DEMOGRAPHIC VARIABLES**

	Male	Female
<i>Years in Orthodontic Practice</i>		
2-5 years	71.2%	28.8%
6-10 years	80.6	19.4
11-15 years	76.3	23.7
16-20 years	82.8	17.2
21-25 years	89.5	10.5
26 or more years	96.6	3.4
<i>Geographic Region</i>		
New England	95.2	4.8
Middle Atlantic	79.3	20.7
South Atlantic	82.3	17.7
East South Central	85.7	14.3
East North Central	86.6	13.4
West North Central	82.4	17.6
Mountain	96.0	4.0
West South Central	88.1	11.9
Pacific	86.9	13.1

cedure manual, measurement of staff productivity, in-depth analysis of practice activity, practice promotion plan, dental management consultant, communications supervisor, and post-treatment consultations (Table 30).

Male respondents were more likely than females to routinely delegate almost every task listed on the questionnaire (Table 31). The only exceptions were fabrication of removable appliances, insertion of bands and removable appliances, adjustment of archwires and removable appliances, and removal of archwires.

Higher percentages of women than of men used many of the practice-building methods surveyed, including change practice location; open one or more Saturdays per month; participate in dental society activities; letters of appreciation, gifts, and reports to general dentists; all methods of seeking referrals from patients and parents and staff members; treat adult patients; improve case presentation, staff management, and patient education; expand services with functional appliances, lingual orthodontics, and Invisalign treatment; patient motivation techniques; no initial payment;

practice newsletter; yellow-pages boldface listing; local newspaper advertising; managed care; and management service affiliation (Table 32).

**Management Service Organizations**

The overall percentage of practices reporting affiliation with management service organizations

continued to fall, from 9.8% in the 1999 Practice Study to 2.2% in the present survey. No MSO affiliates had been in practice for 2-5 or 11-15 years, and there were no MSO respondents in the New England, Middle Atlantic, East South Central, or West South Central regions (Table 33). The highest percentages of MSO affiliates were in the Pacific and Mountain regions.

**TABLE 29  
SELECTED VARIABLES (MEANS) BY SEX OF ORTHODONTIST**

	Male	Female
Number of Years in Practice	21.1	13.4*
Number of Satellite Offices	0.6	0.5
Full-Time Employees	6.0	5.1
Part-Time Employees	1.7	1.7
Total Referrals	358.6	289.9
Case Starts	253.9	217.5
Adult Case Starts	24.7%	21.8%
Active Treatment Cases	554.4	456.9
Adult Active Cases	22.6%	19.4%
Patients Covered by Third Party	45.4%	44.8%
Patients Covered by Managed Care	8.7%	4.6%
Offer Third-Party Financing (such as Orthodontists Fee Plan)	67.8%	76.1%
Total Chairs	6.1	5.6
Patients per Day	50.8	46.9
Emergencies per Day	3.0	2.7
Broken Appointments per Day	3.5	2.7
Cancellations per Day	2.7	2.7
Gross Income	\$1,032,161	\$880,300
Overhead Rate	57%	54%
Net Income	\$460,651	\$357,369
Net Income per Case	\$935	\$951
Child Case Fee	\$4,916	\$5,085
Full-Time Employee Hours/Week	34.2	34.0
Full-Time Employee Weeks/Year	47.6	48.2
Orthodontist-Owner Hours/Week	37.2	35.8
2006 Continuing Education Course Days	6.3	6.7
2006 Continuing Education Meeting Days	5.3	4.7

\*Differences between these groups are statistically significant at or below the .01 probability level.

As in previous Studies, MSO practices were significantly larger than non-affiliates in numbers of case starts, active cases, satellite offices, and full-time employees (Table 34). The differences in income were not statistically significant, however;

in fact, because of their management fees, the MSO affiliates reported higher overhead rates, lower net income, and lower net income per case. Non-affiliates had lower percentages of managed-care patients, but were more likely to offer third-

