Practice Location Characteristics of Non-Traditional Dental Practices

Eric S. Solomon, DDS, MA; Daniel L. Jones, DDS, PhD

Abstract: Current and future dental school graduates are increasingly likely to choose a non-traditional dental practice—a group practice managed by a dental service organization or a corporate practice with employed dentists—for their initial practice experience. In addition, the growth of non-traditional practices, which are located primarily in major urban areas, could accelerate the movement of dentists to those areas and contribute to geographic disparities in the distribution of dental services. To help the profession understand the implications of these developments, the aim of this study was to compare the location characteristics of non-traditional practices and traditional dental practices. After identifying non-traditional practices across the United States, the authors located those practices and traditional dental practices geographically by zip code. Non-traditional dental practices were found to represent about 3.1% of all dental practices, but they had a greater impact on the marketplace with almost twice the average number of staff and annual revenue. Virtually all non-traditional dental practices were located in zip codes that also had a traditional dental practice. Zip codes with non-traditional practices had significant differences from zip codes with only a traditional dental practice: the populations in areas with non-traditional practices had higher income levels and higher education and were slightly younger and proportionally more Hispanic; those practices also had a much higher likelihood of being located in a major metropolitan area. Dental educators and leaders need to understand the impact of these trends in the practice environment in order to both prepare graduates for practice and make decisions about planning for the workforce of the future.

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Keywords: dental practice, dental practice patterns, dental practice management

Submitted for publication 7/23/15; accepted 9/9/15

The increasing involvement of corporate entities in dental practices could be the most significant change to practice operations over the past century. The Association of Dental Support Organizations (ADSO) represents many of these corporate entities. According to the ADSO, their members include more than 35,000 staff members, more than 8,000 dentists, more than 4,000 dental hygienists, and more than 5,000 practice locations that contain more than 24,000 operatories, with about 30 million patient visits annually and an estimated $6 billion in revenue for 2014. Corporate involvement in dental practice has been widely debated; however, there is little information available for dental educators concerning this issue beyond the Point/Counterpoint published in this journal in May 2015.

Dental practices with corporate involvement generally take one of two related forms: dental service organizations (DSOs) and purely corporate management. In general, DSOs are businesses that enter into an agreement with the dental practice owner to provide a range of non-clinical business services for the practice. These services can include but are not limited to arranging or providing financing with third-party financial organizations; billing and payroll; processing patient insurance claims; scheduling or otherwise interacting with patients; supervising or managing the dental practice’s employees or contractors; and employing or contracting with another dentist to work for the dentist who owns the practice.

In DSOs, the dentist continues to be the owner of the practice and is usually involved in the provision of clinical care. The corporate practice arrangement differs more in terms of the extent of operational control rather than structure. In corporate practices, a dentist is still the nominal practice owner but may or may not be involved in provision of clinical care. Rather, the majority of clinical care is provided by dentists who are hired as employees. The distinctions between these two practice types are often unclear, and public data to support a meaningful classification of types are virtually non-existent. Therefore, for the purposes of this article, they are considered together as non-traditional practices.

This issue is of importance to the educational community because the number of recent dental school graduates working in non-traditional types of practices is steadily increasing. Between the 1998-2001 graduation period and the 2005-07 graduation period, the percentage of new dentists working as
an employee or an associate increased from 15.5% to 53.2%. In addition, data from the Texas State Board of Dental Examiners showed that practicing dentists in Texas who worked as employees were significantly younger than other practicing dentists. The aim of this study was to shed light on the number and location characteristics of non-traditional practices and compare them to traditional practice arrangements. We sought to determine whether there were significant differences in the practice location characteristics of traditional versus non-traditional dental practice types.

**Methods**

Data on the names and locations of DSOs were collected from the ADSO’s website (theadso.org) and through Internet searches of known DSOs and large group practice organizations. The organizations identified are listed in Table 1. Data on practice types and socioeconomic characteristics were aggregated by zip code. Then, each zip code was classified based upon the presence or absence of a non-traditional dental practice. The zip codes of the addresses of non-traditional practices were entered into a Geographic Information System (GIS) for analysis. A total of 3,950 non-traditional practice sites were located in this manner. Figure 1 shows the location of these non-traditional practices by state. The data from the GIS were for the year 2013.

Data on the location of all dental practices were collected in several steps. Practice site addresses were accessed through a database within a GIS. The practice locations of a total of 152,743 dentists were identified. The data on dentists in the GIS database were based on the Dun & Bradstreet Business Information database; therefore, the addresses generally corresponded to the actual practice address. Using this method, a total of 128,777 practice sites were identified. Duplicate addresses were removed to obtain the number of practice sites, as opposed to a count of individual dentists. Each zip code was coded according to the presence or absence of a dental practice and then whether that practice was a traditional or non-traditional practice.

