

American Association of Endodontists

GP Referrals Study  
Final Research Report

December 2009

L C W A  
RESEARCH GROUP

*A Division of  
L.C. Williams & Associates*

## American Association of Endodontists

### **GP REFERRALS STUDY** **FINAL RESEARCH REPORT**

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**American Association of Endodontists**  
**GP REFERRALS STUDY FINAL RESEARCH REPORT**  
**EXECUTIVE SUMMARY**

This project was completed for the American Association of Endodontists (AAE) and the association's Public and Professional Affairs Committee by the L.C. Williams & Associates (LCWA) Research Group. The quantitative survey is one of the components of a project to identify drivers that lead dentists in general practice (GPs) to refer patients to endodontists and to prepare a fact-based public relations and marketing plan.

Components preceding the survey included secondary research of GP referrals and four Chicago-area focus groups of GPs, conducted in August and September, 2009.

A total of 983 GPs completed an online survey November 4-18, 2009. The number of completions provides overall results that can be generalized to GPs who opt-in to receive emails from dental and medical printed and online information sources with a margin of error of +/- 3 percentage points at a 95% confidence level.

**Key driver analysis – Predictors of the likelihood to refer to endodontists**

Researchers conducted advanced analyses to statistically identify factors that will predict future referrals to endodontists. These findings are most important for developing effective, fact-based strategies, tactics and messaging.

***Key driver analysis – all GPs.***

<b><u>DRIVERS</u></b>	<b><u>OUTCOME</u></b>
<b>When GPs perceive.....</b> <ul style="list-style-type: none"><li>■ that endodontists are <i>partners</i> in delivering quality dental care</li><li>■ that the work an endodontist performs is <i>worth the cost</i></li></ul>	They will be more likely to refer to an endodontist in the future

***Key driver analysis – female GPs.***

<b><u>DRIVERS</u></b>	<b><u>OUTCOME</u></b>
<b>When female GPs perceive.....</b> <ul style="list-style-type: none"><li>■ that endodontists have the <i>skills/expertise</i> needed to perform the treatment</li><li>■ that the endodontist is <i>recommended</i> by respected colleagues</li><li>■ That the endodontist has had a <i>calming, caring manner</i> with previous patients</li></ul>	They will be more likely to refer to an endodontist in the future

**Key driver analysis –GPs 6-10 years in practice.**

<b><u>DRIVERS</u></b>	<b><u>OUTCOME</u></b>
<p data-bbox="297 310 1044 346"><b>When GPs practicing 6-10 years perceive.....</b></p> <ul style="list-style-type: none"> <li data-bbox="297 369 1044 405">■ the endodontist refers patients <b>back</b> for restoration</li> <li data-bbox="297 422 1044 489">■ the endodontist <b>accommodates patients</b> in his or her schedule</li> <li data-bbox="297 506 1044 573">■ the endodontist sends reports and film in a <b>timely</b> manner</li> <li data-bbox="297 590 1044 657">■ the endodontist has the <b>skills/expertise</b> needed to perform the treatment</li> <li data-bbox="297 674 1044 741">■ the endodontist has <b>previously satisfied</b> referred patients</li> <li data-bbox="297 758 1044 825">■ the endodontist has had a <b>calming, caring manner</b> with previous patients</li> <li data-bbox="297 842 1044 909">■ the endodontist <b>shares the GP's</b> treatment philosophy/plan</li> </ul>	<p data-bbox="1084 310 1365 346">.....They will be more likely to refer to an endodontist in the future</p>

**Summary of survey findings**

**Overall perception of endodontists.** Overwhelmingly, GPs have positive perceptions of endodontists; most have a positive or very positive perception of endodontists.

**Percentage of root canals GPs refer to endodontists.** During a typical year of practice, GPs, on average, refer nearly one-half of their patients who need root canals to endodontists.

**Number of endodontists on the typical GP referral list.** GPs, on average, routinely refer patients to four endodontists.

**Importance of patient factors that influence the referral decision.** Most of the GPs say the patient's clinical conditions are important when deciding to refer a patient to an endodontist. A majority of GPs also say a patient's personal characteristics or pain/swelling complications are important factors.

**Information GPs find useful when referring patients.** When referring patients to an endodontist, most GPs feel it is useful to give them reassurance about personal characteristics of the endodontist or assurance the endodontist will receive their information and be familiar with their case in advance of the appointment.

**Importance of factors about endodontists that influence the referral decision.** Many factors about endodontists are important to high percentages of GPs when deciding to refer patients to endodontists, including having the skills/expertise needed, being satisfied with their previous work and having previously satisfied patients.

***Effectiveness of ways to build relationships/partnerships with an endodontist.*** A large majority of GPs rate timely follow-up of reports and film, referring patients back for restorative treatment, patient accommodation, answering questions about procedures or for second opinions and treatment plan collaboration as effective ways to build relationships/partnerships with endodontists.

***Importance of factors about dentists when deciding to perform procedure or refer it.*** Nine in 10 GPs surveyed rate the degree of confidence in their ability to perform the procedure or the relationship they have with their own patients as factors that are important when deciding whether to perform or refer a procedure.

***Likelihood of performing endodontic procedures based on complication level.*** A large percentage of GPs indicate they handle endodontic procedures that are not at all complicated (root canal that is not a molar) or moderately complicated (root canal on a tooth with a crown).

***Opinions of endodontists.*** Large percentages of GPs agree with positive statements about endodontists, including being likely to refer to them in the future, sticking with selected endodontists for referrals and believing the work they do is worth the cost.

***Frequency of performing root canals that should have been referred to endodontist.*** One-third of GPs say that there frequently or very frequently have been cases when GPs perform root canal treatment but should have referred them to an endodontist.

***Effectiveness of various ways to learn more about endodontists.*** A large majority of GPs say recommendations by respected colleagues are effective ways to learn about an endodontist in their area followed by study clubs, seminars or CE opportunities hosted by endodontists.

***Endodontic-related topics of most interest.*** Three-quarters of GPs are interested in pain management and medication – a follow-up question to those who say that study clubs, seminars, CE opportunities or articles by endodontists are effective ways to learn about endodontists in the area.

***Open-end summary – What endodontists can do more effectively to increase referrals.*** A total of 474 GPs responded to an open-ended question asking what endodontists can do more effectively to increase referrals. The majority of responses fall into one of four categories: interact more with general dentists, accommodate patients, cost of treatment, and respect general dentists and the patients they refer.

***Statistically significant differences.*** A number of statistically significant differences are observed in the results. Most notably, female GPs and GPs who have been practicing for 10 years or more refer a higher percentage of their patients to endodontists. Also, female GPs and those practicing 6-10 years have more favorable ratings for many of the various ways in building reciprocal relationships with endodontists and learning about endodontists in the area.

## **GP REFERRALS STUDY FINAL RESEARCH REPORT**

### **PROJECT PURPOSE AND METHODOLOGY**

This project was completed for the American Association of Endodontists (AAE) and the association's Public and Professional Affairs Committee by the L.C. Williams & Associates (LCWA) Research Group. The survey is one of the components of a project to identify drivers that lead GPs to refer patients to endodontists and to prepare a fact-based public relations and marketing plan.

Preceding the quantitative survey, earlier components of this project included secondary research of GP referrals and four Chicago-area focus groups of GPs, conducted August-September, 2009. These components helped to develop effective survey questions to explore seven hypotheses in more detail. Refer to Appendices E and F for more information on the hypotheses and these project components.

#### **Methodology**

The survey URL was sent in email blasts to two opt-in lists of GPs nationwide: a 50,000-entry list from U.S. Data Corporation and a 48,000-entry list from Advanstar Marketing Resource Network, the publisher of *Dental Products Report*, *Dental Practice Report* and other dental and medical printed and online information sources. The email was opened by 8,919 GPs, and 983 (11% of those who opened the email) completed an online survey November 4-18, 2009. Survey questions are included in this report as Appendix D.

The number of completions provides overall results that can be generalized, with a margin of error of +/- 3 percentage points at a 95% confidence level, to the large number of GPs who were on the opt-in lists.

During data analysis, frequencies and means were conducted for the quantitative data, and qualitative analyses were conducted for the open-ended and other-specify items. Tables for the overall results are included in this report as Appendix A and cross-tabulation data tables are included as Appendix B. Advanced analyses also were completed. Correlations were calculated, and linear and stepwise regression analyses were conducted.

This report focuses on the largest body of data – the overall results – and incorporates information from cross-tabulations and regression analyses where appropriate. In addition, selected free responses from the open-ended and other-specify items are included in the report. A complete summary and all verbatim responses are included as Appendix C.

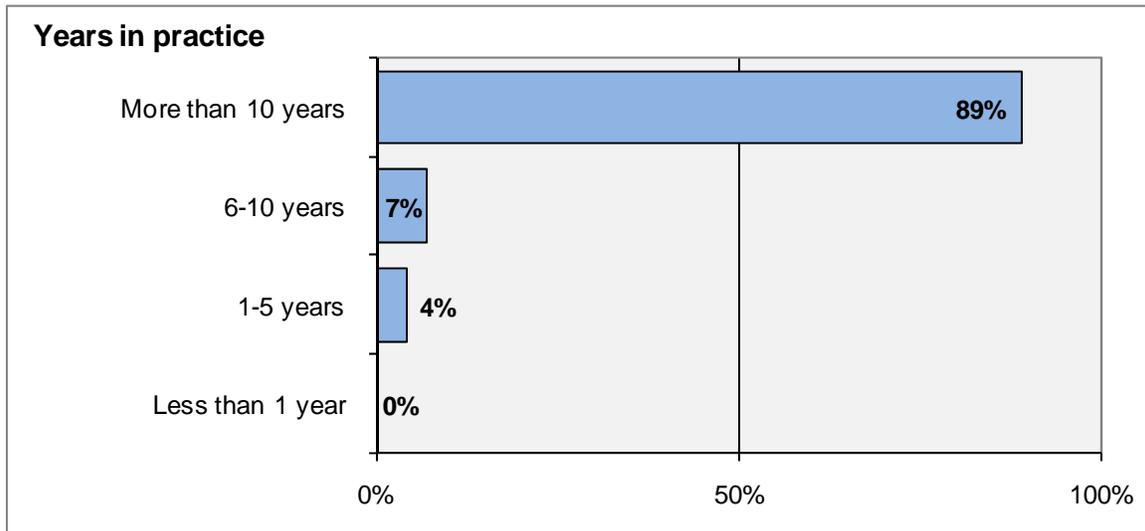
## **GP REFERRALS STUDY FINAL RESEARCH REPORT**

