

A Historical Overview of the

AAOMS

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American Association of Oral and Maxillofacial Surgeons
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*Robert V. Walker, DDS
(1925 – 2011)*



Pioneer, educator, founder, mentor, role model, lecturer, golfer, deacon, historian, innovator — words alone cannot describe the many contributions to the specialty of oral and maxillofacial surgery provided by Dr. Robert V. (RV) Walker. He was a giant of his time and all of us in the specialty are the better for it. We humbly dedicate this update of the history of the specialty to our friend, colleague and most valued member of the Advisory Committee on AAOMS History and Archives, and thereby honor him for the many blessings and good fortune of his life.

PREFACE

This essay on the history of the American Association of Oral and Maxillofacial Surgeons (AAOMS) will attempt to identify the seminal social, economic and political currents that have coursed, often repeatedly, through our history. It is hoped that this effort will help the deliberations of those who in the future participate in and direct the affairs of the specialty.

In structuring this essay I was influenced by Lord Acton's dictum "Take up a problem and not a period." Problems do not have timelines and are not isolated entities. Some cannot be solved, some are ignored and some are not well solved. All of these bring about their recurrence and therein the reasons for their study. Social historical analysis is also a chronicle of human actions, motives and personalities. These form the fibers that knit together the tapestry of events. The specialty, in a previous publication, duly recognized the contributions of our founders and their successors.

There were major currents and decisions that defined our existence. The establishment of private practice and academia are described in separate chapters, as their early development, of necessity, required the development of a political and economic base prior to the creation of academia. From the inception, they reflected the existing medical structure of clinical care and education.

The hospital is the entity that courses through this essay, as it traces the decline of its influence on our affairs. It was for us, symbolically and practically, the site where we entered the nation's healthcare system after fighting epic national and local battles with organized medicine. It was also the center where academia and private practice played out their multiple roles of teaching, research and clinical service.

The influence of fluoridation, the American Dental Association's (ADA) decision not to participate in Medicare and osseointegration profoundly altered the scope and composition of the specialty. These are discussed separately, but their convergence continues to shape the economics and character of the specialty. These decisions have also altered our relations with the ADA and other dental specialties, as some of these were facing existential problems.

Part of this essay considers how governmental policies and the growing influence of insurance carriers on the healthcare system have stimulated centralization of care and practice. Federal and state governments have been searching for ways to deliver healthcare to a larger population at an affordable price. Together with insurance companies, they have in time dominated the medical and dental marketplace, not only in reimbursement but also the scope of practice.

Separate chapters highlight our relations with the International Association of Oral and Maxillofacial Surgeons (IAOMS), its undoubted influence on our scientific development and our contribution to its maturity.

The last chapters of this essay subscribe to the belief that events represent their time. This was seen during the progressive era of the 20th century as it is at the beginning of the 21st. The character of those entering our ranks may differ from that of their predecessors, as ours did from those of the founding fathers. From this perspective it is difficult to separate the development of the specialty of oral and maxillofacial surgery (OMS) from the American Association of Oral and Maxillofacial Surgeons (AAOMS). They are treated interchangeably wherever appropriate.

The history of such organizations as the American Board of Oral and Maxillofacial Surgery (ABOMS) and the American College of Oral and Maxillofacial Surgery (ACOMS) have been written in recent times.

It is our hope that in the future, separate publications will relate the history of the OMS Foundation and the contributions of the AAOMS administration. We owe both an incalculable debt.

Daniel Lew, MA, DDS

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Founding

This is a contemporary history of a healthcare organization, the American Association of Oral and Maxillofacial Surgeons (AAOMS), the only surgical specialty of American dentistry. It was formed in 1918, when 29 dentists specializing in exodontia signed the founding charter of the American Association of Exodontists. In 1919, the specialty was formally recognized by the National Dental Association, today's American Dental Association (ADA).

This specialty organization was to grow from its initial 125 members to over 9,000 active fellows and members in 2012. In the intervening years, it was to maintain its roots in dentistry and increasingly medicine and surgery, as it provided its membership with the opportunity to serve the public and in the process give full expression to the talents and ambitions of its members.