**TABLE 30  
USE OF MANAGEMENT METHODS BY SEX OF ORTHODONTIST**

	Male	Female
Written philosophy of practice	54.4%	46.7%
Written practice objectives	33.3	33.3
Written practice plan	21.4	20.0
Written practice budget	19.6	16.0
Office policy manual	80.0	77.3
Office procedure manual	53.7	50.7
Written job descriptions	56.8	66.7
Written staff training program	28.9	32.0
Staff meetings	83.3	86.7
Individual performance appraisals	65.2	73.3
Measurement of staff productivity	17.6	16.0
In-depth analysis of practice activity	32.2	30.7
Practice promotion plan	35.5	29.3
Dental management consultant	19.6	14.7
Patient satisfaction surveys	34.1	34.7
Employee with primary responsibility as communications supervisor	26.4	18.7
Progress reports	39.4	45.3
Post-treatment consultations	31.7	30.7
Pretreatment flow control system	45.2	52.0
Treatment flow control system	22.7	28.0
Cases beyond estimate report	27.5	36.0
Profit and loss statements	75.6	77.3
Delinquent account register	79.7	86.7
Accounts-receivable reports	77.5	86.7
Contracts-written reports	53.5	58.7
Measurement of case acceptance	49.8	54.7

party financing. Affiliates' employees worked slightly more hours than those of their counterparts, but the unaffiliated orthodontists themselves worked slightly more hours.

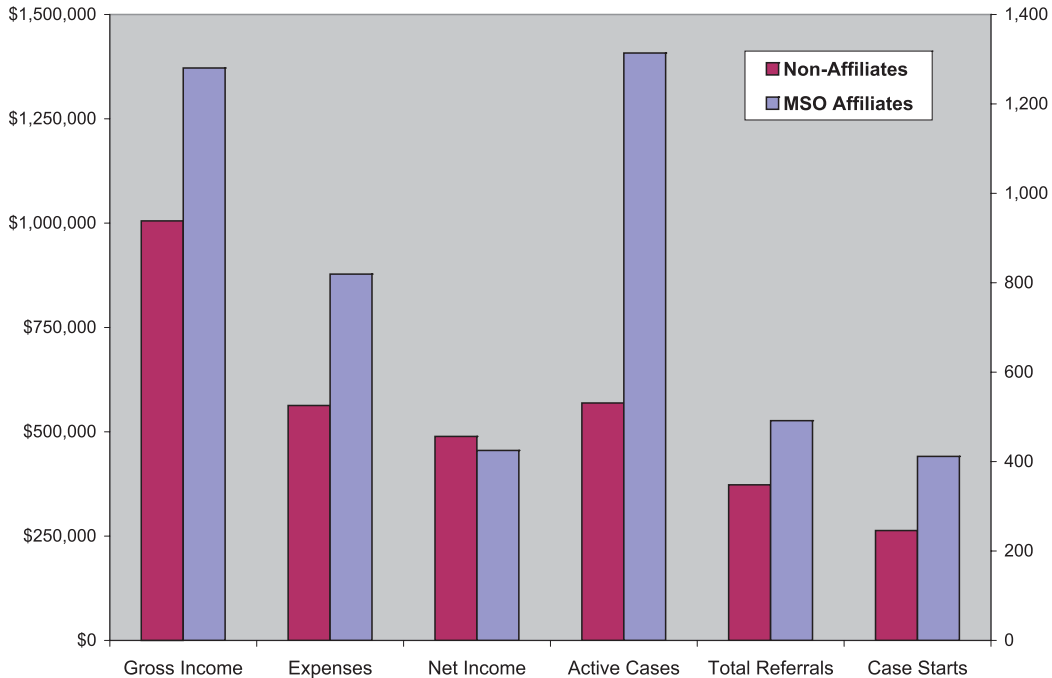
The MSO practices remained positive about the effects of their affiliation, although it is difficult to interpret these opinions with so few respondents (Table 35).

**TABLE 31  
ROUTINE DELEGATION BY SEX OF ORTHODONTIST**

	Male	Female
<i>Record-Taking</i>		
Impressions for study models	93.8%	92.3%
X-rays	96.5	93.5
Cephalometric tracings	41.3	31.6
<i>Clinical</i>		
Impressions for appliances	85.0	75.6
Removal of residual adhesive	33.0	27.3
Fabrication of:		
Bands	56.4	50.0
Archwires	32.8	25.0
Removable appliances	47.5	49.3
Insertion of:		
Bands	31.8	32.5
Bonds	12.0	9.3
Archwires	63.0	52.6
Removable appliances	21.8	28.0
Adjustment of:		
Archwires	10.9	14.1
Removable appliances	8.6	13.0
Removal of:		
Bands	51.9	48.1
Bonds	55.6	45.5
Archwires	82.9	82.9
<i>Administrative</i>		
Case presentation	24.8	17.1
Fee presentation	74.1	68.8
Financial arrangements	88.9	83.1
Progress reports	29.9	19.4
Post-treatment conferences	16.9	12.1
Patient instruction and education	90.8	79.5