### **DETAILED FINDINGS**

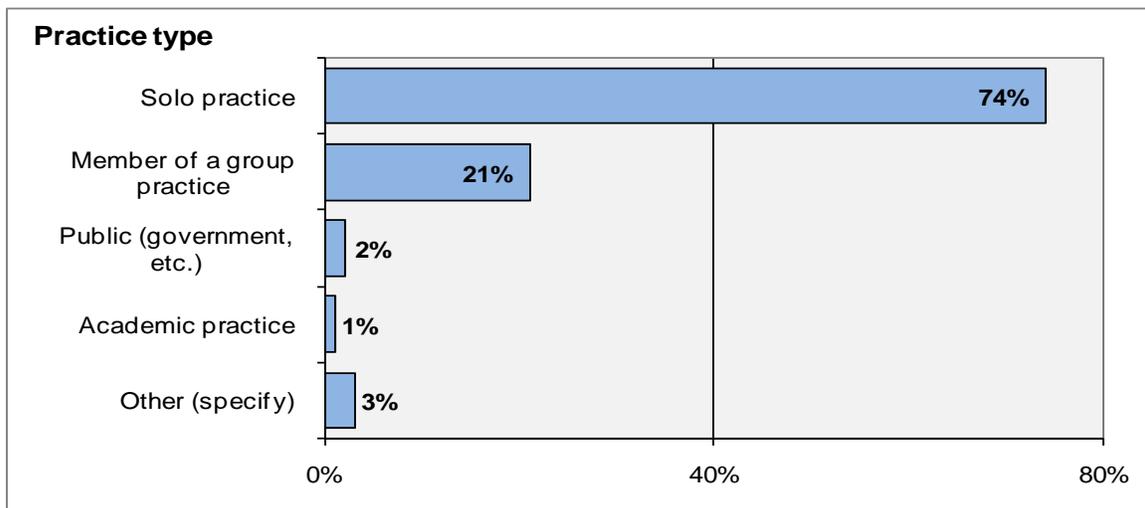
#### **DEMOGRAPHICS**

The demographics of respondents are within a few percentage points of the 2005 and 2007 AAE General Dentist Surveys and are also similar to the American Dental Association's 2006 demographic information for dentists in private practice.

**Years practicing dentistry.** Most of the GPs (89%) have been practicing dentistry more than 10 years. One in 10 GPs (11%) have been in practice for 1-10 years (7%) or 1-5 years (4%). No respondents reported being in practice less than one year.



**Practice type.** Three-quarters of GPs are in practice by themselves (74%) and one-fifth are members of group practices (21%). Less than 10% of respondents work in a public/government practice (2%), academic practice (1%) or another type of practice (3%).

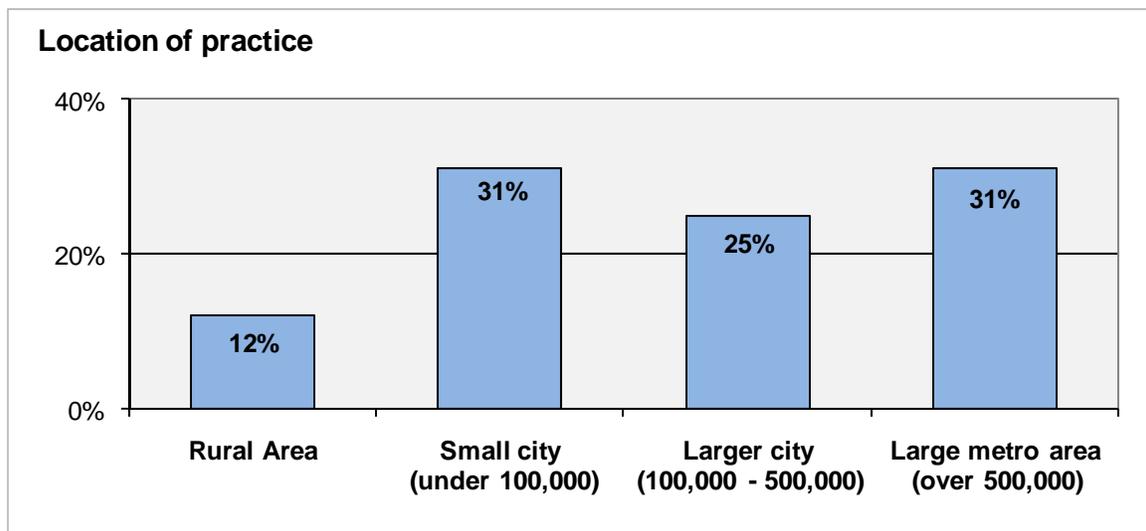


The majority of “other” responses to practice type (n=23) fall into the following six categories:

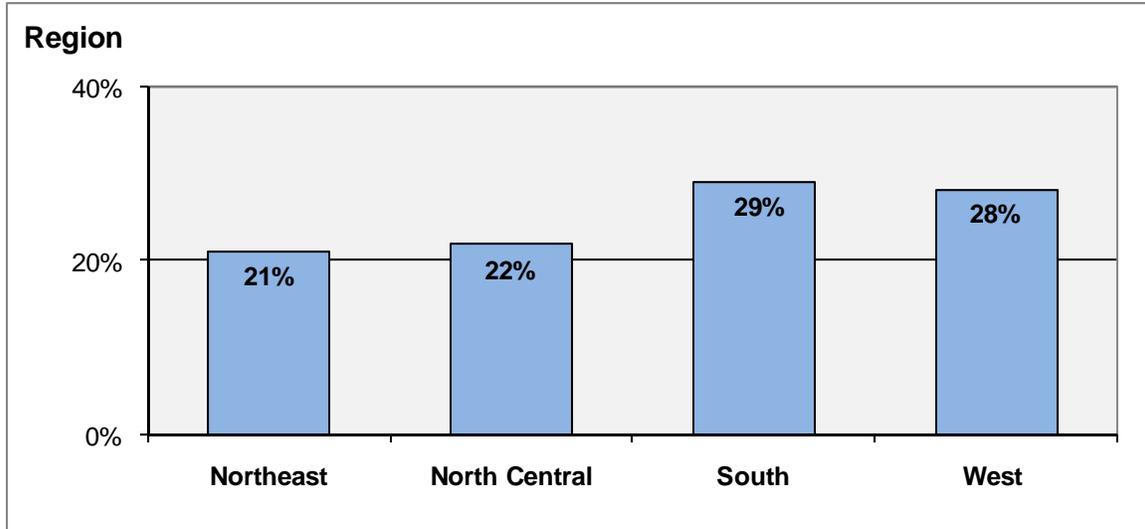
- ▶ partnership (22%)
- ▶ multiple doctors/group practice (17%)
- ▶ associates (13%)
- ▶ hospital (9%)
- ▶ public (9%)
- ▶ prosthodontist (9%)

Refer to Appendix C for a complete summary of other-specify responses.

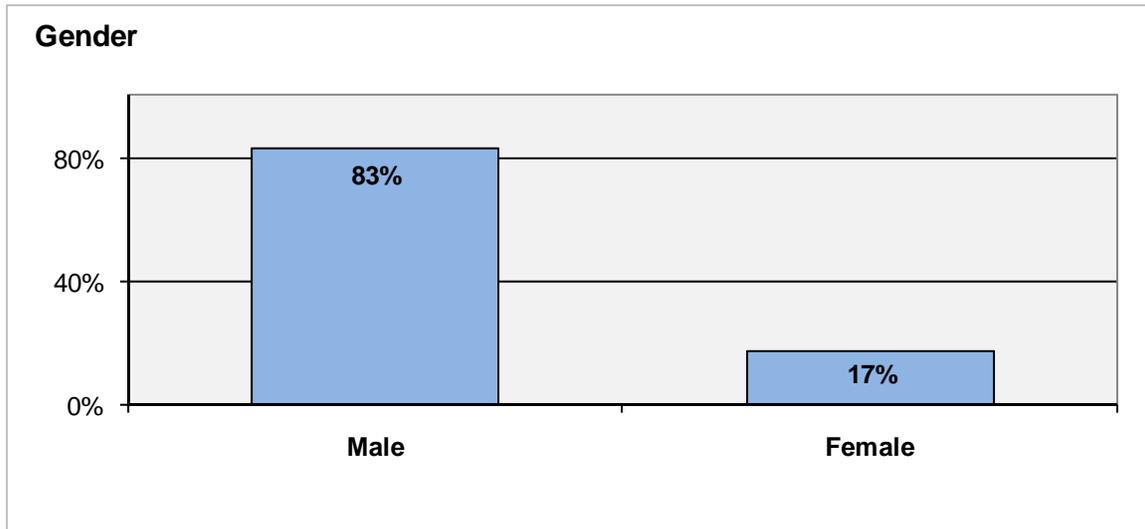
**Practice location.** All practice locations are well represented, as in the 2007 General Dentist Survey. A majority of the respondents (56%) practice in large metro areas (31%) and larger cities (25%). Approximately three in 10 respondents practice in small cities (31%), and fewer respondents practice in rural areas (12%).



**Region of practice.** All regions of the U.S. are well represented, too. Equal percentages – approximately one in five GPs – are from the Northeast (21%) or North Central (22%) regions of the U.S. Nearly 60% of respondents are either from the South (29%) or West (28%) regions. Responses of GPs from the District of Columbia and each U.S. state – with the exceptions of Montana, Vermont and Wyoming – are included in the survey data. Refer to Appendix A for the frequency of respondents by state. Representation from several states was adequate for cross-tabulation analysis: California, Florida, Georgia, Illinois, New Jersey, New York and Pennsylvania. Refer to Appendix B for cross-tabulation results by state.