In 1921, after a spirited debate, the American Society of Exodontists changed its name to the American Society of Oral Surgeons and Exodontists (ASOSE) to better reflect the interests of its membership. In our formation, we benefitted greatly from medically related events during the First World War and the socioeconomic changes that occurred after its conclusion in 1918. It was perhaps not happenstance that the specialty was created at the end of the second decade of the last century, for this was an age of optimism.

Dramatic changes occurred in the early part of the 20th century, often called the "Progressive Age." The country experienced an economic expansion that produced millions of new jobs. Cities expanded rapidly and by 1920 more Americans lived in towns and cities as the shift from the rural to urban areas accelerated. In 1900, 40% of the population lived in urban areas; by 1920, 52% did so. This demographic change was helpful in supporting a specialty.

The founders were also charting a new course, as specialization did not exist in dentistry and referrals within the profession were channeled to the talented and interested. For some general practitioners, exodontia became an integral part of their practice and intellectual focus.

Although recognition as a specialty by the profession of dentistry was most helpful, ultimately we succeeded by creating and demonstrating a need for our services. Medical changes, both technical and philosophical created during and after the war, significantly enhanced our ability to initially survive and ultimately thrive.

The war precipitated a pivotal transition in patient care as surgeons began to ponder the meaning of a cure. The goal became to return function to the disabled and reintegrate them into society. That course resulted in the creation during and especially after the war of hospital services dedicated to the recovery and reconstruction of the wounded. Oral and maxillofacial surgery units were among them. The treatment of facial injuries during and after the war inspired two events that were destined to affect the history of the specialty. These were the birth of modern plastic and reconstructive surgery and the future scope of the specialty of OMS.

Those dentists who volunteered for military service early in the conflict were attached to the British army, as the United States entered late into the war. The US army did not as yet have a dental corps. The volunteers, therefore, worked closely with their medical colleagues in treating war-induced facial injuries and contributed to the care of these patients by demonstrating new techniques for obturation, intermaxillary fixation, prosthetic rehabilitation, as well as principles of pre- and postoperative care.

Among the surgeons were volunteer dentists, some of whom already obtained their medical degree and others who received it after the war. From this group emerged some of the pioneers of the specialty. Among them were such notables as Varaztad H. Kazanjian (1879–1974), considered one of the founders of plastic surgery. Robert H. Ivy (1881–1974) and Carl W. Waldron (1887–1977) joined other colleagues in creating the mold that ultimately shaped the character of the specialty. In time, their talents and reputations were invaluable, as the oral surgeons' abilities and interests extended beyond the oral cavity to adjacent regions.

The founders of the specialty were heirs to a tradition established in the 19th century when such visionaries as Simon P. Hullihen (1810–1857) and James E. Garretson (1825–1895), among others, understood that the acquired and congenital deformities of the oral and maxillofacial region were undertreated by the medical profession. During an astounding career that spanned only 25 years, Hullihen, a physician by training, defined the full scope of the future profession through his interests, skill and numerous publications. Dr. Hullihen was the first surgeon in the United States to limit his practice to the oral and maxillofacial region. His broad vision was to be formally realized 130 years after his death.

James E. Garretson can be considered with Hullihen to have been a founder of our specialty. He pioneered the academic structure of the specialty when, in 1864, he introduced oral surgery as an integral part of the dental curriculum of the Philadelphia Dental College, now Temple University School of Dentistry. He was to become the first appointed professor of oral surgery in the country and in 1869, published *A System of Oral Surgery* the authoritative oral surgery textbook. If Hullihen is considered the founder of oral surgery, Garretson is his academic counterpart and the man who gave the specialty its name.

From our earliest days, our diverse academic background was a source of our future intellectual strength and at times our political fragility. In common with other clinically oriented professions, important advances in scientific and technical knowledge of the period influenced our development. We came to our newly formed specialty with certain advantages that were perhaps a legacy of our dental education: a compulsive concern with detail and a high level of manual dexterity.

