Introduction

The dental community and broader economy have been shaken to the core since the month of March, 2020. Dr. Marko Vujicic [1] reported dentistry in the United States in the first quarter of 2020 enjoyed growth and was about to or fully recover from or had already overcome the downturn from the recession in 2007. Then, COVID-19 struck a stunning blow, and dental practices closed their doors completely or provided only limited emergency care. The waves of the COVID-19 pandemic continue to markedly impact the dental market. Nevertheless, as a group, dental service organizations (DSOs) strategically leveraged their strengths to navigate the economic challenges.

This essay will summarize a previous article on the unique issues involved in making career decisions in DSOs [2], provide an overview of the current and projected economic landscape for the dental market in the United States, then explore in some detail exactly how DSOs adapted strategically to the present crisis to weather the COVID-19 economic storm.

Overview of Navigating DSO Career Decisions

Dunning et al. [2] previously overviewed the growth of group practices and explored in some detail the unique variables involved in pursuing a career track in DSOs. Group practices in the form of multiple-owner and multiple-location practices as well as dental service organizations have continued to increase their market share in most geographic locations in the United States, particularly in urban settings [3-8]. DSOs offer various forms of ownership or equity positions for a dentist, ranging from none to co-ownership of the clinical-side of a practice to stock in a large DSO corporation. As discussed in greater detail by Workman [9], DSOs enjoy economies of scale in terms of local office facility size, exercise a strong negotiation position in purchasing supplies, and also provide

Abstract

The COVID-19 pandemic has shaken the overall economy generally and the dental economy specifically. This essay focuses on dental service organizations (DSOs) amidst the pandemic. After summarizing a previous article focused on navigating career decisions with DSOs, the status of the broader and dental-specific economy is described as of the early summer of 2020. The purpose of this study is to identify and describe these key strategies DSOs implemented to survive and in some cases thrive amidst the challenges of the pandemic: national problem solving, emergency appointments, tele-dentistry, internal compliance, PPE and strategic alliances, staffing and staff support systems and team and patient communication. Initial recovery data provides evidence for the success of these strategies. While considerable uncertainty still defines the pandemic and its impact on the dental economy, DSOs have successfully weathered the storm through the strategies implemented.

Keywords: COVID-19 pandemic; Dental economy; Dental careers; Practice management; Dental service organizations
centralized, efficient managerial support for individual dental practices in both the “front-office” business-side and the clinical enterprise.

For those considering a career track in DSOs, careful attention should be given to assess the advantages and disadvantages a given DSO may offer in the general categories of business systems, the dental team and patients, clinical dentistry, compensation and professional development, and ownership positions [2]. A couple of examples will help to illustrate the nuances of a DSO career-track. DSOs may own their own dental laboratories or enjoy lower negotiated rates with independent laboratories. An associate may therefore have less freedom in choosing his/her own laboratory or have financial incentives to use the DSO-affiliated lab. However, if the associate is contractually required to “pay” for a portion of laboratory expenses, s/he may earn more income because of lower laboratory costs. In the area of compensation and professional development, DSOs offer very competitive guaranteed salaries over $125,000+ annually for recent graduates. Additionally, many provide very lucrative benefit packages including extensive clinical and business continuing education courses which few private practices can match [2].

The Dental Economic Collapse and Possible Trajectory to Rebound

The COVID-19 shutdown of the United States economy has dampened the opportunities, futures, and spirits of many in the dental profession. Dentists are pondering heart-wrenching questions. Is a full recovery even possible? Will I be able to successfully restart my dental practice? Furthermore, do I have the energy to handle the task of restarting my dental practice? Adding to the problematic equation are the recent nonviolent protests which in many cities morphed into violent rioting. What impact will these most disheartening developments have on our economy in general and specifically on the profession of dentistry?

During the month of March 2020, state governments announced lockdown/stay at home orders. While the restrictions varied from state to state during the pandemic, some states began lifting some restrictions in the latter part of the month of April. As of June 4, 2020, the following is a summation as to the current national status of the dental profession.