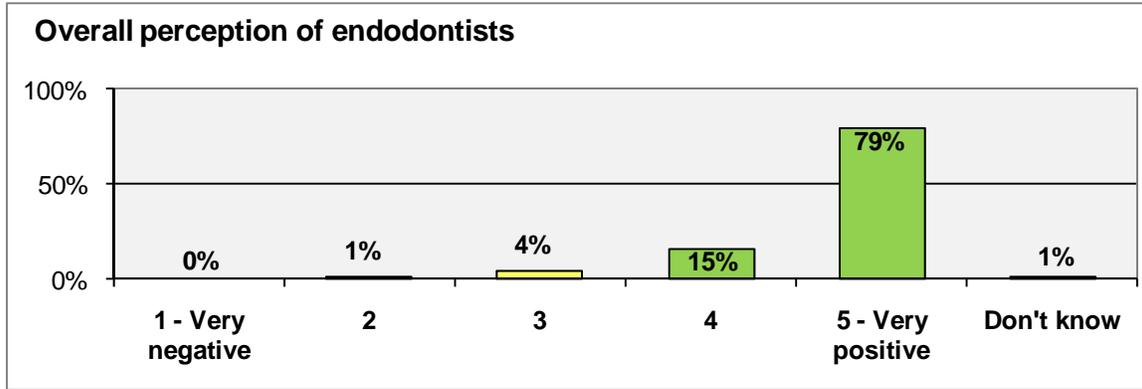


**Gender.** A large majority of the GPs are male (83%), and 17% are female.



**DETAILED FINDINGS**

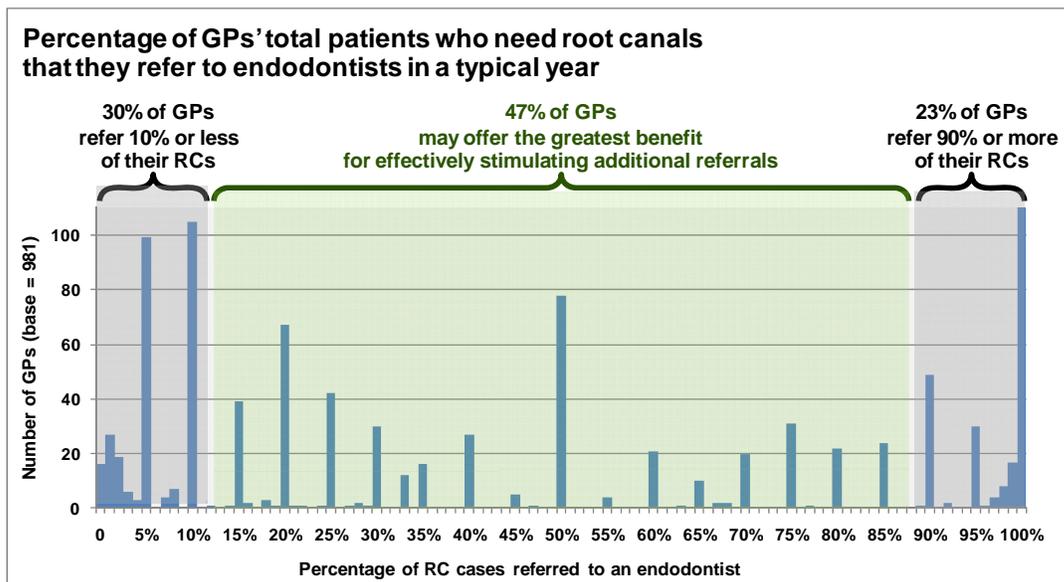
**Overall perception of endodontists.** GPs overwhelmingly have positive perceptions of endodontists: 94% of GPs have a positive (15%) or very positive perception (79%).



*Statistically significant differences.*

- ▶ GPs with more than 10 years in practice perceive endodontists more positively compared to GPs with 6-10 years in practice.
- ▶ GPs who refer more than 10% of their patients needing root canal treatment to endodontists have a more positive overall perception of endodontists compared to GPs who refer 10% or less of their patients.

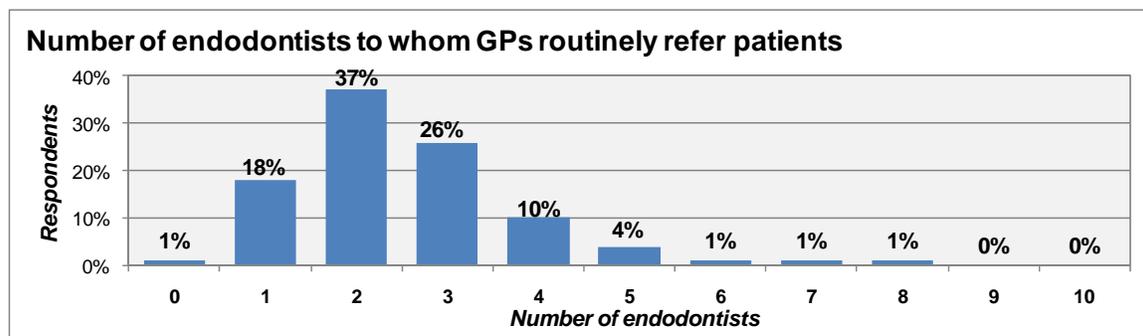
**Percentage of root canals GPs refer to endodontists.** During a typical year of practice, GPs, on average, refer 46% of their patients who need root canals to endodontists. The range of responses is 0% - 100% as displayed in the histogram below. Nearly one-half (47%) of GPs refer more than 10% but less than 90% of their patients to endodontists for root canals. The data suggest that this group of GPs can be a particularly effective focus for outreach.



**Statistically significant differences.**

- ▶ GPs with more than 10 years in practice refer a higher percentage of patients to endodontists compared to those with less than 10 years in practice.<sup>1</sup>
- ▶ Solo practitioners refer a higher percentage of patients to endodontists compared to GPs who are members of a group practice.<sup>2</sup>
- ▶ Females GPs refer a higher percentage of patients to endodontists compared to male GPs.<sup>3</sup>
- ▶ GPs in small cities refer a higher percentage of patients to endodontists compared to GPs in large cities or large metro areas. GPs in rural areas refer the lowest percentage of their total patients to endodontists.
- ▶ GPs in New York refer a lower percentage of their patients to endodontists compared to GPs in California, Florida and Illinois, and they routinely refer patients to fewer endodontists compared to GPs in these other states.

**Number of endodontists on the typical GP referral list.** GPs, on average, routinely refer patients to four endodontists. The range of responses is 0-15 endodontists, and the most frequent response is two endodontists as displayed in the histogram below.



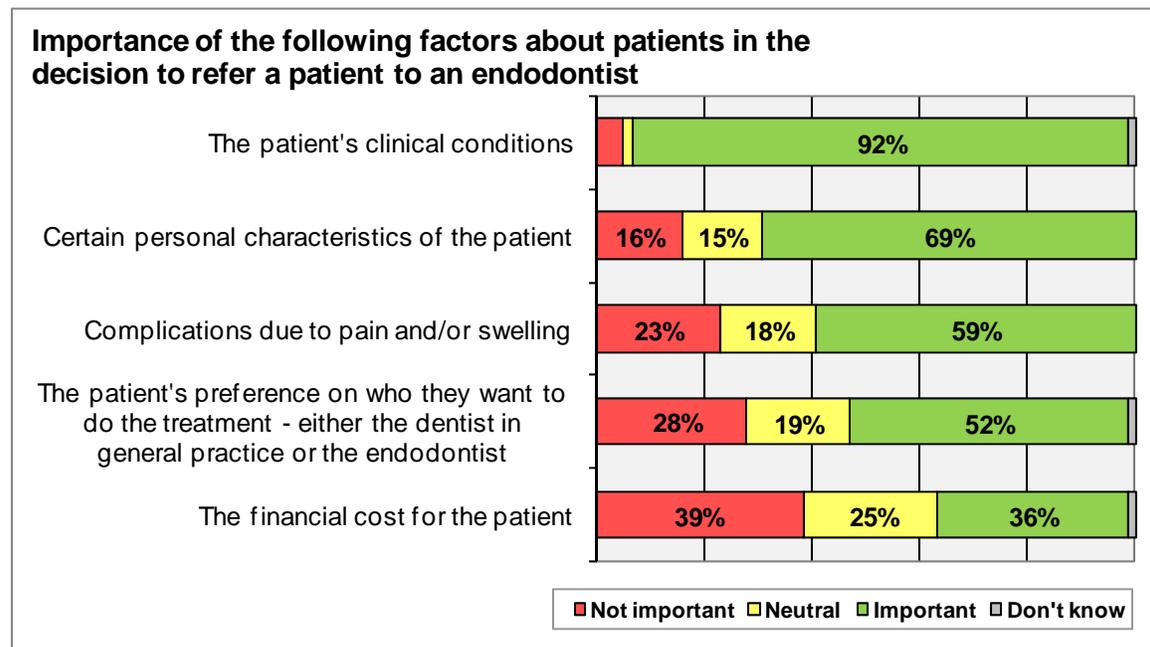
**Importance of patient factors that influence the referral decision.** Most of the GPs (92%) say the patient's clinical conditions are important when deciding to refer a patient

<sup>1</sup>These findings support the secondary research: GPs with more than 10 years in dentistry at a DMO are more likely than other GPs to recommend referral for patients with complex presenting conditions to endodontists: "I no longer think I can save every tooth, nor should I try!" (Caplan – Portland, OR, 1999); GPs more than 40 years old are more conservative in treating oral surgical cases compared to younger counterparts – indicating they may have experienced risks and complications of these procedures and are more clinically experienced (Reebye – Boston, 2007). They also support the focus group research: Participants suggest new graduates and younger dentists are more likely to stretch their skills and attempt procedures that normally fall to specialists. GPs indicate older dentists are more likely to accept the limits of their competence and have learned to avoid the worry associated with questionable outcomes.

<sup>2</sup> These results conflict with the secondary research: GPs in a two-doctor practice are twice as likely to refer to a periodontist compared to solo practitioners or larger group practices (Zemanovich – Virginia Commonwealth University, 2006).

<sup>3</sup> This trend is supported by the secondary research: Female GPs are more likely to refer patients to a specialist for root canal treatment ([www.thewealthydentist.com](http://www.thewealthydentist.com), 2009); Female GPs (70%) referred more cases for certain procedures compared to males (50%) (Cottrell – Boston University, 2007; Reebye – Boston, 2007); Female GPs are more than 2 ½ times more likely to refer to a periodontist compared to males (controlled for number of patients seen per week) (Zemanovich – Virginia Commonwealth University, 2006).

to an endodontist. A majority of GPs also say a patient's personal characteristics (69%) or pain/swelling complications (59%) are important factors. A smaller percentage of GPs rate the financial cost (36%) for the patient as an important decision-making factor.

