considered in the context of their total patient population in most cases.

The National Institute for Dental and Craniofacial Research (NIDCR) supports the use of implementation science as a priority in their efforts to create new knowledge around oral health and develop and test implementation strategies that move research findings into practice patterns. The institute has taken steps to determine when clinical practices are ready to be scaled up or de-implemented, to identify potential strategies for practice change, and to assess the existing infrastructure to support implementation research. The traditional reliance on continuing education training as the only strategy for implementing clinical practice guidelines has proved to be ineffective. Instead, systemic, multicomponent strategies need to be developed to address all the contexts in which dental care is delivered.

Frantsve-Hawley J, Rindal DB: Translational research: Bringing science to the provider through guideline implementation. *Dent Clin N Am* 63:129-144, 2019

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TRENDS

Current considerations in dental practice

BACKGROUND

Managing a practice and treating patients can take up most of the dentist's time, but it's also important to keep up with the latest trends among dental peers. Surveys of the readers of *Inside Dentistry* and other sources yielded data on the most recent trends in terms of the clinical care delivered, purchasing patterns, and business aspects of dental practices in the United States.

CLINICAL CARE

The most significant clinical trend is the movement of general practitioners toward performing work traditionally referred to specialists. About 21% of the dentists surveyed place more than 5 implant restorations per month, 57% do some endodontic procedures, and 49% perform gingivectomies or gingivoplasties. Dentists have more tools available so they can keep these procedures in house. Specialists will always be needed to address the complex cases, but minor orthodontics or uncomplicated implant placement can be done by dentists who have the training and the digital technology available to provide excellent care in these areas.

Patient demand is the determining factor for what procedures are being performed in most dental practices. About 66% of the dentists surveyed place 10 or more crowns a month. Elective dentistry usually involves cosmetic procedures. Patients often do the research online before they select a dentist for these procedures, choosing a practitioner who seems to have the skill and experience to deliver what they want.

Tooth bleaching continues to be popular, with about 87% of dentists offering some sort of tooth bleaching services. All the methods work; the patient's lifestyle determines which will work best for him or her.

More chair time is spent delivering implant restorations because of the new options available. Of surveyed dentists, about 67% place cement-retained restorations, 61% screw-retained restorations, 42% overdentures, and 18% all-on-4 cases. Cement-retained restorations are losing their appeal, which should reduce the cases of peri-implantitis. New implant components, including angle-correction abutments and angle-corrected implants, increase the usefulness of screw-retained restorations, which offer better biological results, although care is needed when designing the occlusion.

Other treatments made more viable by advances in technology include the ability to offer treatment for sleep-disordered breathing. Both sleep apnea treatment and laser dentistry can be areas where dentists can deliver care, but proper education and training, along with collaboration with medical practitioners, will be required.

PURCHASING PATTERNS

When a dentist decides to purchase new equipment or products, most dentists consider information from clinical research, peer-reviewed journals, and the recommendations of key opinion leaders, as well as other sources. The primary sources trusted by dentists are dental publications and colleagues. Highly disposable products may be purchased based on price, but if something will be going into the patient's mouth or has a clinical application, the quality of the product is more important. The goal in these purchase decisions is to find the best value, which is a balance between quality and price.

Trusted connections that help to guide decisions are formed through professional associations and study clubs. About 80% of the dentists surveyed were members of at least 1 professional association, with 54% of these believing the association is an important resource when deciding to make a purchase for the practice. Thirty-eight percent of the survey group belonged to study clubs and 74% of them considered the study club to be an important resource. In addition to influencing purchasing decisions, study clubs and professional associations offer continuing education opportunities that can help dentists make the most of their new products and techniques. Clinical research was also considered important when switching to a new product.

Group purchasing organizations (GPOs) can help smaller practices compete with dental support organizations (DSOs) and large practices when make purchases. Twenty-nine percent of the dentists surveyed participate in a GPO or buying group.

Because of the amount of practice revenue directed toward the new technology, purchasing the right products at the right price has become more important. Fifty-three percent of the surveyed dentists spend more than 10% of their yearly practice budget on new technology. Although lifelong learning is essential to long-term success in dentistry, experts see having the most appropriate and latest technology for the practice as a requirement for keeping patients.

Digital sensors, lasers, intraoral scanning, cone-beam computed tomography (CBCT)/3-dimensional (3D) imaging, in-office milling, and 3D printing are among the technologies employed in today's dental practices. The expectation is for the use of technology to increase in the future. Updated treatment planning software allows the dentist to merge impression scans with CBCT scans and then to design and print a guide for the office at a fraction of the cost required to purchase it from a third party. The new treatment planning software can therefore offer considerable savings over past approaches. Dental students are learning the techniques in school and are anxious to purchase the technology once they graduate. Technology is also driven by the type of dentistry being offered. A more traditional practice doesn't need to invest as heavily in digital services as one that wants to expand its implant business.

Restorative material purchases tend to be fairly consistent in dental offices. Seventy-one of the dentists surveyed use 2 or 3 different types of direct resin composite. Eighty-three percent use just 1 or 2 bonding agents. Seventy percent of dentists use 2 or 3 types of impression materials, with 11% using just 1. Impression material science isn't likely to change much because digital dentistry is becoming more common.

BUSINESS ASPECTS

Reimbursement

Private insurance pays about 52% of dental expenditures, with out-of-pocket payments covering just 45%. Increasingly, dental insurers are moving to preferred provider organization (PPO) plans or are adjusting their reimbursement levels to PPO standards. With lower reimbursement, copays decrease, which lowers practice production and increases the percentage of expenses attributable to overhead. As a result, dental practices must become more efficient and must increase the number of patients seen.