Our initial task was to demonstrate a superior technical ability in exodontia as we attempted to differentiate ourselves from our colleagues in dentistry and, if possible, to do so with greater patient comfort. In order to be part of the nation's healthcare system, our initial and future scope demanded that we become part of the hospital structure, create training programs and be able to use the facility to treat pathology too extensive for office care.

At our inception, exodontia was often a painful procedure, difficult to execute at times and prone to complications that, before the availability of antibiotics, were challenging to cure. Inadequate instrumentation, primitive

imaging and uncertain pain control also limited us. To remove bone and section teeth, we utilized chisels and belt-driven dental drills, whose design limited their utility. In time, we helped develop better engineered instruments that enhanced patient safety and shortened procedures. It would have taken a long time to convince the public and the profession that we indeed could provide better surgical care in greater comfort were it not for two scientific developments; the introduction of antibiotics and our participation in the development of outpatient general anesthesia.

In 1935, sulfa, the first successful antimicrobial, was introduced. This was followed in 1936 by the discovery of penicillin, one of man's greatest medical discoveries, which would transform medical care. In 1943, Waldron reported the successful use of penicillin in the treatment of odontogenic infections. We could now offer our patients more predictable procedures, an improved postoperative course and, in time, new intraoral procedures hitherto too difficult to justify. To further augment the quality of our treatment, Dr. Kurt H. Thoma (1883–1972) installed the first X-ray machine in his office in 1914. Its gradual acceptance by the specialty did much to enhance our reputation for safety and skill.

Anesthesia

It was our surgical ability and, perhaps more so, our embrace of the new drugs and techniques in anesthesia that differentiated the oral surgeon from the general practitioner. The development of new anesthesia modalities paralleled the specialty's growth. The frequency of lectures on anesthesia at early annual meetings of the Association mirrored our interest in that evolving discipline.

During the first half of the 20th century, a progressive shift in the modalities and delivery of both local and general anesthesia occurred. Nitrous oxide was supplanted by other gaseous anesthetics, local anesthesia and barbituric acid-based intravenous general anesthesia. Nitrous oxide, when used as an anesthetic for oral surgery, was not a safe agent in inexperienced hands, for it depended upon the creation of hypoxia to induce anesthesia. This technique placed a premium on surgical speed and clinical judgment. During the first two decades of our existence, nitrous oxide was gradually replaced by local anesthesia because of its utility, efficacy and safety. Nitrous oxide eventually found wide acceptance as an adjunctive agent in the general anesthesia armamentarium.

In 1905, Alfred Einhorn discovered that procaine had local anesthetic properties, and during the First World War methods for its production, storage and injection were developed. The creation of the aspiration syringe and the addition of epinephrine to the anesthetic solution that prolonged its clinical duration made procaine an effective and safe local anesthetic. Its principal drawback was its hyperallogenicity. In time, lidocaine was less allergic and more predictable in its action and became the favored drug in dental practice for many subsequent decades. Since its inception, local anesthesia continued to undergo constant improvement in duration, efficacy and safety.

The greatest deterrent to the use of local and general anesthesia during our early period was the lack of formal teaching and training. Knowledge was gained through short courses often sponsored by manufacturers or through preceptorships. It was not until 1927 that the first formal teaching course in local anesthesia was presented. This was also true for gaseous general anesthetics of the period, including vinethene and cyclopropane. These were already widely used during the First World War, but were not ideal agents. A better short-acting anesthetic agent was needed.

It was already known that compounds of barbituric acid had anesthetic properties when, in 1932, the effective short-acting compound, hexobarbital, was synthesized and successfully introduced into practice. Thus began the era of outpatient general anesthesia, and hexobarbital became the first widely used, short-acting barbiturate anesthetic agent in dentistry.