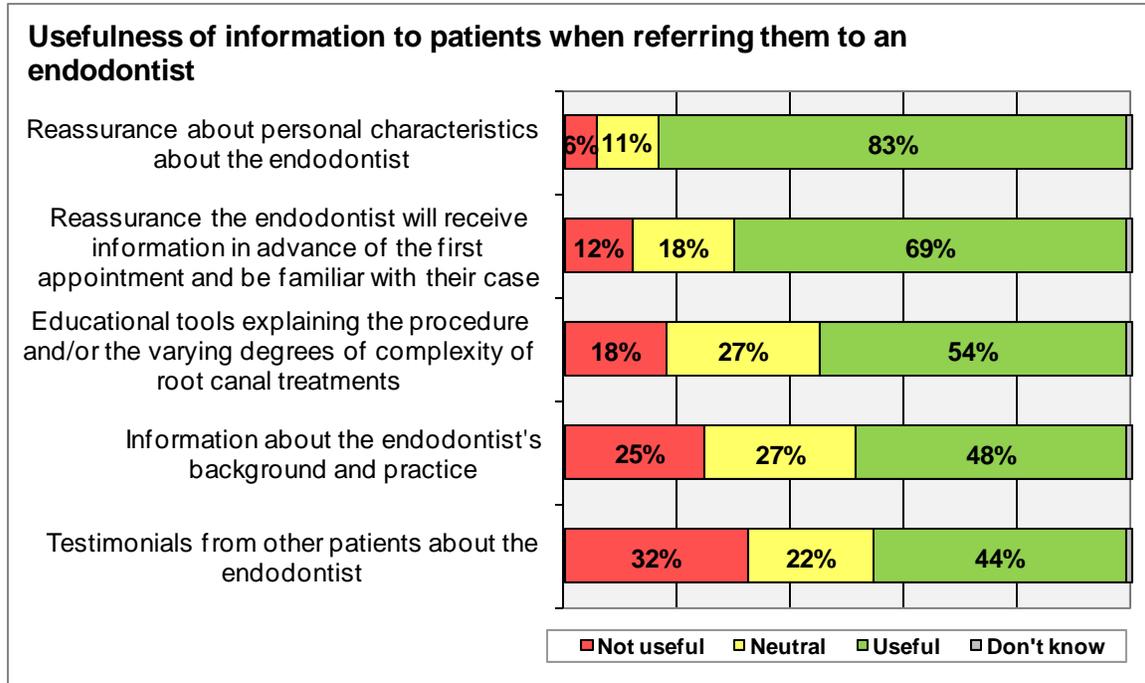


Three “other” commonly mentioned factors (n=101) about patients are: scheduling/availability of the endodontist (15%), complexity of the patient's case (13%) and proximity to the endodontist's office (12%). Note that while this question specifically asked respondents about other patient factors that impact the referral process, some response categories/responses focus on the endodontist. Refer to Appendix C for a complete summary of other-specify responses.

#### ***Statistically significant differences.***

- ▶ GPs who refer more than 90% of their patients needing root canal treatment to endodontists are less likely than those who refer lower percentages to indicate the patient's clinical conditions and preference for who conducts the treatment are important factors to their referral decision. Complications due to pain and/or swelling is more important to GPs who refer 11%-100% of their cases compared to those who refer 10% or less.

**Information GPs find useful when referring patients.** When referring patients to an endodontist, most GPs feel it is useful to give them reassurance about personal characteristics of the endodontist (83%) or assurance the endodontist will receive their information and be familiar with their case in advance of the appointment (69%). One-third of GPs (32%) believe testimonials from other patients are not as useful.

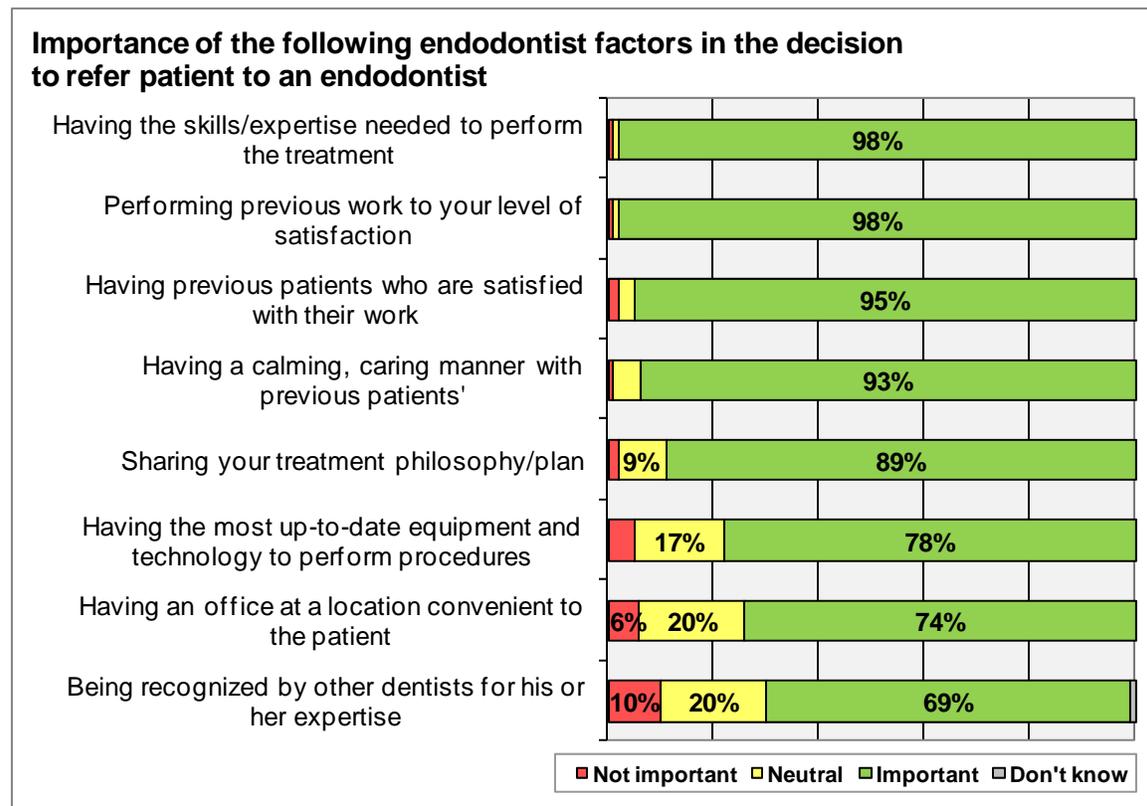


The majority of “other” responses to this question (n=90) fall into one of five categories: reassuring patients of endodontist's expertise/credentials (30%), information on the availability of the endodontist (14%), providing a recommendation (12%), giving cost-related information (12%) and information on the location of the office/access (12%).

**Statistically significant differences.**

- ▶ Female GPs rate various types of patient referral information more useful compared to male GPs. This information includes background and practice information about the endodontist, educational tools explaining the procedure, reassurance about personal characteristics about the endodontist and patient testimonials.
- ▶ GPs who refer at least 90% of their patients to endodontists rate various types of patient referral information more useful compared to GPs who refer fewer cases.

**Importance of factors about endodontists that influence the referral decision.** Many factors about endodontists are important to high percentages of GPs when deciding to refer patients to endodontists, including having the skills/expertise needed (98%), being satisfied with their previous work (98%) and having previously satisfied patients (95%). One-fifth of GPs are ambivalent about the importance of having a convenient office location (20%) or having their expertise recognized by other dentists (20%).

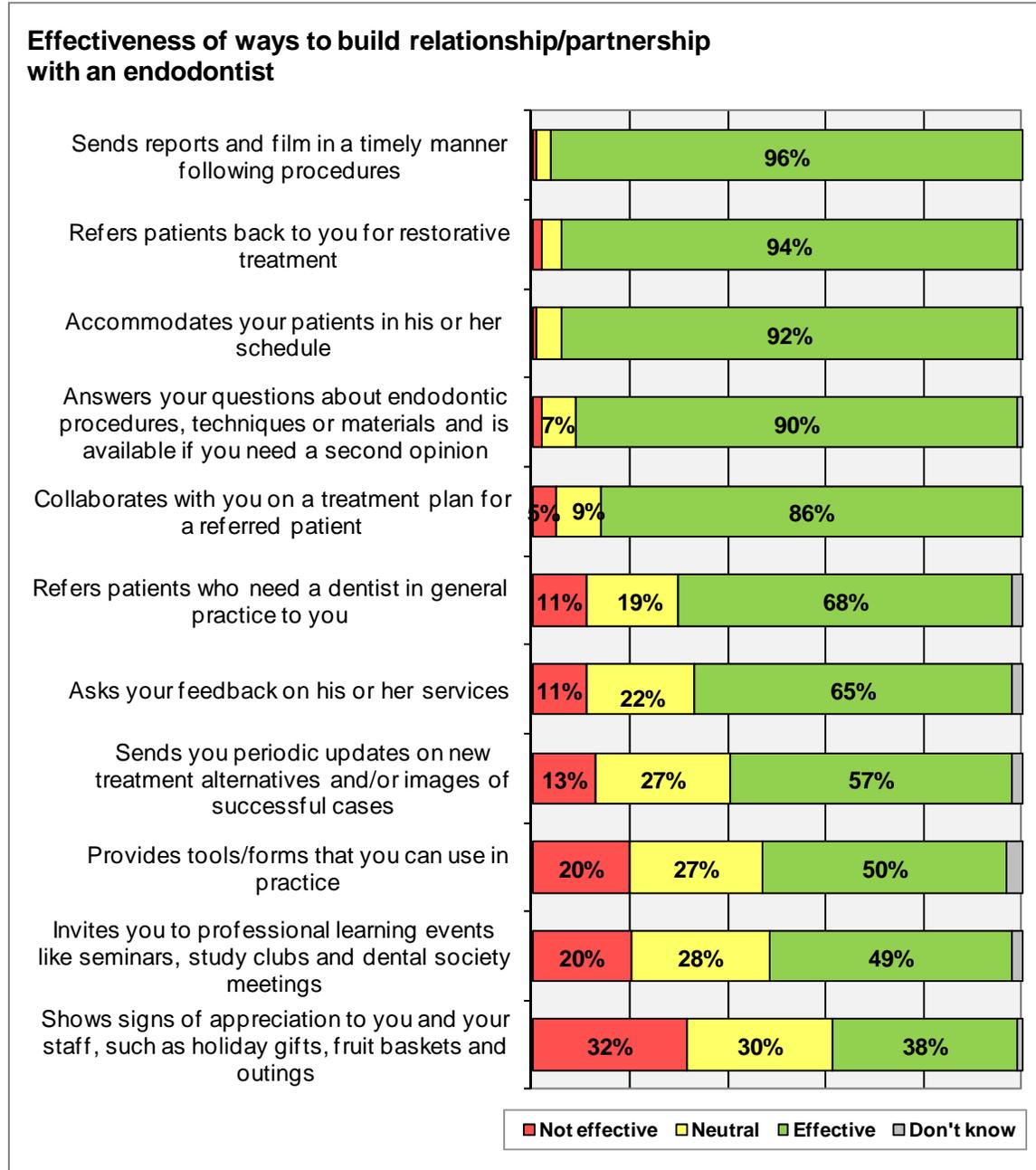


The majority of “other” responses (n=62) to this question fall into one of four categories: having good communication with the GP (18%), having a good working relationship with the GP (16%), cost and insurance-related issues (15%) and being accommodating with emergencies (13%).