According to the Health Policy Institute (HPI) Polling data of May 18, 2020 [10], dental practice recovery appeared to be off to a promising start with regard to resuming professional services. While the process of reopening was fueled with enthusiasm, caution needed to be maintained. As of May 4, 2020, 27 states had reopened for elective dental care. This figure grew significantly to 40 states two weeks later. By June 1, 2020 all 50 states had reopened for business [10].

The data which follows was obtained largely from the HPI of the American Dental Association (ADA) in its nationwide survey of dentists [10]. HPI invited nearly 70,000 dentists from across the USA to participate in this polling effort. HPI received over 19,000 participants which have contributed to the polling data. The response rate to the polling data is around 50% [10].

Approximately 65% of those participating reported they are back and seeing patients. Of the 65%, 10.8% report business has returned to nearly the same level as before the COVID-19 shutdown. The remaining 53.9% report, while open, the patient volume is lower than prior to the pre COVID-19 shutdown. The remaining 35% of practices are either closed (6.9%) or are closed and are seeing only emergency patients (28.5%). Obviously, the number of active COVID-19 cases impacts these reopening percentages [10].

The size of the dental practice also appears to be a factor in recovery [10]. The polling data suggests the larger practices are getting back to pre COVID-19 levels slightly quicker than small offices [10]. Factors which may be influential are: staff size, management expertise, contractual agreements with dental supply companies, ability to adapt to COVID-19 reopening regulations, financial resources, stockpile of PPE gear and clarity with regard to reopening guidelines.

The age of the dentists appears to be a factor in reopening as well [10]. Older dentists tend to be more reluctant to re-open [10]. Older dentists, on average, also tend to be more reluctant to change than younger dentists. The HPI polling data indicates older dentists (65+ and older) had the highest degree of concern over possible COVID-19 transmission than their younger counter parts. Ten percent of dentists age 65 and over report electing to remain closed [10]. Younger dentists, age 35 or younger, report only a 4.9% willingness to remain closed. Based on ongoing informal interviews in June and July of 2020 with a practicing dentist (Dr. Daniel Jaconetti), dental supply consultant (Ms. Jenni Silva from Henry Schein) and a dental practice broker, Mr. Jed Esposito), possible reasons for this disparity would be such factors as willing to sell and retire, not having the energy to restart a dental practice, an already low patient volume prior to the COVID-19 shutdown, financial concerns, frustration with guidelines to reopening, loss of key employees, and level of COVID-19 cases in respective practice location.

The public’s response to reopening has for the most part been favorable. Nationally, patient volume was reported to be at a level of 38% of average of the pre COVID-19
shutdown by the May 18, 2020 HPI poll. When compared with an HPI poll conducted 2 weeks prior, the most current data reflected a 20% increase in volume. The most current polling data also indicates, in states where all dental services were permitted, dentists report a 51% volume level of the pre COVID-19 levels [10]. States placing higher restrictions on services, a 38% level of the pre COVID-19 level was reported [10]. More positive data was received from another poll conducted by TRUE Global Intelligence the week of May 4-5, 2020 [11]. When asked, “What professional services are you planning to seek in the next 12 months?,” dentistry was ranked first among 9 medical categories with a 56% positive response by U.S. adults age 30-75.

With dental practice openings and an increase in patient volume comes the need for more employment opportunities by office auxiliaries. Nationally, the HPI polling data indicates dental practices continue to hire back staff at a steady pace. 58.1% of the respondents report they have hired back staff and are compensating them fully [10].