In 1934, based largely on the work of John S. Lundy (1894–1973) of the Mayo Clinic, hexobarbital was superseded by the short acting barbiturate sodium thiopental. Lundy also introduced the technique of intermittent intravenous injection of an anesthetic agent to achieve a continuous effective blood level of the drug. He was an invited speaker at the Society's annual meetings in 1929 and 1934. Although all his sodium thiopental induced anesthesia was done in the operating room, his influence on the development of outpatient general anesthesia was profound and lasting.

Adrian O. Hubbell (1913–2001) is considered to be the founder and moving spirit of dental outpatient general anesthesia. In 1937, he took a two-year oral surgical residency at the Mayo Clinic and an added year under Lundy. His critical contributions to the development of outpatient general anesthesia were the belief and demonstration that barbiturate anesthesia can be given safely in the private office setting without intubation. He also advocated that patients were best recovered on their side or abdomen postoperatively to accommodate vomiting without aspiration.

Lundy and Hubbell initially used sodium thiopental as the sole anesthetic agent. However, in time Hubbell introduced the technique of supplementing barbiturate with nitrous oxide and oxygen. In 1954, Edward C. Thompson (1907–1977) recommended that local anesthesia be used in conjunction with sodium thiopental-induced anesthesia. The combination of the anesthetics allowed the performance of longer surgical procedures. Sodium thiopental

was amenable to outpatient usage because it could rapidly induce a safe anesthetic state via either an intermittent or continuous intravenous infusion with comparatively minimal postoperative sequelae, such as profound amnesia. However, the administration of sodium thiopental required well-honed monitoring skills to cope with the potential, though rare, complication.

Early on the specialty recognized that to continue the privilege of administering outpatient anesthesia, three issues had to be addressed: residents needed adequate formal general anesthesia training; the public needed the assurance that oral surgeons were maintaining the highest standard of care; and outpatient general anesthesia had to remain an integral part of our specialty.

Obtaining the desired anesthesia training for our residents was at times challenging. Some anesthesia departments in teaching hospitals were reluctant to train our residents. This may have been due to the belief that our residents were academically unprepared. No matter the reason, oral surgery residents were sometimes forced to seek training at other teaching centers. Eventually, sufficient cooperation was achieved and academic anesthesia departments permitted our residents to obtain the necessary training.

In 1972, the American Society of Anesthesiologists (ASA) concurred and prepared a statement that OMSs be trained by medical anesthesiologists. As a result of uneven residency training in anesthesia, some private offices employed anesthesiologists or nurse practitioners. This practice became more common in the 1950s and 1960s as intravenous sodium thiopental was becoming the outpatient anesthesia drug of choice for the specialty.

Anesthesia training for oral surgery residents was strengthened in 1971, when a consensus on training was reached by a committee representing the ADA, the American Dental Society of Anesthesiology (ADSA) and the American Society of the Oral Surgeons (ASOS). The Joint Commission on Accreditation of Hospitals (JCAH) further endorsed our resident training in anesthesia when it declared in its anesthesia service standards that dentists, physicians and nurses were equally capable of providing anesthesia care in hospitals. Over time, oral surgery and anesthesiology achieved a wholesome and supportive relationship that resulted in today's continuing training of oral and maxillofacial surgery residents on the medical anesthesia service.

Resident training in general anesthesia was codified in the 1960s when we developed the *Essentials of the Advanced Education Programs in Oral Surgery*, which mandated six months in clinical general anesthesia and training on the resident level supplemented with didactic courses. In time, a minimum number of outpatient clinical cases in both general anesthesia and deep sedation were also required. The OMS Foundation supported several free-standing meetings of faculty to review and update the requirements for training, including training in anesthesia.

Patient safety has remained at the core of our privilege to provide outpatient anesthesia. It was necessary to assure the specialty and the public that our practitioners were current in their education and skills. Towards that end, we devised a self-regulatory office anesthesia evaluation program that was to become the specialty's outstanding contribution to the safe delivery of outpatient general anesthesia.

In 1971, the ASOS adopted the successful model created in 1967 by the Southern California Society of Oral Surgeons (SCOS). We inaugurated an ASOS-mandated, self-regulatory nationwide office anesthesia practical evaluation program. In 2003, it was to be administered by the state oral surgery society. Its successful completion was a requirement for continued membership in the member's component society. Re-examination was mandated every five years. In 2006, all state societies inaugurated the program.