#### ***Statistically significant differences.***

- ▶ GPs who have been in practice longer tend to rate various endodontist factors more important than newer GPs when deciding to refer a patient to an endodontist including: the skills/expertise needed to perform the treatment, performing previous work to the GPs satisfaction level, having a convenient office location and having the most up-to-date equipment.
- ▶ Female GPs rate the endodontist’s office location and treatment philosophy/plan more important than male GPs when deciding to refer a patient to an endodontist.
- ▶ GPs who refer at least 90% of their patients needing root canal treatment tend to rate various endodontist factors more important than GPs who refer 10% or less of the cases.

**Effectiveness of ways to build relationships/partnerships with an endodontist.** A large majority of GPs rate timely follow-up of reports and film (96%), referring patients back for restorative treatment (94%), patient accommodation (92%), answering questions about procedures or for second opinions (90%) and treatment plan collaboration (86%) as effective ways to build relationships/partnerships with endodontists. Less than one-half of GPs say invitations to professional learning events (49%) or signs of appreciation (38%) are effective relationship-building behaviors.



The majority of “other” responses (n=33) to this question fall into one of four categories: communicates well with the GP (27%), is cooperative with the GP (24%), is available

(22%) and is supportive of the referring GP (21%). Refer to Appendix C for a complete summary of the other-specify responses.

***Statistically significant differences.***

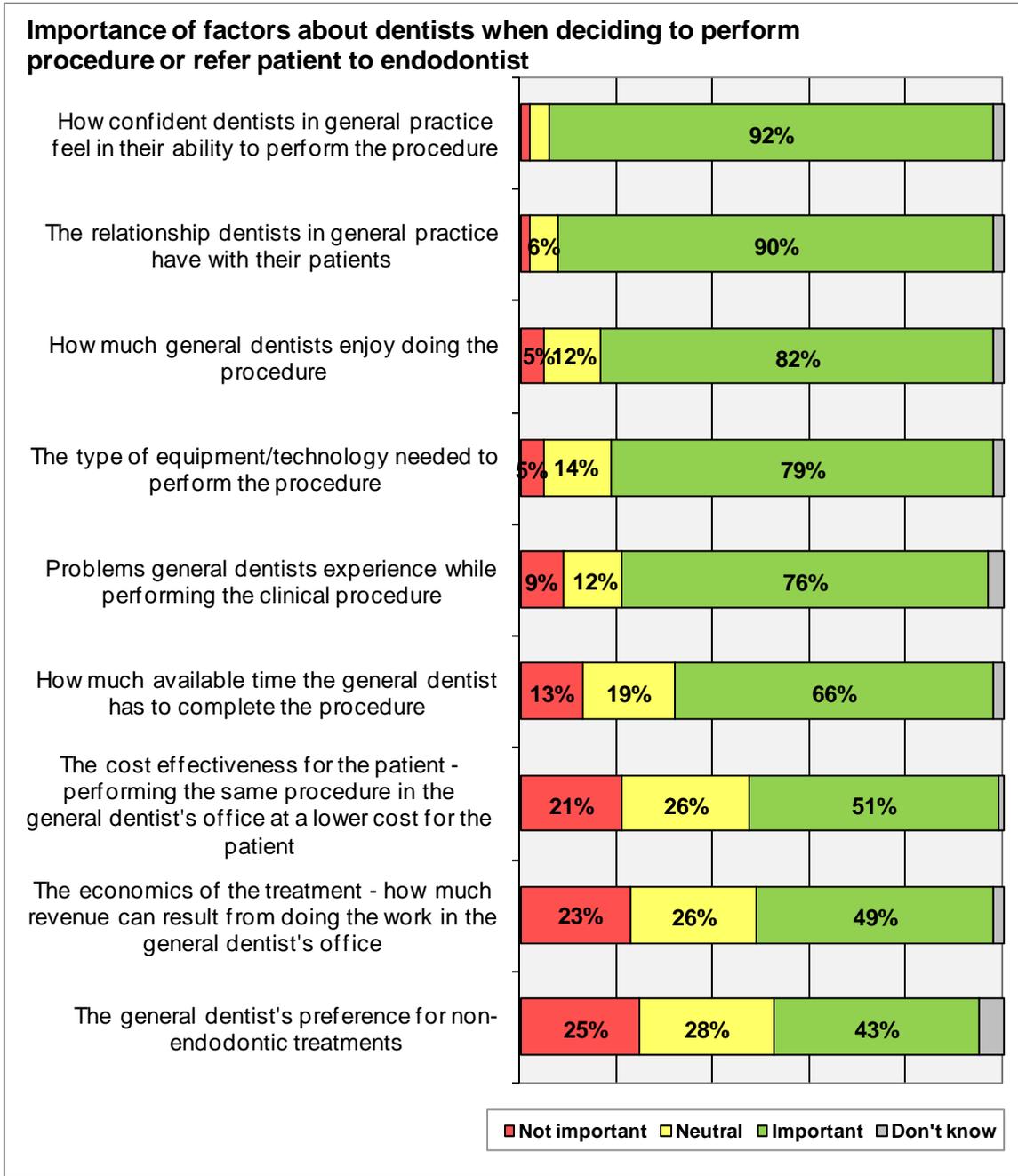
- ▶ GPs who have been in practice 6-10 years are more likely than those practicing more than 10 years to say periodic treatment updates, invitations to professional learning events, signs of appreciation and patient referrals to GPs are more effective in building reciprocal relationships with endodontists. GPs who have been in practice 10 years or less are more likely to say professional learning events are effective in building reciprocal relationships with endodontists compared to GPs in practice more than 10 years.
- ▶ Female GPs rate most of the various ways in building reciprocal relationships with endodontists more effective compared to males including: treatment plan collaboration, periodic new treatment updates, timely follow-up, professional learning events, signs of appreciation, availability to answer questions and for second opinions, tools and forms to use in practice and patient accommodation.
- ▶ GPs in rural areas rate accommodating patients a less effective way to build reciprocal relationships with endodontists compared to GPs in larger populations.
- ▶ GPs in the Northeast rate some of the ways to build reciprocal relationships with endodontists less effective compared to GPs in other regions including: periodic new treatment updates, signs of appreciation and tools/forms to use in practice.
- ▶ GPs in New Jersey rate some of the ways to build reciprocal relationships with endodontists less effective compared to GPs in some other states including: treatment plan collaboration, referrals back for restorative treatment and timely follow-up.
- ▶ GPs who refer 10% or less of their patients tend to rate some of the ways to build reciprocal relationships with endodontists less effective compared to GPs referring more patients.

**Importance of factors about dentists when deciding to perform procedure or refer it.** Nine in 10 GPs surveyed rate the degree of confidence in their ability to perform the procedure (92%) or the relationship they have with their own patients<sup>4</sup> (90%) as factors that are important when deciding whether to perform or refer a procedure. Eight in 10 GPs say the extent to which they enjoy the procedure (82%) or the type of equipment/technology (79%) needed are just as important. However, less than one-half of GPs say the economics of the treatment (49%) or their preference for non-endodontic treatments (43%) are important factors in this decision.

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<sup>4</sup> The secondary research identified the GP-patient relationship as important in decreasing fear and anxiety. Discussions during the focus groups centered on the GP-patient relationship and the follow-through of referrals. Refer to appendices E and F for the detailed reports.

The majority of “other” responses (n=34) to this question fall into one of three categories: GP’s experience with root canal procedures and techniques (24%), complexity of the case (18%) and the belief that all endodontic cases should be referred to endodontists (15%).

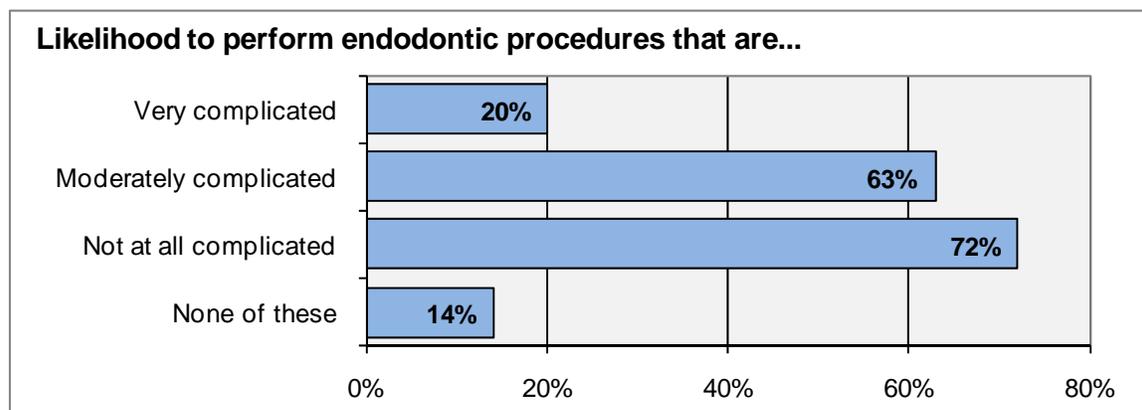


**Statistically significant differences.**

- ▶ Newer GPs are more likely than GPs who have been in practice longer to say the economics of the treatment and their availability to complete the procedure are important GP factors when deciding to perform a root canal or refer a patient.

- ▶ Female GPs are more likely than male GPs to consider the type of equipment needed to perform the procedure, and problems they experience while performing the clinical procedure factor, in deciding to perform the procedure or refer a patient.
- ▶ GPs in large metro areas are more likely to consider the economics of treatment when deciding to perform the procedure or refer compared to GPs in rural areas. GPs in rural areas rate the relationships they have with their patients more important than GPs in places with larger populations.
- ▶ GPs who refer more than 90% of their patients needing root canals to endodontists are less likely to find the various GP factors important in the referral decision compared to GPs who refer a lower percentage of patients.