Insights from ongoing informal interviews in June and July of 2020 with practicing dentists—Dr. Trevor Madden, Dr. Dave Spann and Dr. Daniel Jaconetti, plus a dental supply consultant, Ms. Jenni Silva from Henry Schein, reveal that even though returning to work clearly has financial benefits, unforeseen psychological barriers for a successful return to the work place have become a reality. Mental anguish related to having been in lockdown for nearly 2+ months has taken its toll on many team members. Having to find child care, adapting to new reopening guidelines, changes in office hours, uncertainty with regard to future employment, personal budgetary/financial issues, management pressures by administrators/owners, and general fear are but some of the issues that may need to be addressed in the coming months with regard to reopening. Unfortunately, a dental education, for the most part, offers only a minimum level of instruction related to psychological issues. Due to these insufficiencies, some practices may experience a departure of previously employed staff members upon reopening.

Being able to reopen a dental office in the COVID-19 environment has been an arduous task. This has been especially true for many smaller dental practices. Ranking as the number one barrier to re-entry for all dental practices has been a state’s reluctance to open dentistry for elective dental procedures. The May 18, 2020 HPI poll [10] reveals nearly 62% of practices report difficulty with this barrier.

A lack of PPE stockpile ranked second with 52.9% response rate [10]. While the availability of PPE has improved, it still remains a formidable barrier to reopening in some dental practices [10]. Some dental offices report a 50% decrease in hygiene production due to a lack of PPE. Dental supply consultant, Ms. Jenni Silva from Henry Schein, identified PPE as an ongoing issue still being resolved in mid-summer of 2020. She also pointed out that dental supply companies such as Schein, Patterson and others seem poised to provide the needed supply of PPE in the coming months, though anecdotal reports indicate some ongoing issues with some necessary PPE and infection control supplies.

The third, perhaps the most frustrating to dentists, is the confusion regarding guidelines to be followed for reopening [10]. Many dentists report conflicting guidelines with what the CDC, ADA, FEMA, and State Dental Societies recommend as guidelines. Obviously, work will need to be done by these entities to provide a clear voice in how to manage pandemics and other unforeseen disasters that may lie in the future. Marko Vujicic from the ADA Health Policy Institute reported in an April 2020 HPI survey [12] that 46% of dentists in private practice said they would “consider closing, selling, or filing bankruptcy” if restrictions continue into the month of August. That statement underscores the level of indecisiveness, confusion, and unpreparedness by governing agencies.

On June 5, 2020, the Federal Unemployment Rate was released for the month of May 2020. The rate for the month of May dropped to 13.1% down from the 14.7% posted for the month of April 2020. More than 2.5 million jobs were added. This figure represents a historic high. The data from the Federal Unemployment Rate report indicates the U.S. economy maybe slowly approaching the beginnings of a recovery as our economy reopens [13].

Unemployment is still overwhelmingly high with respect to pre COVID-19 levels. Furthermore, recall the Great Recession that occurred during the Obama Administration was declared officially over in 2009. However, the unemployment rate did not return to prerecession levels until 2017. This is a harsh reminder that an economic collapse can linger for years! It is not unreasonable to believe the COVID-19 recession may take as long, if not longer, to recover. The Congressional Budget Office released projections during the first week of June 2020 stating it does not expect the U.S. economy to fully recover until 2030 [14].

As long as unemployment remains high, dental visits are likely to lag. Job loss also means loss of dental benefits. Uncertainty as to where disposable income is likely to come from causes people to stop spending on elective services such as dentistry.

Business in general will continue to remain in limbo until an approved vaccine is available. Fear of a virus that is highly contagious and has the potential to kill causes consumers to reflect on their priorities, especially for perceived elective services. Furthermore, public health
officials continue to warn of a second wave of COVID-19 infections in the fall or winter of 2020 which could result in a second round of business shutdowns.

The Federal Unemployment Report for May 2020 [15] helped to create and aura of encouragement for the dental profession. The unbelievable surge in the stock market helped to fuel consumer confidence. The stabilization of the number of COVID-19 cases nationally creates a degree of optimism with our return to “normal”. Having said that, the delivery of dental services has changed. Restrictions with regard to aerosol producing devices limits production capabilities. The sanitation requirements make for longer between patient chair-time, thus compromising productivity. Revenue streams have been constrained. Staffing issues may arise as a result of fear, patient volume, and strained financial resources.