The GIS databases also provided the demographic information used for the study. This information consisted of population age groups, income levels, racial/ethnic status, and educational attainment in the area where the practice was located. An urban-rural classification scheme was applied to the data set to determine the distribution of practice sites across urban, town, and rural areas. Statistical analyses were conducted to determine whether the demographic and geographic variables were associated with areas containing traditional versus non-traditional dental practices. Statistical significance was set at p≤0.001.

**Results**

The data showed that 3.1% of all dental practices were non-traditional practices. However, non-traditional dental practices had a larger impact on the marketplace than traditional practices. This impact was determined when we matched the names of the non-traditional dental practices to the list of names of all dental practices. Most of the dental practices (74.4%) were linked in this manner. Some of the dental practices were identified by the dentist’s name and could not be tied to the corporate partner. This analysis showed
that non-traditional practices had a significantly higher number of staff members (9.9 versus 5.5) and almost twice the average revenue ($621,046 versus $315,761) than traditional dental practices.

Some regional differences were found in the distribution of non-traditional dental practices (Figure 1). Larger numbers of these practices were found in the upper Midwest and the West Coast regions. The three states with the largest populations (California, Texas, and Florida) also had the largest number of non-traditional dental practices. In Texas, the large number of these practices is probably related to the state’s very broad definition of who may own a dental practice.

Almost half of all zip codes in our study contained a dental practice (49.6%). Virtually all of the non-traditional practices were located in zip codes where there was also a traditional dental practice (99.0%). In fact, there were only 25 zip codes with only a non-traditional dental practice. For the purpose of analysis, zip codes were thus classified as having a non-traditional dental practice (2,576) or having only a traditional dental practice (12,903). Only zip codes with at least one dental practice were analyzed.

Three measures of income were considered: per capita, household, and disposable income. Zip codes with a non-traditional dental practice had significantly higher income levels on all three measures than zip codes with only a traditional practice (Table 2). Four population age groups were defined. The differences between the age groups and the practice types were relatively small but significantly different statistically. Zip codes with an older population tended to be served by dentists in a traditional practice (Table 3). The largest difference in age groups was in the oldest population group, which was more highly represented in zip codes with a traditional dental practice.

The racial/ethnic status of the population was assessed by establishing four groups for analysis. Zip codes with a non-traditional dental practice tended to serve a more diverse population than zip codes with only a traditional dental practice (Table 4). In particular, a significantly higher percentage of Hispanic individuals was found in areas that had a non-traditional dental practice.

The educational level of a population is often one of the best determinants of the location of a dental practice. There were significant differences in the educational level of zip codes with different practice types. In zip codes with non-traditional practices, 13.0% of the population had less than a high
school education, 55.4% were high school graduates, and 31.6% had at least some college compared with 13.8%, 59.9%, and 26.3%, respectively, in zip codes with traditional practices only. A statistically significantly higher percentage of the population with a college education was found in zip codes with non-traditional dental practices, while traditional practice sites had a higher percentage of high school graduates.

The location of a practice in terms of its urban/rural status can have an impact on access to care. Rural areas and small towns are frequently reported to be underserved dental areas by the federal government. Accordingly, the urban/rural status of zip codes was investigated by type of dental practice (Table 5). Non-traditional dental practices were almost always found in large urban areas. Less than 2% of non-traditional practices were found in small towns and rural areas.

**Table 2. Income of population in zip codes with non-traditional and traditional practices**

<table>
<thead>
<tr>
<th>Practices in Zip Code</th>
<th>Per Capita</th>
<th>Household</th>
<th>Disposable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-traditional</td>
<td>$30,290</td>
<td>$59,500</td>
<td>$48,520</td>
</tr>
<tr>
<td>Traditional only</td>
<td>$28,591</td>
<td>$55,886</td>
<td>$45,216</td>
</tr>
</tbody>
</table>

*Note:* Nearly all zip codes (99%) with a non-traditional practice also had a traditional practice.

**Table 3. Percentage of population by age group in zip codes with non-traditional and traditional practices**

<table>
<thead>
<tr>
<th>Practices in Zip Code</th>
<th>&lt;20 Years</th>
<th>20-39 Years</th>
<th>40-64 Years</th>
<th>&gt;64 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-traditional</td>
<td>25.7%</td>
<td>27.4%</td>
<td>32.4%</td>
<td>14.5%</td>
</tr>
<tr>
<td>Traditional only</td>
<td>24.4%</td>
<td>24.8%</td>
<td>33.3%</td>
<td>17.7%</td>
</tr>
</tbody>
</table>

*Note:* Nearly all zip codes (99%) with a non-traditional practice also had a traditional practice.