**Likelihood of performing endodontic procedures based on complication level.** A large percentage of GPs indicate they handle endodontic procedures that are not at all complicated (root canal that is not a molar) (72%) or moderately complicated (root canal on a tooth with a crown) (63%). One in five GPs performs very complicated endodontic procedures (root canal on a 2<sup>nd</sup> or 3<sup>rd</sup> molar), while 14% of GPs say they refer all of them.



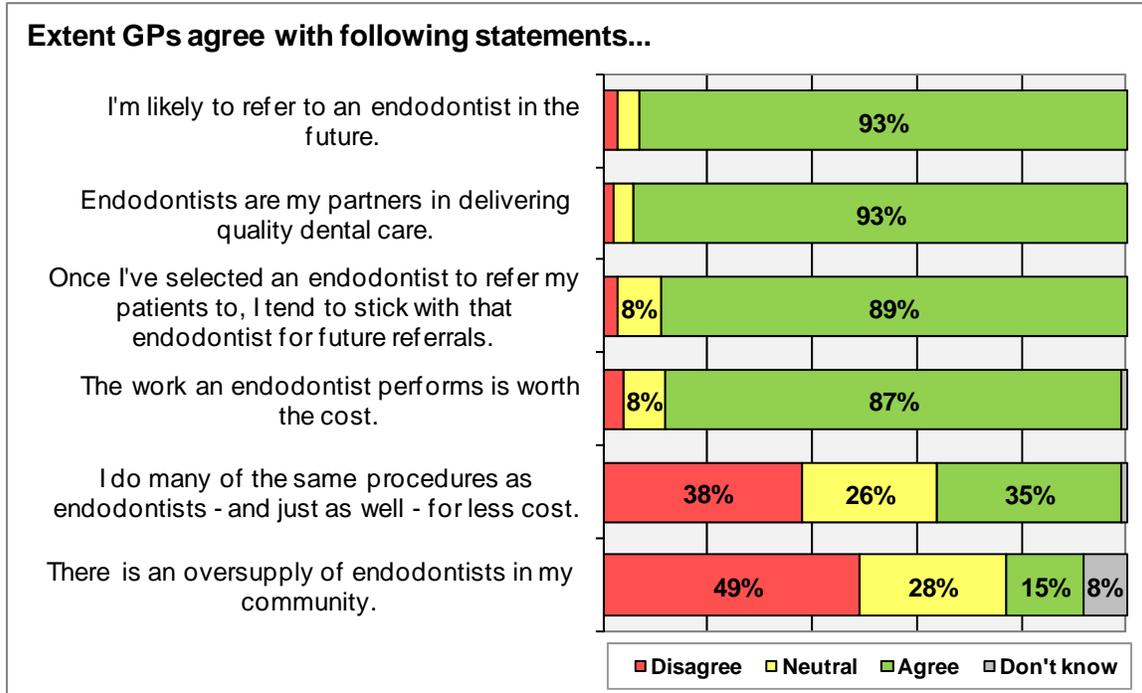
**Statistically significant differences.**

- ▶ GPs in practice more than 10 years are more likely to say they do not do any of the endodontic procedures compared to GPs in practice 10 years or less.
- ▶ Male GPs are more likely to say they perform moderately complicated and very complicated endodontic procedures compared to female GPs.
- ▶ GPs in rural areas are more likely to say they perform moderately complicated endodontic procedures compared to GPs in places with larger populations.
- ▶ GPs who refer 90% or more of their patients to endodontists are less likely to perform endodontic cases of all complexity levels compared to GPs who refer fewer cases.

**Opinions of endodontists.** Large percentages of GPs agree with positive statements about endodontists including being likely to refer to them in the future (93%), considering them partner in delivering quality dental care (93%), sticking with selected

endodontists for referrals (89%) and believing the work they do is worth the cost (87%). Moreover, four in 10 GPs do not think they do many of the same procedures endodontists do just as well for less cost (38%) and nearly one-half do not believe there is an oversupply of endodontists in their community (49%).

An item about the perception of endodontists as partners in delivering quality dental care was used to compare results with the 2007 General Dentist Survey. 93% of GPs agree with this statement – the same percentage of general dentists who agreed with this statement in 2007.



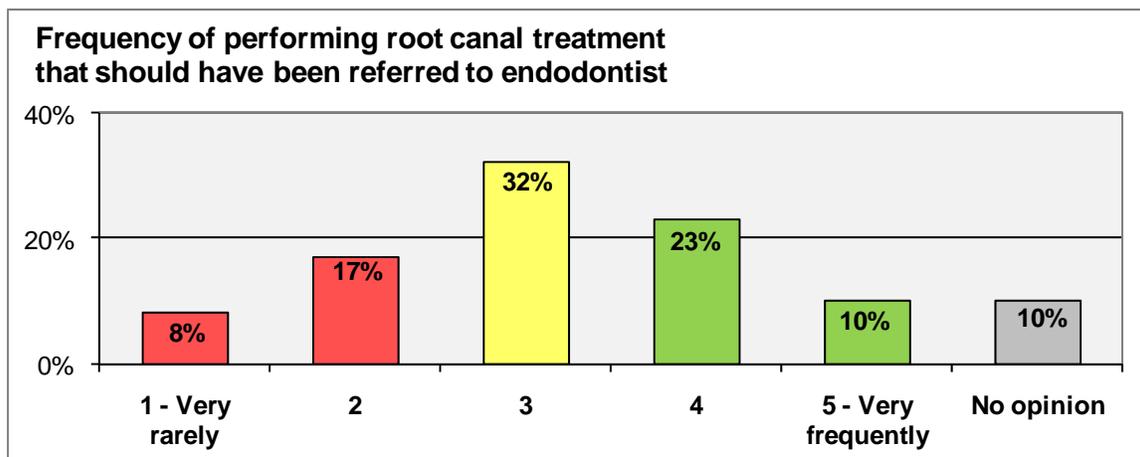
### *Statistically significant differences.*

- ▶ Male GPs are more likely than female GPs to agree they do many of the same procedures as endodontists just as well for less cost. Conversely, female GPs are more likely to agree that the work endodontists do is worth the cost and they will refer to an endodontist in the future.
- ▶ GPs in small cities are less likely to believe they do the same procedures as endodontists just as well for less cost compared to GPs in other locations. GPs in rural areas are less likely to agree that there is an oversupply of endodontists in their communities.
- ▶ GPs in the Northeast are less likely to refer to an endodontist in the future compared to GPs in other regions. GPs in the Northeast are less likely to agree the work an endodontist performs is worth the cost and that endodontists are their partners in delivering quality dental care compared to GPs in the South and West. GPs in the West are more likely to agree there is an oversupply of endodontists in their communities.

- ▶ GPs in New Jersey, New York and Pennsylvania are less likely to say they will refer to an endodontist in the future compared to GPs in California, Florida and Georgia. GPs in New York are less likely to believe the work an endodontist does is worth the cost and that endodontists are their partners in delivering quality dental care compared to GPs in some other states. Florida GPs are more likely than GPs in some other states to say they stick with the same endodontist.
- ▶ GPs who refer 0-89% of their patients needing root canals to endodontists are more likely than GPs who refer 90% of their cases to say they do many of the same procedures as endodontists just as well and for less cost. Those who refer 10% or less of their cases are less likely to refer to an endodontist in the future, to believe the work an endodontist does is worth the cost and that endodontists are their partners in delivering quality dental care. GPs who refer 11-100% of their patients are more likely to refer to an endodontist in the future and to consider endodontists their partners in delivering quality dental care compared to GPs who refer 10% or less patients.

### **Frequency of performing root canals that should have been referred to endodontist.**

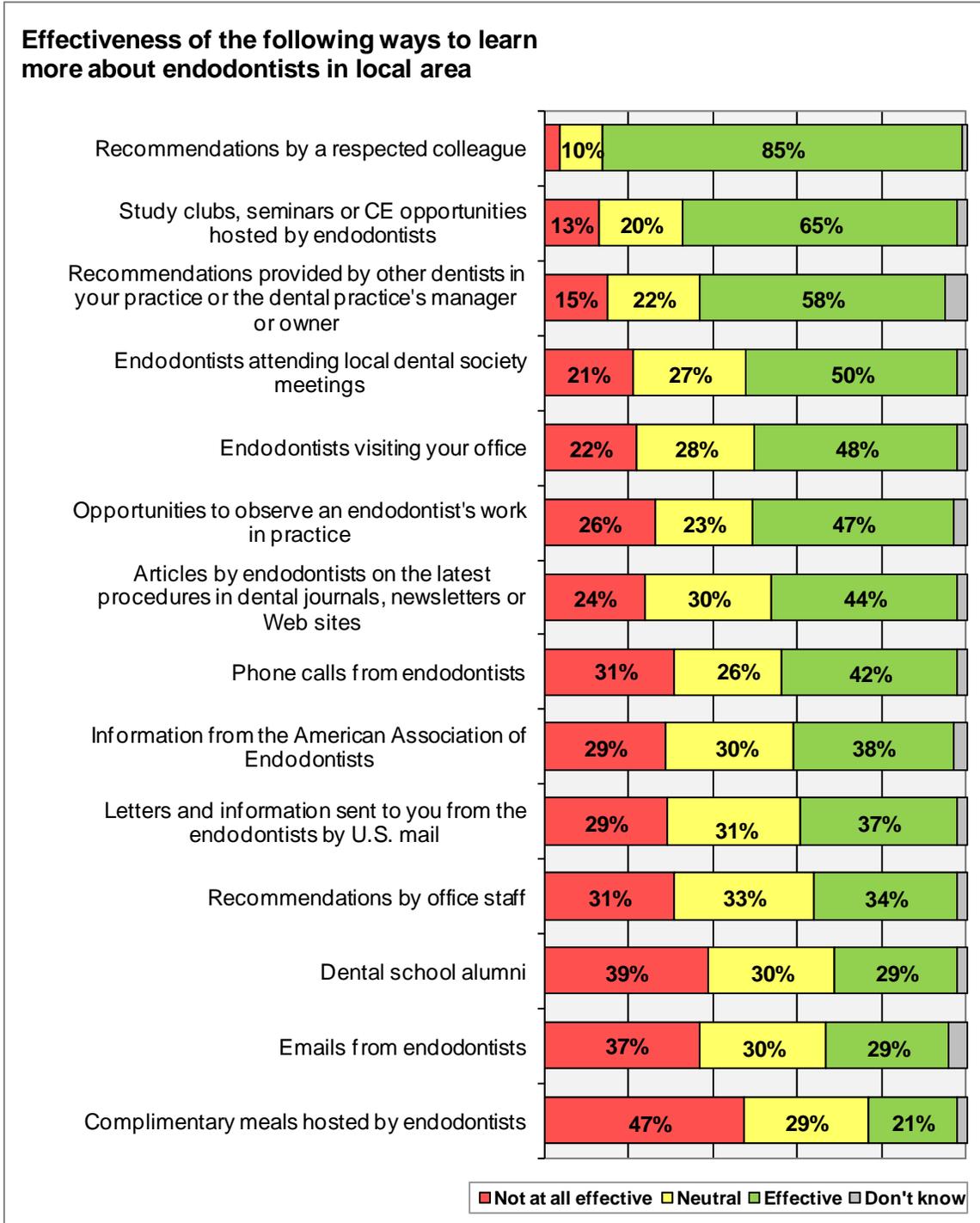
One-third (33%) of GPs say that root canals frequently (23%) or very frequently (10%) have been performed by GPs that should have been referred to an endodontist. One-quarter of GPs say that occurs rarely (17%) or very rarely (8%).