The AAOMS has provided opportunities for the membership to update their anesthesia knowledge, skills and management of emergencies through continuing education. Symposia and seminars have become an integral part of the Association's annual meeting and at clinical congresses that focused on, among other topics, anesthesia and patient assessment.

The safety record of the specialty in delivering outpatient anesthesia has been regularly documented. In 1988, the SCOS published the first retrospective report on the performance of its members providing general anesthesia in their practices from 1968 through 1987. During the reported period, seven deaths occurred in more than 4.7 million administered anesthetics; a rate of one death in 673,000 anesthetic administrations.

A 2008 study published by the Massachusetts Society looked at the frequency of office anesthetic complications occurring in member offices during 2004. The result was one death in 733,055 anesthetics and sedations. That compared favorably with the 2003 comprehensive survey conducted by the Oral and Maxillofacial Surgery National Insurance Company, RRG (OMSNIC). The OMSNIC study covered the period from 1994 to 2003, and demonstrated that for ASA Class I and Class II patients, the mortality risk from outpatient anesthesia was approximately 1 in 800,000. Successive surveys have supported these findings.

In September 1988, the Association initiated the first anesthesia assistant program dedicated to the education, and ultimately the testing, of the entire office anesthesia team. The first examination was administered on May 6, 1989, and resulted in an 89% pass rate; a level that has since been maintained. The AAOMS inaugurated this program to assure the competence of those involved in the provision of general anesthesia in an OMS office, and also as reassurance to the American Society of Anesthesiologists (ASA), which periodically contested the structure of our anesthesia team of two assistants and the operating surgeon for a general anesthetic or deep sedation procedure. The moderate sedation team consists of only one anesthesia assistant and the oral and maxillofacial surgeon.

To sustain safe office anesthesia, beginning in 1975, oral and maxillofacial surgeons supported state regulation of office general anesthesia and deep sedation in dentistry, thus limiting its use to qualified practitioners. Through extensive efforts and working in collaboration with state dental associations and dental boards, all states adopted office anesthesia regulations and 27 required office evaluations by 1988. The specialty was instrumental in placing general anesthesia and sedation permits for licensure, as well as the necessary education and oversight, in state dental practice acts, by offering a model regulation to the states. In this manner, the profession was protected from attempts to abridge our privilege to deliver outpatient anesthesia and ensured it would be delivered at the highest level.

Outpatient general anesthesia changed in 1958, when methohexital sodium, an ultra-short acting barbiturate, was introduced and quickly displaced sodium thiopental as the anesthetic drug of choice in oral surgery practices. One of the drawbacks to the use of barbiturates was that a prolonged case could require a large quantity of the drug. A solution was provided when in

1963 the benzodiazepine, diazepam, was introduced into practice. This short acting drug had sedative, hypnotic and amnesic properties, and its use when combined with methohexital sodium resulted in the decrease in the dose of the latter. In the 1970s, the more amnesic benzodiazepine, midazolam, was swiftly incorporated into our clinical practice. Additionally in the 1970s, the neuro-dissociative drug, ketamine, was added to our armamentarium. This versatile drug had a high degree of safety in an outpatient setting, could be given intramuscularly and/or intravenously, and had a longer duration of action in manageable quantities.

Two new drugs amenable to outpatient anesthesia use were introduced into clinical practice in the latter part of the 20th century. In 1986, the ultra-short acting anesthetic, propofol, swiftly replaced methohexital sodium as the major anesthetic agent of choice for induction and maintenance, and the ultra-short acting fentanyl became the most used narcotic agent in anesthesia. The combination of these drugs provided hitherto unavailable flexibility to the techniques of outpatient anesthesia. The depth of sedation could now more easily be calibrated, and maintaining a safe airway was much more predictable. Furthermore, to increase safety, we now had antagonists to both benzodiazepines and narcotics.

