



The Relationship Between Dentists and Dental Laboratories — Predictions for the Future

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ABSTRACT This article provides an overview of the key market changes that are impacting the day-to-day relationship between dentists and dental laboratories and technicians. There are a variety of factors that facilitate the need for broader communication between dentists and dental technicians.

AUTHOR

Bennett Napier, CAE, has served as coexecutive director, National Association of Dental Laboratories and its affiliate, National Board for Certification in Dental Laboratory Technology. He also has served as executive director of the Florida Dental Laboratory Association and the Florida Dental Hygiene Association and is a past president of the Tallahassee Society of Association Executives and the Florida Society of Association Executives.

According to the U.S. Department of Labor, Bureau of Labor Statistics, there are more than 10,000 dental laboratories in the United States and 33,600 dental technicians.¹ These numbers represent a 20 percent consolidation of both categories in the last two years. The market changes are a result of a number of factors: the economic downturn, competition from offshore dental laboratories, increased capital costs to operate a dental laboratory and natural attrition due to an aging technician workforce. Over the next 10 years, it's predicted that the number of U.S. dental laboratories could plateau at 7,000.

This shift in the domestic dental laboratory market is happening at a time when according to the U.S. Centers for Medicare and Medicaid, the demand for dental services is predicted to increase in the United States from \$87 billion in 2005 to \$167 billion by 2015.² The ability of dentists to work with quali-

fied dental laboratories domestically is paramount to good patient care.

The rapid change taking place in the dental laboratory industry has resulted in different skills for a dental technician. Recruitment of individuals into the profession now includes graduates of computer-imaging schools, computer-aided design/computer-aided manufacturing (CAD/CAM) light manufacturing vocational schools, and medical device technicians. There remains a need to recruit professionals with a strong artistic flair. These new skill sets are vastly different, even from just 10 years ago. With the increasing demand for dental services, the U.S. Department of Labor predicts the domestic technician workforce will begin to go up from current levels at 5-7 percent per year through 2015.³

It's important to note some of the key factors that are impacting the dentist/dental laboratory relationship:

- The U.S. Food and Drug Administration import trade data from 2010 for

the dental laboratory industry classification code indicates that \$1.32 billion in dental laboratory-related sales was fulfilled by foreign dental laboratories. That represents 20 percent of U.S. sales and nearly 40 percent of actual restorations. Keep in mind that a portion of that work is shipped direct by large dental group practices and some U.S. dental schools.⁴

■ Opening a dental laboratory in today's market can require a minimum capital investment of \$200,000. In the early 1990s, one could open a dental laboratory for less than \$20,000.

■ The number of active ADA-accredited dental laboratory technology programs at community colleges and universities has declined 62 percent since 1992.⁵

■ Dental implants and digital impression systems, although a small piece of the restorative market, are growing at 15-17 percent annually. The complexity of implants and the communication bridge that digital impressions provide require an enhanced service level interface between dentists and dental technicians.⁶

Technical Training and Competency

Since the 1970s, more than 27,000 dental technicians have graduated from formal dental laboratory technology schools. The number of ADA-accredited programs in the United States can now produce a graduate class of only around 300 students annually.⁵

Reversing the trend of school closures is extremely important as in order to be successful in the dental relationship, a comprehensive foundation of knowledge is necessary, now more than ever. This is especially true when one considers that dental schools teach almost no clock hours in dental laboratory technology. This divide is exacerbated by the fact that in many states, more laboratory-related duties in the clinical setting are delegated/relegated to dental assistants or hygienists that also rarely have training in laboratory technology.⁷

The proliferation of technology, both in terms of dental materials and equipment in dentistry and even more on the laboratory side, makes it crucial that there is open and consistent communication between the dentist and dental technician. Dental technicians by and large work closely with dental manufacturers on the development of new restorative materials, as well as the capital equipment that allows manufacturing of the substructure or the full restoration to meet the dentist's need for the patient. Due to this dynamic, technicians are poised to offer dentists

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expert guidance on material selection and help filter through the sales pitch on which brand is best to meet the patient need.

The advent of digital impression systems has markedly improved the restorative outcome. In study after study, the detail of the digital file has facilitated both a better restoration and turnaround time.⁸ Remake percentages typically go down significantly both for the dentist and dental technician. This saves chair-time and improves patient satisfaction. As this technology becomes commonplace, the working relationship between dentists and dental technicians will allow for increased production capacity. This is opinion based on the fact that when dentists use digital impression systems the remake percentage drops by 2-3 percent. This reinforces the premise that

the dentist will have less repeat patient visits for the same restoration and allow the practice to see different patients.

Regulation of Laboratories/Technicians

In a July 2008 American Dental Association survey of its members on dental laboratory issues, more than one-third of dentists believe that dental technicians and laboratories are regulated or licensed. In fact, there are no states in the United States where technicians are required to be licensed.⁹

Only three states mandate any baseline technical competency for technicians. Those states are Florida, South Carolina, and Texas. In these states, the baseline competency or continuing education requirements for dental technicians are based on the certified dental technician (CDT) designation administered by the National Board for Certification in Dental Laboratory Technology. This is the only recognized certifying body for dental technicians by the ADA.

This lack of state regulatory requirements has facilitated the closure of dental laboratory technology schools due to the lack of a mandated minimum competency to operate as a dental technician.

There is a move afoot in more than 12 states to seek similar regulations in state dental practice acts. It is believed that a baseline requirement for registration of laboratories and a tie to certification or competency standards for technicians is imperative for dentists. This will preserve a consistent foundation of technical training regardless of what laboratory the dentist chooses.

Dentists can and should seek to work with dental laboratories and technicians who have voluntarily chosen to verify their skills and knowledge against a national standard as a CDT or have verified their facility operating standards as a certified dental laboratory or FDA compliant, DAMAS, or ISO laboratory.

Technology Advances

The advent and development of CAD/CAM products from companies like Sirona, 3M ESPE, Cadent, KaVo, Nobel Biocare, D4D, and others that support digital technologies for both the doctor's office and dental laboratory will help dentistry meet increasing consumer demands. These advances will also change how doctors and dental technicians communicate with each other.

With any technology, there is a length of time before the "masses" fully utilize what becomes available. With that in mind, it will likely be another five to seven years before this new technology realizes its full potential in relation to the number of possible users. It is the author's opinion that once that happens, the general dentist and the everyday dental technician will be in a new era of dental care. Much like the medical field, dentistry, and those within it, will be fully transformed into a high-tech health care profession.

The National Association of Dental Laboratories believes that to preserve the ability of dentists to work with a qualified domestic laboratory industry that several public policy recommendations should be considered:¹⁰

1. Support a minimum level of competency for practicing dental technicians. This can be achieved through state dental practice acts that would require "each dental laboratory in the United States to employ at least one certified dental technician" or require comparable continuing education.

2. Require U.S. dentists and dental schools that outsource their dental laboratory work directly to foreign dental laboratories to comply with the same Food and Drug Administration quality system/good manufacturing practice requirements with which a U.S. dental laboratory must comply. This not only ensures transparency but more importantly provides that all links in the supply chain are covered in case of raw material product recalls.

3. Support state dental practice act provisions that the dental patient has the right to know where his or her restoration was manufactured and also have access to a list of patient contact materials used in their restoration. Such information would become a part of a patient's record.

For more information on the laboratory industry and seeking out a qualified partner, the author recommends the following websites: nadl.org; nbccert.org; and dentallabfoundation.org. ■■■■

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