**TABLE 32**  
**USE OF PRACTICE-BUILDING METHODS BY SEX OF ORTHODONTIST**

	Male	Female
Change practice location	30.9%	32.8%
Expand practice hours:		
Open one or more evenings/week	16.1	15.6
Open one or more Saturdays/month	8.7	14.1
Open a satellite office	36.8	20.3
Participate in community activities	54.0	53.1
Participate in dental society activities	56.3	64.1
Seek referrals from general dentists:		
Letters of appreciation	71.1	81.3
Entertainment	55.8	50.0
Gifts	74.9	85.9
Education of GPs	36.8	32.8
Reports to GPs	68.3	78.1
Seek referrals from patients and parents:		
Letters of appreciation	58.6	59.4
Follow-up calls after difficult appointments	66.5	68.8
Entertainment	22.3	23.4
Gifts	40.2	48.4
Seek referrals from staff members	55.5	57.8
Seek referrals from other professionals (non-dentists)	24.8	20.3
Treat adult patients	82.4	87.5
Improve scheduling:		
On time for appointments	69.8	68.8
On-time case finishing	60.4	56.3
Improve case presentation	48.3	50.0
Improve staff management	41.4	50.0
Improve patient education	40.7	53.1
Expand services:		
TMJ	23.5	14.1
Functional appliances	26.1	26.6
Lingual orthodontics	7.2	7.8
Surgical orthodontics	38.9	32.8
Invisalign	59.6	64.1
Patient motivation techniques	39.6	45.3
No-charge initial visit	77.7	70.3
No-charge diagnostic records	22.8	15.6
No initial payment	15.1	15.6
Extended payment period	36.6	28.1
Practice newsletter	17.6	25.0
Personal publicity in local media	18.9	14.1
Advertising:		
Telephone yellow pages		
Boldface listing	62.7	65.6
Display advertising	31.7	23.4
Local newspapers	23.3	28.1
Local TV	6.6	4.7
Local radio	8.7	3.1
Direct-mail promotion	22.3	15.6
Managed care (closed-panel contracting)	13.0	14.1
Management service affiliation	3.1	4.7



**TABLE 33  
MANAGEMENT SERVICE AFFILIATION  
BY DEMOGRAPHIC VARIABLES**

	Not Affiliated	Affiliated
<i>Years in Orthodontic Practice</i>		
2-5 years	100.0%	0.0%
6-10 years	94.0	6.0
11-15 years	100.0	0.0
16-20 years	98.8	1.2
21-25 years	98.7	1.3
26 or more years	96.6	3.4
<i>Geographic Region</i>		
New England	100.0	0.0
Middle Atlantic	100.0	0.0
South Atlantic	97.3	2.7
East South Central	100.0	0.0
East North Central	98.8	1.2
West North Central	97.1	2.9
Mountain	93.1	6.1
West South Central	100.0	0.0
Pacific	95.2	4.8

**Conclusion**

The economic results of the 2007 JCO Orthodontic Practice Study are definitely more positive than those of the previous two biennial surveys. Median gross income increased by about 15%, and median net income by about 10%, over the past two years (see Part 1, JCO, October 2007). On the other hand, the percentages of practices reporting growth in gross income and case starts declined for the fourth consecutive Study (see Part 3, JCO, December 2007). The percentage of respondents who said they were “not busy enough” was the highest since the 1993 Study (Table 36). Only 2% of all practices said they were “too busy to treat all persons requesting appointments”.