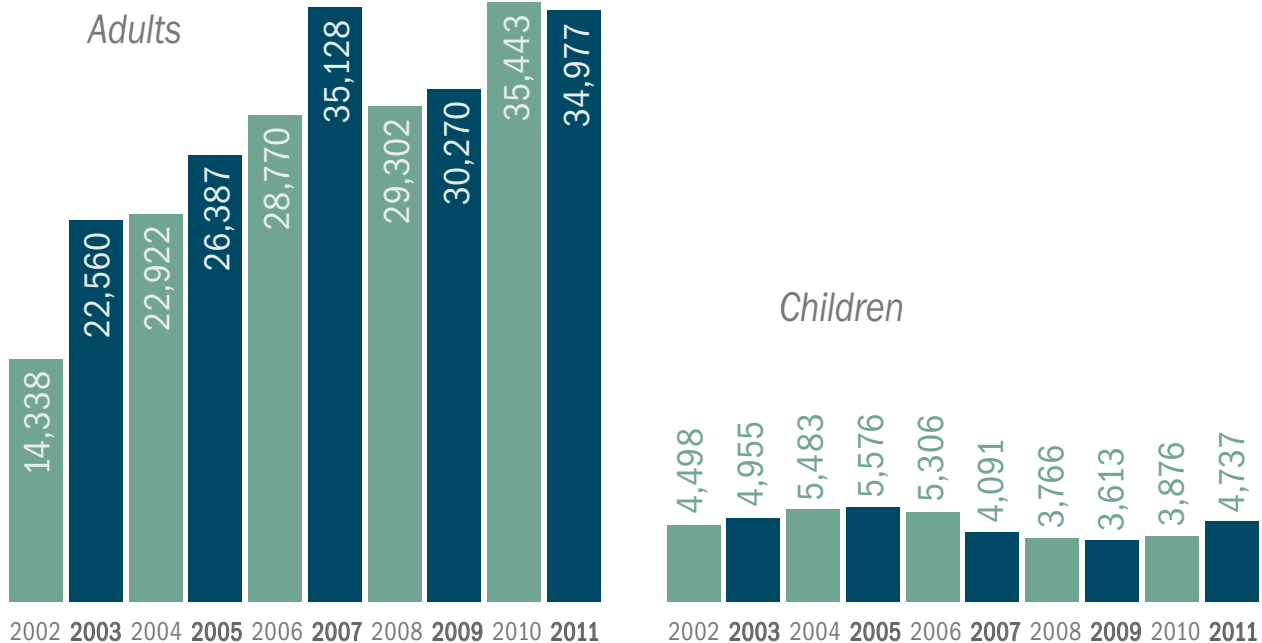
In time, we became adept at using a combination of some of these drugs with local anesthesia to induce a desired level of sedation, amnesia and analgesia sufficient to perform most procedures in an outpatient setting. In some settings sedations replaced general anesthesia in oral surgery practices for routine procedures. Statistics on the usage of outpatient anesthesia and analgesia has demonstrated a robust use of both modalities. *[Figure 1]*

Primarily because of the relative safety of the sedation regimens, dentists and physicians quickly applied these techniques to their procedures. For the specialty, the adoption of sedation by other dental and medical specialties resulted in the end of our exclusivity in outpatient dental anesthesia. The repercussions from these changes would be seismic and our attempt to deal with them would greatly affect our development.