Given the challenges presented by the severe downturn in the dental economy at the end of the first quarter and through most of the second quarter of 2020, what strategies did DSOs implement to strategically flex to manage the challenges and position themselves for a likely recovery?

Strategies DSOs Successfully Implemented to Navigate the Pandemic

Dental offices faced a myriad of immediate decisions in mid-March, 2020, and the weeks/months that followed. Immediate shutdowns, furloughs, loss of income, concern for the future were widespread, and unexpected in a profession that had seen steady growth in terms of revenue, patient flow, employment, and job ranking [16]. How dentists and dental offices reacted to the change in operations depended on a number of factors. Some offices simply closed the doors and were waiting for the all clear to reopen, while others struggled with the financial and emotional burdens of permanently closing their office. Many of the practices were inadequately prepared for the depth and speed of the decision maze facing them, revealing distinct variability in the capacity to adapt to and align with the new, emerging reality caused by the pandemic. George Radigan, vice president of business development for the North American Dental Group, observed [17]: “The pandemic has put a spotlight on the benefits of being part of a DSO, where dentists can rely on administrative support to navigate challenges brought on by the pandemic…”

DSOs developed and implemented strategies to navigate the pandemic by leveraging their unique resources as distinct advantages for those dentists and dental offices supported by the DSO. Many of the points made in this section of the essay regarding strategies implemented by DSOs during the pandemic are informed by the second author’s immersive observations throughout 2020 as a key member of the leadership team in Pacific Dental Services, one of the largest DSOs, and also as an active member in frequent communication with other leaders in the Association of Dental Service Organizations–ADSO [18].

To reiterate, DSOs enjoy economies of scale in terms of: generally larger facility sizes and patient visit capacity, negotiating power in working with suppliers and other strategic partners such as vendors, and centralized, efficient systems—including robust marketing programs, supporting both the “business”/front-side and the clinical enterprise. Using Pacific Dental Services (PDS) as a model which was also mirrored at least in part by other DSOs, the discussion below outlines a number of the strategies implemented by DSOs to successfully manage the pandemic.

National problem solving

Facing the challenges of COVID-19, the Association of Dental Service Organizations (ADSO) mobilized quickly, meeting regularly to discuss threats to their businesses and to develop strategies to face the challenges. As an example, among other accomplishments, the ADSO, along with other dental organizations, was instrumental in adding dentistry as part of the CARES Act legislation [19]. This allowed dental practices to apply for funding to help their practices through the pandemic and to rebound. The centralized “brain power” of ADSO leaders provided steadying, timely guidance to thousands of its supported practices and dentists throughout the nation. Emphasizing the importance of DSO support systems, Craig Woods with Dykema DSO Group, asserted [17]: dentists generally “don’t have a large infrastructure or a legal or HR team. When COVID-19 arose, they were forced to do a lot of things of their own . . . That’s a tall order to ask of someone who has one, two or three offices and no legal team on their own.”

Emergency appointments

As states implemented “emergency only dentistry” regulations, PDS quickly determined that the biggest confusion would be who was open and accepting emergency patients. To get the word out to potential sources of emergencies, PDS contacted all the emergency rooms and urgent care facilities in the communities surrounding our supported offices to let them know their offices were open and how best to contact offices. This effort included banners announcing availability and the use of social media to provide patients with information on availability. The ability of the IT department to quickly change 850 websites to update availability, and to use the power of search engine optimization to keep patients informed of the availability of emergency care provided information the public needed and appreciated. The creation of hashtags such as #dentalER and #dentsafety...
reached patients in need of information on the availability and safety of visits to the dental office. It was astonishing how many patients had contacted their dental provider for emergency care and either received no communication or were told to seek services elsewhere.