**Table 4. Percentage of population by racial/ethnic group in zip codes with non-traditional and traditional practices**

<table>
<thead>
<tr>
<th>Practices in Zip Code</th>
<th>White</th>
<th>Black</th>
<th>Asian</th>
<th>Hispanic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-traditional</td>
<td>71.8%</td>
<td>11.4%</td>
<td>5.6%</td>
<td>19.0%</td>
</tr>
<tr>
<td>Traditional only</td>
<td>78.3%</td>
<td>10.3%</td>
<td>3.3%</td>
<td>11.7%</td>
</tr>
</tbody>
</table>

*Note:* Nearly all zip codes (99%) with a non-traditional practice also had a traditional practice. Hispanic individuals are counted independently to differentiate between racial and ethnic grouping.

**Table 5. Percentage of zip codes with non-traditional and traditional practices by rural/urban classification**

<table>
<thead>
<tr>
<th>Practices in Zip Code</th>
<th>Urban Area</th>
<th>Large Town</th>
<th>Small Town</th>
<th>Rural Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-traditional</td>
<td>91.4%</td>
<td>6.8%</td>
<td>1.3%</td>
<td>0.6%</td>
</tr>
<tr>
<td>Traditional only</td>
<td>62.6%</td>
<td>11.9%</td>
<td>12.6%</td>
<td>12.9%</td>
</tr>
</tbody>
</table>

*Note:* Nearly all zip codes (99%) with a non-traditional practice also had a traditional practice.

**Discussion**

An extensive search was undertaken to gather data on as many non-traditional practices as possible for this study. As a result, many of these practices and most if not all of the larger non-traditional practices were included. To a large degree, the definition of a non-traditional practice hinges on the degree of involvement the corporate entity has in the management of the practice and the delivery of oral health services. This kind of information is not readily available, which complicates the process of identifying appropriate practices for study.

The spread of the non-traditional practices is extensive. Our study found that only seven states did not have a non-traditional dental practice, and all of them have small populations. Zip codes that have a non-traditional practice differed significantly from zip codes with only a traditional dental practice. Almost all of the non-traditional practices were found in large urban areas. These locations also have populations with higher income and education levels. Non-traditional practices were most often found in areas that are more racially and ethnically diverse, and the populations tended to be younger as well. In addition, the non-traditional practice tends to be large, with a larger staff and much higher revenue than traditional practices. As a result, those practices’ patient loads are likely higher as well.

The number of non-traditional practices appears likely to continue to increase. Demographic and economic circumstances will fuel this growth. The number of graduating dentists and dental hygienists has been increasing over the past decade and is likely to continue to increase. Because most dental graduates have extremely high educational indebtedness levels ($215,000 on average), many of them will seek a position that provides a guaranteed income so they can begin to pay down their debt. Debt levels are also a barrier to purchasing an existing practice or
starting a graduate’s own private practice. As a result, these graduates are ideal candidates for practicing in a non-traditional practice as employees. In addition, a large number of individuals born during the baby boom who became dentists have reached retirement age. The income from selling their private practice is usually an important component of their retirement savings. Non-traditional practice owners may be in a better financial position to purchase these practices than the debt-ridden recent graduates. The purchase of these practices could significantly shift the market share of non-traditional practices over the next decade.

Problems with the distribution of dental services may be increasing. The non-traditional practice is a successful model within an urban context; virtually all these practices are in major metropolitan areas. These practices tend to be large and likely require a threshold population to be economically viable. It remains to be seen whether the non-traditional practice is a viable economic model outside of major urban areas. The traditional dental practice model dominates in areas outside of large cities. As the population of traditional dentists working outside of large cities ages, will younger dentists be willing to adopt this mode of practice and live outside the city? If the traditional dental practice model loses its appeal or if young dentists are reluctant to locate outside an urban area, access problems could accelerate.

In addition to defining these practice types and gathering information concerning their locations, it would be of value to determine the quality of practice experience recent graduates have in traditional versus non-traditional practices. This information could be valuable in helping dental school graduates define their practice plans.

**Conclusion**

It appears that the non-traditional type of dental practice is here to stay and has the potential for growth in the future. Many recent dental school graduates will likely participate in this type of practice arrangement. The findings of this study can help dental educators and the profession’s leaders understand the impact of these trends in the practice environment in order to both prepare graduates for practice and make decisions about planning for the workforce of the future.

**REFERENCES**

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