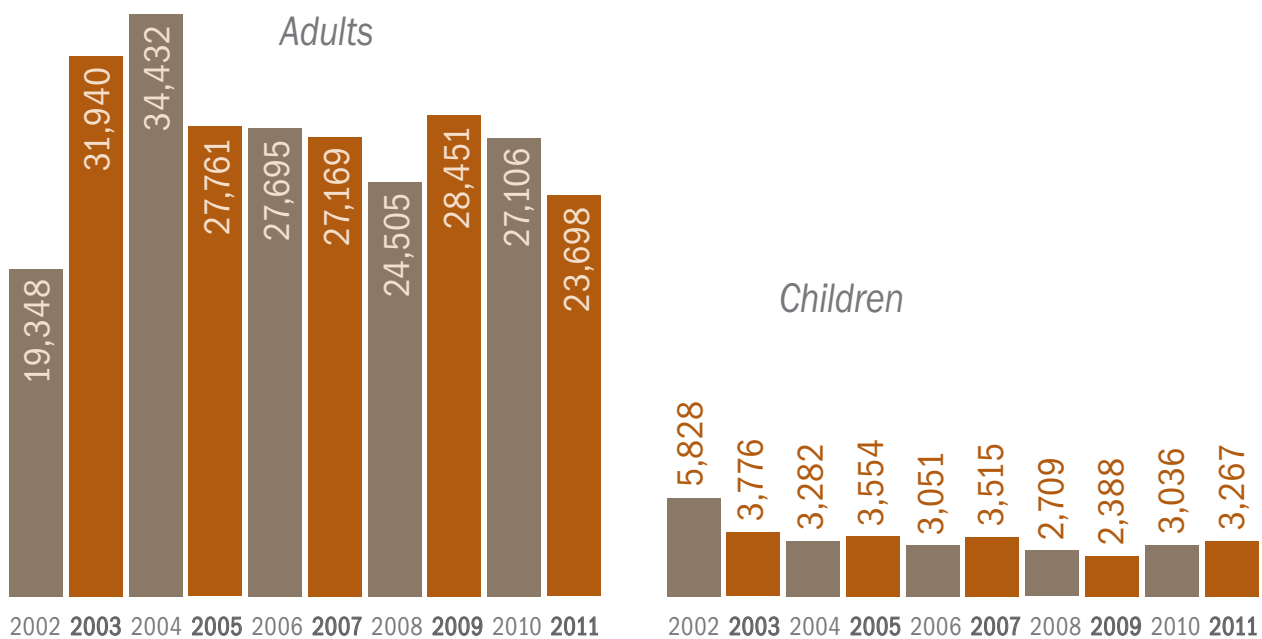
As dental anesthesia evolved, we saw the need to politically organize and better protect our intellectual and political interests in the discipline. To that end, we supported the formation of the American Dental Society of Anesthesiology (ADSA) in 1953, under the auspices of the ADA.

Figure 1

Anesthesia – General Anesthesia



Anesthesia – IV Sedation



Ending year of academic year indicated above (ex: 2002 = Academic year 2001–2002)

General anesthesia and IV sedation administered in oral and maxillofacial surgery residency training programs. ADA Survey of Advanced Dental Education, 1992–2011.

The organization was formed predominantly by oral surgeons; however, in time the leadership of the ADSA passed on to dentists in other parts of the profession and hastened the propagation of the teaching of outpatient anesthesia/sedation in dentistry.

In 2001, the ADSA established a certifying board, which was later taken over by the American Society of Dentist Anesthesiologists (ASDA), a group of dentists, approximately 200 strong, who had undergone two years of formal training in anesthesia and split with the ADSA. In 2001, the ADSA established the College of Sedation in Dentistry, whereby general dentists and dental specialists could obtain certification in oral and parenteral anesthesia. The ASDA repeatedly failed in its petitions to the ADA to become a recognized dental specialty. The ADSA has remained an educational organization and as such has not participated in the process to recognize dental anesthesiology as a dental specialty.

The AAOMS vigorously opposed the creation of an anesthesiology specialty in 1993, 1997, 1999 and 2012, based on the belief that the resulting specialty would decrease patient access to dental anesthesia by all dentists who “are able to administer anesthesia in their practice commensurate with their education, training, experience and competence.” We also noted that the outcome studies of anesthesia delivered by qualified dentists are a “testimony to the competence of 180,000 dentists treating the full gamut of dental and oral disease.”

A further concern was the potential increase in costs of providing anesthesia due to the ability of an ASDA-sponsored board to limit the number of candidates taking the examination. In October 2012, the House of Delegates of the ADA once again voted to reject the creation of an anesthesia specialty in dentistry principally because it failed to meet the ADA requirements for specialty status.