Solo practitioners are seeing dental reimbursement rates drop by more than twice the rates for dental practices overall. However, group practices have seen a 16% increase in reimbursement rates. In 2017, 72% of solo practitioners said they were unlikely to join a group practice, DSO, or GPO and none said they were very or extremely likely to do so. By 2018, the same survey found that just 53% were not likely to go this way and 9% were extremely likely to do so. DSOs are especially appealing to young practitioners and women, with this trend likely related to the need to manage high levels of student debt and the challenge of having children and being the primary caregiver. DSOs provide a guaranteed salary and more freedom in practice participation level.

Income

A survey of yearly gross billings found that 30% of dentists are at $500,000 or less, 33% at $1 million or more, and the rest are in the middle (Figure). Average yearly total expenses were more than $300,000 for 37% of respondents, less than $100,000 for 26%, and the rest were in the middle. Annual income was reported to be between $100,000 and $300,000 for 61% of dentists, less for 25%, and more for 15%. Average take-home income before 2008 was reported to be $220,000, but by 2018 it was $180,000. A wide variety of practice models are likely to develop in the future, and there appears to be an upper class, middle class, and lower class among current dental practices.

Patient Loads and Services

The dentists surveyed fell into 3 levels when number of patients treated per week was considered. About 30% treated 100 or more, 40% 51 to 100, and 30% 50 or fewer. Differing practice structures and procedure offerings are related to the number of patients treated, with patients seeking out those practices that offer the procedures that meet their needs. Dental laboratories also create their own niches, with some offering a wide range of services and others specializing. Price varies widely. Laboratories also seem to be shifting toward consolidation and large corporate groups. Offering digital capabilities and digital support for dental practices is extremely important.

Being respectful of the patient's time is a critical component of patient service. To achieve short waiting times, dentists need

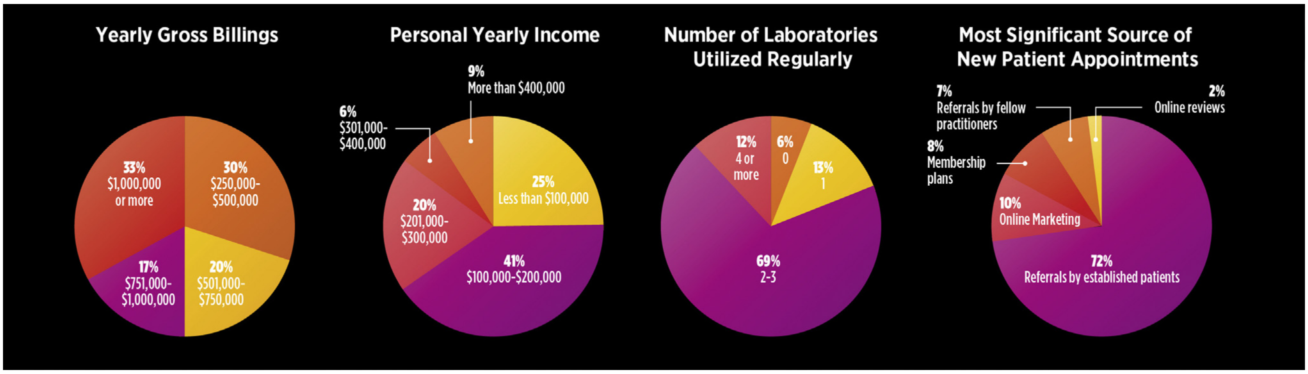

Figure. {EDITOR: PLEASE USE THE NEXT TO LAST ILLUSTRATION (FOUND ON PAGE 22 OF THE ARTICLE) IN COLOR}

to build flexibility into their schedules so that difficult or complex treatments won't blow up the day's schedule and create a significant delay in getting to the next patient.

Marketing

The experiences of patients are extremely important in generating referrals. Seventy-two percent of the dentists surveyed indicated that referrals from existing patient were the most important source for new patients. However, most dentists also actively market their practices, with survey participants indicating they use practice websites (77%), social media (68%), e-mail (48%), print advertisements (34%), online advertising (21%), and direct mail (18%). Experts advise dentists to use a reputable social media firm to enhance their digital marketing. If patients look a dental practice up online and can't find it, they usually simply move on to the next option. Eighty-five percent of patients check out a dental practice online before coming in.

Average patient attrition rates were reportedly 12% to 15%, but practices whose production is $1 million or more (excluding hygiene) had an average attrition rate of 7% to 8%. Patient retention rates can be improved by offering alternatives to insurance, including fee-for-service plans, dental discount plans, and patient membership plans. Membership plan participants visit the dentist 2 to 3 times more often than uninsured patients and accept twice the amount of treatment. These plans help uninsured patients obtain needed care while helping the dentist to build the practice without adding new patients. More money ends up in the dental practice coffers than in third party coffers with these plans. In addition, more people can afford care when less of their money is distributed to middlemen.

Clinical Significance

Dentists are working hard to manage their clinical and business responsibilities in a changing dental practice environment. Overall, the changes seem to be moving in a positive direction, with more dentists able to retire as planned. More dentists are also being added to the workforce than in previous years, indicating that there is sufficient demand for their services. Investing the needed time and energy into both clinical and business areas will allow dentists to achieve a comfortable lifestyle.

Mazda J: Trends in dentistry. *Inside Dent* 14:14-22, 24, 2019

Reprints not available

WHO AND ORAL HEALTH

Bringing oral health to global attention

BACKGROUND

Health care budgets are significantly impacted by the tab for managing and preventing oral disease, yet the September 2018 meeting of the General Assembly of the United Nations (UN) failed to include oral health as one of the non-communicable diseases (NCDs) to be addressed in further health care efforts. A case was made for including oral health in the list of NCDs to be addressed.