Obviously, there is room for improvement. As in every previous survey, the practices that used effective management methods and routinely delegated chairside and administrative tasks to staff members attracted more patients and showed higher levels of net income than other practices did (see Part 2, JCO, November 2007). Orthodontists searching for the growth potential in their own

**TABLE 34  
SELECTED VARIABLES (MEANS) BY  
MANAGEMENT SERVICE AFFILIATION**

	Not Affiliated	Affiliated
Number of Years in Practice	20.0	20.3
Number of Satellite Offices	0.6	1.3*
Full-Time Employees	6.0	9.4*
Part-Time Employees	1.7	1.9
Total Referrals	348.0	491.6
Case Starts	245.8	411.6*
Adult Case Starts	24.1%	42.1%*
Active Treatment Cases	531.0	1,313.9*
Adult Active Cases	22.1%	31.4%
Patients Covered by Third Party	45.3%	42.5%
Patients Covered by Managed Care	7.9%	18.7%
Offer Third-Party Financing (such as Orthodontists Fee Plan)	71.1%	50.0%
Total Chairs	6.0	6.6
Patients per Day	50.1	63.5
Emergencies per Day	3.0	2.9
Broken Appointments per Day	3.4	3.0
Cancellations per Day	2.7	2.1
Gross Income	\$1,005,477	\$1,371,698
Overhead Rate	56%	64%
Net Income	\$488,963	\$455,372
Net Income per Case	\$938	\$572
Child Case Fee	\$4,937	\$5,012
Full-Time Employee Hours/Week	34.1	37.6
Full-Time Employee Weeks/Year	47.7	49.2
Orthodontist-Owner Hours/Week	37.1	33.6
2006 Continuing Education Course Days	6.3	5.6
2006 Continuing Education Meeting Days	5.2	5.2

\*Differences between these groups are statistically significant at or below the .01 probability level.

**TABLE 35  
EFFECTS OF MANAGEMENT SERVICE AFFILIATION**

	Highly Positive	Somewhat Positive	None	Somewhat Negative	Highly Negative	Mean*
Referrals	33.3%	13.3%	40.0%	13.3%	0.0%	2.33
Case Acceptance	0.0	53.8	46.2	0.0	0.0	2.46
Gross Income	38.5	23.1	15.4	23.1	0.0	2.23
Practice Efficiency	33.3	40.0	26.7	0.0	0.0	1.93

\*1 = highly positive; 2 = somewhat positive; 3 = none; 4 = somewhat negative; 5 = highly negative.



practices might do well to examine their management procedures and to emulate these successful colleagues.

Respondents to the 2007 Practice Study were more optimistic about the possibility of future growth than in either of the past two surveys.

Local economic conditions and numbers of potential adolescent patients continued to be viewed as unproblematic. If practice efficiency continues to improve, and if the general economy does not deteriorate further, we may see another upswing in the results of the 2009 Practice Study. □

**TABLE 36  
PRACTICE BUSYNESS BY SELECTED VARIABLES**

	<b>Too Busy to Treat All Persons Requesting Appointments</b>	<b>Provided Care to All Who Requested Appointments But Felt Overworked</b>	<b>Provided Care to All Who Requested Appointments — Did Not Feel Overworked</b>	<b>Not Busy Enough</b>
<i>Years in Orthodontic Practice</i>				
2-5 years	3.9%	7.8%	43.1%	45.1%
6-10 years	1.5	15.2	54.5	28.8
11-15 years	0.0	22.4	52.6	25.0
16-20 years	2.3	14.0	59.3	24.4
21-25 years	1.3	19.7	47.4	31.6
26 or more years	2.9	12.1	49.4	35.6
<i>Legal Status</i>				
Sole proprietorship	3.2	16.1	51.6	29.0
Professional corporation	1.4	14.1	50.8	33.6
<i>Community Size</i>				
Rural (less than 20,000)	6.3	12.7	60.3	20.6
Small city (20,000-50,000)	2.9	15.4	54.4	27.2
Large city (50,000-500,000)	0.5	18.8	45.9	34.9
Metropolitan (more than 500,000)	1.6	9.6	51.2	37.6
<i>Geographic Region</i>				
New England	4.8	9.5	61.9	23.8
Middle Atlantic	3.4	24.1	56.9	15.5
South Atlantic	1.9	12.0	52.8	33.3
East South Central	0.0	23.1	53.8	23.1
East North Central	3.8	11.3	51.3	33.8
West North Central	0.0	26.5	32.4	41.2
Mountain	2.1	2.1	54.2	41.7
West South Central	3.0	16.4	43.3	37.3
Pacific	0.0	16.9	55.4	27.7
COMPOSITE	2.0	15.0	51.4	31.6