### ***Statistically significant differences.***

- ▶ GPs with more than 10 years experience are more likely than newer GPs to say there have frequently been cases when GPs should have referred cases to endodontists rather than perform the root canal treatment.
- ▶ GPs in small cities are more likely than GPs in rural areas and larger cities to say there have frequently been cases when GPs should have referred cases to endodontists rather than perform the root canal treatment.
- ▶ GPs who refer 10% or less of their patients needing root canals to endodontists are less likely than those referring more patients to say there have frequently been cases when GPs should have referred cases to endodontists rather than perform the root canal treatment.

**Effectiveness of various ways to learn more about endodontists.** A large majority of GPs say recommendations by respected colleagues (85%) are effective ways to learn about endodontists in their area followed by study clubs, seminars or CE opportunities hosted by endodontists (65%). Smaller percentages of GPs think dental school alumni (29%), emails from endodontists (29%) and complimentary meals (21%) are effective ways to learn about endodontists.



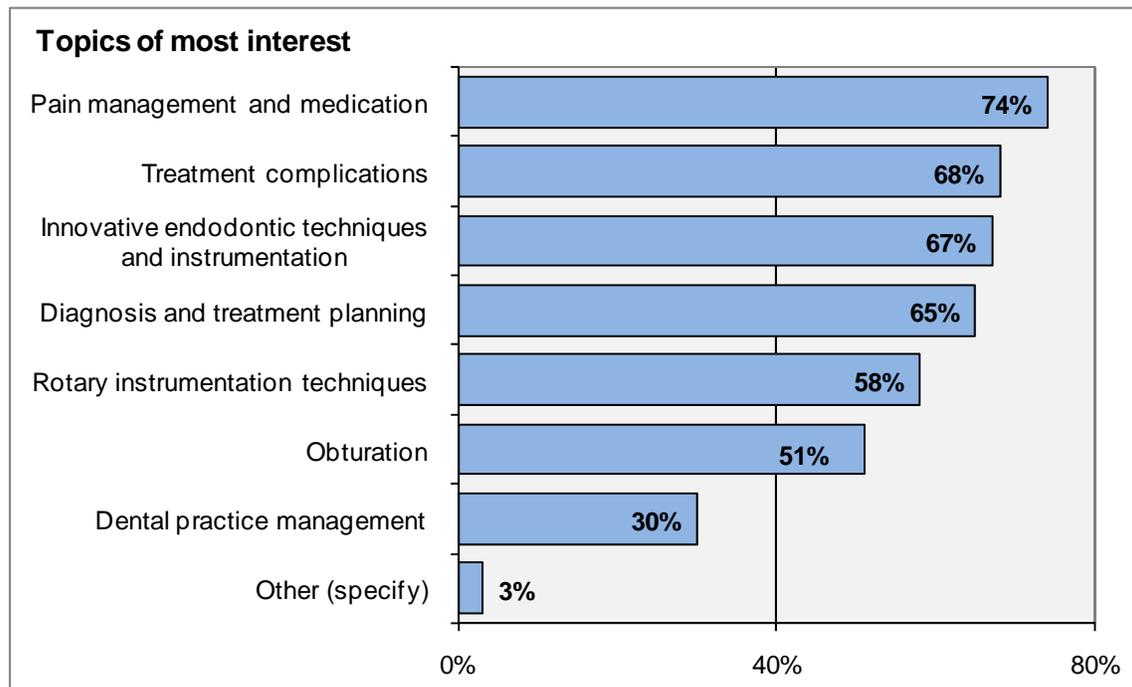
The majority of “other” responses (n=26) to this question fall into the following seven categories:

- ▶ The endodontist’s expertise (15%)
- ▶ Feedback from the patient (15%)
- ▶ Personal contact with the endodontist (15%)
- ▶ GP’s evaluation of the endodontist’s results (12%)
- ▶ CE opportunities offered by the endodontist (12%)
- ▶ Improved communications from endodontists (8%)
- ▶ Information from AAE (8%)

***Statistically significant differences.***

- ▶ GPs practicing 6-10 years are more likely to rate emails from endodontists, study clubs, seminars or CE opportunities, chances to observe an endodontist’s work, articles by endodontists, dental school alumni, complimentary meals, visits to their offices and information from AAE as more effective ways to learn more about endodontists in their area compared to GPs in practice for more than 10 years.
- ▶ Newer GPs are more likely than those practicing for more than 10 years to rate most of the various ways to learn more about endodontists in their area effective.
- ▶ Female GPs are more likely than male GPs to say letters, emails, study clubs, seminars or CE opportunities, opportunities to observe an endodontist’s work, articles on latest procedures, recommendations by dental colleagues and office staff, dental school alumni, local dental society meetings, complimentary meals, office visits and information from AAE are effective ways to learn more about endodontists in their area.
- ▶ GPs in the Northeast compared to GPs in most other regions are less likely to rate the various methods effective including: letters, phone calls, emails, study clubs, seminars or CE opportunities, opportunities to observe an endodontist’s work, recommendations by respected colleagues, dental school alumni, local dental society meetings, complimentary meals and office visits.
- ▶ GPs in Florida are more likely than GPs in some other states to say recommendations by respected colleagues are effective ways to learn more about endodontists in their area. GPs in New Jersey are less likely than GPs in some other states to say local dental society meetings are effective ways to learn more about endodontists.
- ▶ GPs who refer 11-89% of their patients are more likely to say phone calls from endodontists are effective ways to learn more about endodontists in their area compared to GPs who refer less than 10% or 90% or more of their patients.

**Endodontic-related topics of most interest.** If respondents indicated in the previous question that study clubs, seminars, CE opportunities or articles by endodontists are effective ways to learn about endodontists in the area, they were asked a follow-up question about endodontic-related topics of interest. Three-quarters of GPs (74%) are interested in pain management and medication. Nearly seven in 10 GPs want to learn more about treatment complications (68%), innovative endodontic techniques (67%) or diagnosis and treatment planning (65%).



The “other” topics (n=17) most frequently mentioned include laser treatments (18%) and re-treatments (12%).

***Statistically significant differences.***

- ▶ Female GPs are more interested than male GPs in dental practice management, pain management and medication, and diagnosis and treatment planning. Male GPs are more interested in innovative endodontic techniques and instrumentation than female GPs.
- ▶ GPs in small cities are less interested in treatment complications compared to GPs in other locations.
- ▶ GPs who refer 10% or less of their patients needing root canal treatment to endodontists are more interested in innovative endodontic techniques and instrumentation and treatment complications compared to GPs who refer more cases. GPs who refer 90% or more of their patients are generally less interested in endodontic-related topics compared to GPs who refer fewer cases.

**Open-end summary – What endodontists can do more effectively to increase referrals.** Survey participants were asked to respond to an open-ended question. Responses were analyzed, and a content summary follows. Percentages listed in these analyses are percentages of those who responded to the open-ended question, not to the survey as a whole. For example, if 500 individuals responded to an open-ended question, “10%” would refer to 50 individuals.

***Q13: What could endodontists do more effectively to increase referrals from dentists in general practice like you?***

A total of 474 GPs responded to the open-ended question. The majority of responses fall into one of four categories: interact more with general dentists (47%), accommodate patients (14%), cost of treatment (14%) and respect general dentists and the patients they refer (12%). Several considerably smaller groups fall into a miscellaneous category (13%) noted at the end of this summary.

***Interact more with general dentists.*** Nearly half of participants (47%) indicate they would like to see endodontists interact more with dentists in general practice (GPs). Interaction can occur in several formats, including communicating with GPs, facilitating continuing education, in-person interactions and relationship building.

Most notably, participants suggest endodontists communicate more with GPs (41%). Communication in general should be more frequent, more effective, and delivered personally by the endodontist via telephone, email or letter. Participants also indicate communication following treatment could be improved, specifically more consistently delivered and in a timely manner. Additionally, endodontists are encouraged to communicate pertinent information to referring GPs, including technology used, insurance accepted, office policies and procedures, availability and fees to ensure a smooth referral process.

Participants also report endodontists can increase their level of interaction with general practitioners by providing educational opportunities for GPs (20%). Participants suggest endodontists host continuing education seminars or sponsor them through local dental societies; host study clubs; offer classes and “lunch and learns”; and provide GPs with tips to increase success with routine endodontic treatments, in an informational newsletter or endodontics book to further GP skills. Participants also note several specific topics GPs may find beneficial.

- ▶ How to properly diagnose cases
- ▶ Compiling a proper history
- ▶ Conducting “proper” diagnostic testing
- ▶ Radiographic techniques
- ▶ Oxygen/ozone treatment

GPs also express interest in being contacted by endodontists in-person (14%). Participants indicate endodontists should visit GP offices in their communities and introduce themselves personally. This gives the GP the opportunity to put a face to a name and the endodontist the opportunity to deliver both professional references and marketing materials like business cards, brochures, treatment photos and other visual materials for GPs to distribute to patients. Participants also suggest endodontists pay at least an annual visit to referring GPs in order to sustain the relationship.

In addition to face-to-face contact, participants are interested in establishing relationships with the endodontists they use for referrals (10%). GPs suggest it is important to them to “forge great relationships” with the specialists they refer to in order to create an atmosphere of mutual understanding so “as a team...you can best meet the patient’s needs.” An important outcome of establishing a relationship with specialists is the expectation of reciprocal referrals. GPs suggest the referral process tends to be a “one way street”; endodontists could do a better job of referring patients in need of restorative procedures, those they cannot manage and those who are “unencumbered” (e.g., do not already have a general dentist).