**Tele-dentistry**

Within a week of the interruption of business, PDS employed a tele-dentistry application to allow patients with questions or concerns to speak to their local dentist. This was possible due to the robust IT system and team available to our supported practices. Using platforms already in use, the IT team converted the platform to operate as a tele-dentistry system, providing supported offices with tele-dentistry capability. The availability of this new technology to provide patient service was then immediately loaded onto all the websites and calls began to be answered. Thousands of patients availed themselves of this opportunity to have their questions answered, and this has now become a core competency for the organization.

**Internal compliance**

One of the greatest advantages PDS enjoyed as the crisis unfolded was a robust compliance and legal team which was able to sort through all the information, often contradictory and more often confusing, that was being published. The compliance team in particular was crucial to the collection and distillation of information related to the virus itself and protocol for occupational safety and PPE. The compliance and legal team quickly provided guidance to the management team and the supported clinicians, which, in turn, provided a framework for engaging patients on an emergency basis.

As states began to reopen, this team was able to provide clear guidance on protocols and timing for the resumption of regular dental care. It was helpful to be a multi-state organization as states opened at different times and learnings from the first openings could be applied to later re-openings. This consistent strategy contrasted in comparison to the uneven path experienced by many individual dentists trying to navigate the volume of sometimes conflicting information coming at them from national, state and local authorities.

**PPE and strategic alliances**

The availability of PPE has already been discussed, and the advantage of both greater supplier relationships and the ability to move PPE where it was most needed were certainly enjoyed by DSOs and large providers. The advantage of other relationships may seem less important, but were also part of the DSO response to surviving the crisis. Insurance company partnerships were invaluable in providing clarity and assistance with tele-dentistry visits, PPE reimbursement and availability for patients seeking emergency care. Short term deferrals for rent were sought by the real estate team, financial concessions through the banking team, dentist loan deferrals through the professional partnerships team, and the list went on. Every major support function was involved to provide supported dentists the tools, information and technology to succeed through the crisis.

**Staffing and staff support systems**

The shock of dental office closures, or greatly reduced availability of hours, impacted team members of dental offices at every level. As previously discussed, the vast majority of dental team members were furloughed, laid off or had their hours greatly reduced: only~11% of practices reported paying staff in early April of 2020, rising to nearly 92% of practices by late July [20]. For many non-licensed personnel, this created anxiety over finances and job security. Certainly, some dental practice owners, made personal sacrifices to keep paying staff, or maintaining their health benefits during this time. The employees of DSO support practices were often quick to hear how they would be impacted. Some DSOs maintained salary continuation for two or more weeks. Health benefits were often maintained through the entire shutdown, with no cost to the employees. These measures provided a level of security that helped the staff cope with the crisis.

Team members in DSOs were also provided with a myriad of non-financial resources, many based on the excellent efforts of our Human Resources team. These included counselling, discounted child care, emergency financial aid and services provided by our insurance carriers, such as free access to some services. These quick responses to the needs of team members were possible due to a highly developed HR support system and in-house professionals supporting team members.

**Team and patient communication**

COVID-19 has revealed strengths and weaknesses of the dental team’s communication. Team member internal communication and patient communication has never been more important. In the current environment of social distancing, hand washing, and the wearing of masks, dental patients and staff members alike enter dental offices with some degree of fear and uncertainty. In short, people want to feel they are safe and informed as to what to expect when entering the environment of a dental office.

DSOs implemented internal communication messages for its team members and patients to emphasize the implementation of safe and compliant infection control measures. The use of well-established communication platforms and protocols allowed for the dissemination
of information on a rapid and inclusive basis, reducing uncertainty and stress for all team members. This internal resource prevented much angst and confusion among dental team members which many dental sites and blogs evidenced.

In addition to communicating about providing safe treatment for patients, team member communication was clear and well presented. Immediate communication on furloughs, salary and benefit continuation and safety measures for those who would be treating emergency patients was welcomed by the team members and again reduced confusion that many dental offices experienced. The clear and focused communications provided the dentists and their teams a decided advantage in reopening and properly handling emergency requests.

These updated messages helped to ease the fears of both dental team members and patients. From prescreening to appointment sequencing to appointment times, DSOs let patients know that protocols had changed with regard to providing dental care. This included messaging to outline new guidelines for PPE.