Several less frequently cited opportunities to interact also emerged. Participants suggest endodontists invite GPs to lunch occasionally (5%) as well as become more visible and involved in the GP community (5%) by attending society meetings and events, participating on committees, volunteering at local dental clinics and attending GP lectures. Other suggestions include:

- ▶ “Helping” GPs when asked (5)
- ▶ Staying in regular contact with GPs (3)
- ▶ Publishing and sharing peer-reviewed articles (1)
- ▶ Distributing a newsletter (1)
- ▶ Being more accessible to GPs (1)

#### Illustrative verbatim responses

*I have never received a call or invite for a meeting from an endodontist.*

*I find that making communication a priority really affects who I refer to regularly.*

*Communicate more effectively. A phone call means a lot to me. Other specialists are much better at communicating than endodontists. A box of donuts isn’t as important as a hand written note or phone call saying that your referrals are appreciated.*

*Perhaps sponsoring a seminar on endodontic technique to help general dentists improve and also hone their diagnostic skills. The more a general dentist understands about diagnosis, the more likely he or she is to refer when necessary.*

*I think it is extremely important that an endodontist schedule a visit with a dentist to discuss his treatment philosophy and how he could assist the general practice.*

*Refer patients to the general dentist when the opportunity arises. Some specialists refer only to a selected few dentists. I have sent hundreds of thousands of dollars to*

*specialists and some refer to me and some don't. The ones that don't refer to me I will stop referring to them.*

**Accommodate patients.** A considerably smaller group of participants indicate endodontists could increase the number of referrals they receive from dentists in general practice by offering patients more accommodating scheduling (14%). GPs would like to see emergencies and patients who are in pain treated immediately; many participants report long delays before their patients can be seen by an endodontist (up to three months, they say). Delays are reported to be due to multiple factors including understaffed specialist offices, too few endodontists in a region and too few hours or inflexible scheduling available. Participants suggest endodontists establish dedicated appointment slots for emergencies, provide greater off-hour (including evenings and weekends) availability and add staff to accommodate patients within a reasonable timeframe.

Illustrative verbatim responses

*Work with my office to accommodate patients in pain instead of offering them an appointment in three weeks.*

*See my patients quickly if needed.*

*We have difficulty getting patients an appointment with an endodontist in our area in a timely fashion – lately it has taken up to 3 months and many cases that I need to refer cannot wait that long.*

*Don't close the office at 2:15 every day of the week and please work on Fridays!*

*Be there when I need them to be (Friday afternoon) and be willing to take child patients in emergencies.*

*Be available for patients who have busy schedules (night hours, Saturday hours). Endodontists in my area do not have hours on Saturdays or nights. These patients who can't take off from work often elect to have extraction instead of RCT.*

**Cost.** A smaller segment of participants suggest the cost of procedures inhibits the number of patients GPs refer to endodontists (14%). Fees are described as too high, unreasonable and unaffordable. Participants indicate working with patient insurance, offering a flexible payment plan rather than requiring payment in full at the time of service and using a sliding scale to accommodate lower-income patients may encourage them to follow through with recommended endodontic procedures. Participants also recommend endodontists waive fees for retreats or refund patients if RCT fails. A small number of GPs report they may perform procedures for patients who cannot afford to be referred despite being uncomfortable with their own skill level.

Illustrative verbatim responses

*Accept some insurance so patients will be more likely to go.*

*The fees are too high. Need to keep fee structure down. Some charging \$1,300 to \$1,700 for molar RCT completed in one visit. This is one of patients' biggest complaints.*

*Lower their fees slightly, at least in some cases. I realize that endodontics done correctly is very difficult and I greatly appreciate the endodontists I refer to – I certainly could not have a successful practice without them. However, endo tx for many procedures, especially molars, is so cost-prohibitive that I fear we will have to perform many more extractions in the future.*

*Facilitate ways patients make payment so they will accept tx as recommended by GP: sometimes tx is not accepted because they cannot make payment in full at time endo is finished and they are asked to make full payment even though they have insurance.*

*Admit they need to retreat a few cases and retreat them without cost to the patient and retreat quickly. Should be able to admit some cases fail and need retreatment. Be willing to fix failures and not blame the patient or charge the patient.*

**Respect.** More than 10% of participants (12%) suggest endodontists who respect general dentists are more likely to receive referrals from them. GPs would like to see endodontists accept general practitioners as their partners in patient treatment by supporting the treatment plan put in place by the general dentist and conferring with the GP before suggesting alternatives to the patient. Participants also suggest endodontists refrain from encroaching on the services typically performed by general practitioners, belittling the general dentist to the patient and sending patients to a different GP for tooth restoration. Other suggestions include:

- ▶ Accepting that not only endodontists are capable of performing some endodontic procedures
- ▶ Listening to how the GP wants a tooth to be “temporized”
- ▶ Only performing work that is requested
- ▶ Instructing the patient to return back to the GP for the restorative procedure

Patients also indicate endodontists should treat referred patients with care and respect. GPs indicate they are more likely to continue to refer to a specialist if he or she has a good “chair side” manner and treats patients professionally and courteously. Endodontists should also refrain from an arrogant or superior attitude and be non-judgmental towards peers.

#### Illustrative verbatim responses

*Endodontists are beginning to alienate their referral base by expanding their scope of practice. Endodontists have no business extracting teeth, grafting sockets, or placing implants. This scope of practice expansion is purely motivated by economics. Endodontists would be much better served if they spend a little more time with the cases we do send and perform excellent RCT consistently. I sometimes get a patient back with RCT no better than what I did in dental school.*

*Take great care of my patients and speak highly of the referring dentist, assuring the patient they made a good choice.*

*Do not assume that they know what is best for the patient! It is possible that the referring GP is better acquainted with what is best for the patient. Have*

*consideration for the referring GP's wishes, i.e., exercise caution when the specialist decides to make a referral to another specialist in a different discipline. Do not forget how the patient got to their office in the first place.*

*The endodontist should always return the patient back to the general dentist for restorative care and should never send the patient to another general dentist that the endodontist knows personally. The endodontist should also support the general dentist to the patient. In other words, the endodontist should never be critical of the general dentist.*

**Miscellaneous.** Several smaller groups emerged during analysis. Each is briefly summarized below.

- ▶ Endodontists should be competent specialists with excellent skills and knowledge of current technology and techniques (5%).
- ▶ Procedural suggestions (3%):
  - Avoid porcelain fractures.
  - Do not drill through old carries.
  - Do not miss the 4<sup>th</sup> canal.
  - Do not perform RCT on molars with vertical fracture.
  - Make more necrotic pulps.
  - Do not treat a tooth that should be extracted.
  - Be aware of the tooth condition before performing RCT.
  - Be capable of performing apical surgery if needed.
  - Go beyond what GPs can offer such as use of a microscope or special sedation techniques for the very anxious.
- ▶ Ensure there are a sufficient number of endodontists in a region to meet patients' needs (2%).
- ▶ Show appreciation for referring general dentists with gifts and thank yous (2%).
- ▶ Understand that some GPs will continue to perform simple endodontic procedures due to the current economy (1%).

*Illustrative verbatim responses*

*Make a great impression on patients that are referred so that when they return to the GP, the patients can't stop talking about the endodontist.*

*I would hope that the specialist is able to do a better job in a more timely fashion than I and that is the reason that I refer that particular case.*

*Nearest endodontist is 65 miles away, so one closer would translate to referrals.*

## **GP REFERRALS STUDY** **KEY DRIVER ANALYSIS**

### **Key driver analysis: Predictors of the likelihood to refer to endodontists.**

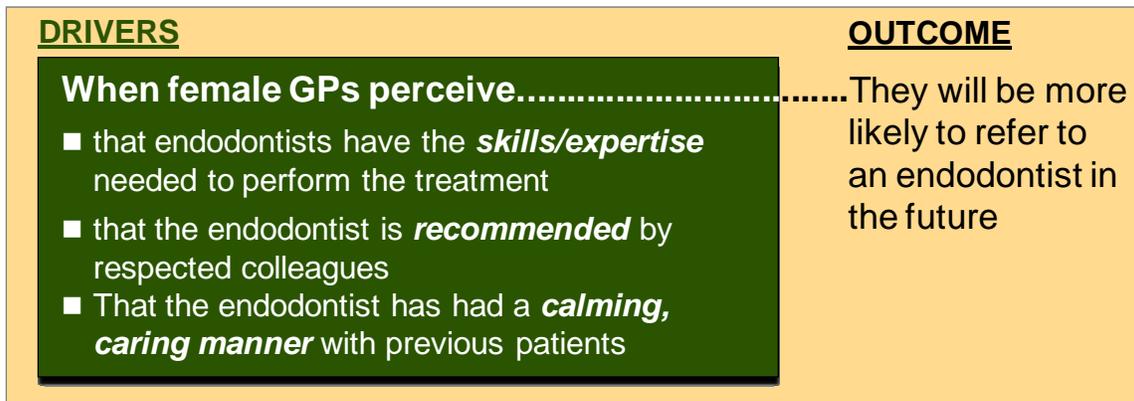
Researchers conducted advanced analyses to statistically identify factors that will predict the likelihood to refer to an endodontist in the future. The purpose of these analytic techniques is not to reveal the largest numeric results or correlations but rather to identify statistical cause-and-effect relationships that may be used to help shape or prioritize marketing/communication strategies, tactics or messaging. Linear and stepwise regression analyses were used to identify and confirm the following predictors.

These findings are most important for developing effective, fact-based strategies, tactics and messaging.

**Key driver analysis – all GPs.** Promoting the “partners” theme – a key driver identified in the 2007 Survey of General Dentists – and convincing GPs that the work endodontists perform is a good value are ways to increase the likelihood that GPs will refer to an endodontist in the future.



**Key driver analysis – female GPs.** Female GPs who believe the endodontist has the skills/expertise needed, who receive recommendations by respected colleagues and who believe the endodontist has a calming, caring manner with previous patients will be more likely to refer to the endodontist in the future.



**Key driver analysis –GPs 6-10 years in practice.** Key drivers to promote to GPs who have been practicing six to 10 years include that the endodontist: refers patients back for restoration, is accommodating, sends reports and film in a timely manner, has the skills/expertise needed, has previously satisfied patients, has a calming and caring manner with previous patients and shares the GP’s treatment philosophy/plan.