DSOs also negotiated with dental insurance companies and in some cases successfully secured additional reimbursements to cover the costs of new infection control guidelines.

**Pandemic Recovery Data to Date**

As of this date, August 7, 2020, the recovery for dental practices is well underway. Although there may be localized interruptions, all states currently allow dental practices to provide all services. In the wider dental market, dental practices have grown from a striking low of ~7% of pre COVID-19 patient volume/revenue in the first week of April 2020 to 73% [20]. There is no centralized, reliable source of data examining the rate of recovery, but anecdotal reports from members of the ADSO generally and PDS specially indicate that DSO supported practices have already reached higher levels of achievement than the general dental market. Based on personal conversations with leaders of DSOs in the summer of 2020, several of the largest DSOs are reporting practice level revenues in excess of 90% of the pre-COVID levels. COVID-19 has certainly left its mark on the growth of DSOs, slowing the development on new DSO supported startup offices, and at least temporarily delaying the development of new practice affiliations with DSOs.

A couple of personal observations from the authors will be insightful about the speed of the recovery for DSO supported practices. The first is that a high percentage of the DSO practices reacted immediately to the emergency only orders as outlined above and have been able to increase their new patient flow from offices that completely closed or operated on extremely reduced hours. As the DSO supported practices returned to more normal operations, they also were able to extend their available hours to match their community’s needs. Many more practices are open on weekends than they were pre COVID-19. Patients seem like they were ready to come back and resume routine care where there were messages about safety in the forefront. An unexpected boost may also have come from the number of recent articles linking oral hygiene and periodontal care with a reduction in the severity of COVID infections, among other comorbidities. These scientific discoveries have made been broadcast by the media, heightening awareness of the efficacy of oral health care.

**Conclusion**

Uncertainty surrounding an ongoing pandemic leaves the dental community with many nagging questions and issues to manage. Within this milieu, dentists seeking careers in DSOs will make wiser career choices by examining the unique pluses and minuses potentially offered by DSOs in the areas of business systems, the dental team and patients, clinical dentistry, compensation and professional development, and ownership positions. The devastating economic collapse in 2020 resulted in many dental practices closing their doors or reducing services, some for weeks and others for months. Facing the challenges and opportunities created by the pandemic, DSOs strategically implemented a number of key strategies to succeed: national problem solving, tele-dentistry, internal compliance, PPE and strategic alliances, staffing and staff support systems, team and patient communication. Some hopeful signs of recovery in the dental economy are being seen. Dental practices in general have yet to fully recover from the pandemic with revenues now roughly in the ~70 to 75% of pre-pandemic performance range. DSO-supported dental practices can be reasonably expected to lead in the recovery process because of the implementation of the aforementioned strategies.

**Author Contribution Statement**

Each of the authors participated in developing ideas, writing and editing this manuscript.

**Conflicts of Interest**

The authors identify no conflicts of interest other than this: the second author, Mr. Ken Davis, has served as a year for over 16 years in Pacific Dental Services, one of the largest dental service organizations in the United States. Some of the information provided in this manuscript was available because of Mr. Davis’ immersive observations in Pacific Dental Services and ongoing contacts with other leaders in the Association of Dental Service Organizations.
References


6. Cole JR, Dodge WW, Findley JS, Young SK, Horn BD, Kalkwarf KL, et al. Will large DSO-managed group practices be the predominant setting for oral health care by 2025? Two viewpoints: viewpoint 1: Large DSO-managed group practices will be the setting in which the majority of oral health care is delivered by 2025 and viewpoint 2: Increases in DSO-managed group practices will be offset by models allowing dentists to retain the independence and freedom of a traditional practice. Journal of Dental Education. 2015 May;79(5):465-71.


11. TRUE, Global Intelligence, the in-house research practice of Fleishman Hillard, fielded an online survey of U.S. adults aged 30-75 on May 4-5, 2020.