Creation of Academia

The utilization of the hospital was essential to our future development, as we desired to create a surgical residency program and enable our fellows and members to fully practice their specialty. Organized medicine initially and periodically thereafter was unwilling to accept the specialty as a collegial and equal partner. In time, the attitude of rejection was fueled primarily by fear of competition.

In retrospect, following our formation, a confrontation with organized medicine was probably unavoidable. The uneasy relationship between the medical and dental professions and their respective specialties would recur in different guises and forms throughout our history. Medicine's initial aversion to a dental presence in the hospital was based on the belief that it was unnecessary. As a result, most hospitals in the 1920s allowed only dentists holding a medical degree to serve on the medical staff. Two issues stimulated our rejection by the medical establishment: the construction of dental clinics in the hospital and our desire to be part of the medical staff.

Four seminal events occurred during the 1920s and 1930s that considerably helped dentistry establish itself in hospitals. The first was the need to perform full-mouth extractions as a therapy for the then-accepted broad diagnosis of foci of infection. It was often impossible to expeditiously perform these procedures except in the hospital's operating room. The second event was the publication in 1926 of the *Gies Report on Dental Education*. Among its recommendations was that dental students have a hospital rotation, in the hope that dental and medical students would develop a better understanding of each other's professions, thereby bringing the two professions closer. This would finally occur in 1963. Thirdly, two organizations, the American College of Dentists (ACD) and the American Hospital Association (AHA), published position papers

advocating the acceptance of dentistry as a hospital service. In 1934, the ACD encouraged the construction of dental clinics and the inclusion of dentists on the hospital active staff. Finally and critically in 1936, the AHA supported the creation of fully equipped dental facilities in hospital operating suites. Progress was further made in 1941, when the AHA published *The Manual on Dental Care and Dental Internship in Hospitals*.

Dentistry made impressive academic progress by 1936. At least one dental internship program existed in 21 states. The progress was haphazard and hindered by a lack of an academic infrastructure, a training curriculum, an accrediting agency, a specialty board and a learned journal. It became essential to create these academic and organizational bodies within the profession if we were to be considered a serious part of the healthcare structure.

Organizational deficiencies within the specialty also placed us at a disadvantage in our dealings with our medical colleagues. It was noteworthy that between 1900 and 1939 the American Medical Association (AMA) through its Council of Medical Education, which was created in 1904, already inspected 160 medical schools, set standards for internships, adopted standards for specialty training, and encouraged the recognition of specialty organizations such as the American College of Surgeons (ACS), which was created in 1913.

It was not until 1948, when it formed its Council on Hospital Dental Services to supervise all hospital dental services, that the ADA became active. In 1949, the Council on Dental Education (CDE) was created and given responsibility for all internships and residencies for which standards of training were subsequently written. The ADA became our accrediting agency. The first oral surgery residency program to be accredited was at the Pittsburgh Veterans Administration Hospital in 1947.

In 1946, after a 10-year gestation period, the Board of the American Society of Oral Surgeons, created by the AAOMS, was incorporated. In 1978, the name was changed to the American Board of Oral and Maxillofacial Surgery (ABOMS), after the specialty changed its name to the American Association of Oral and Maxillofacial Surgeons (AAOMS). The name change was approved by the 1978 ADA House of Delegates.

The founders of the ABOMS recognized that future medical and dental specialists practicing in hospitals would have to demonstrate competency by their respective boards. They also promulgated principles designed to protect the independence of the Board in determining its purpose, structure and academic standard. None of this was possible unless the Board was financially viable and politically protected, especially when the inevitable disagreements occurred with other professions.

The hope of the founders was that ABOMS and the AAOMS would have a symbiotic relationship and together chart the future of the specialty. The ADA Committee on Education approved the AAOMS as the parent of the Board. By any standards, notwithstanding the inevitable periodic frustrations and disagreements, their hopes were realized. The division of responsibility between the AAOMS and the ABOMS had a salutary effect on the specialty's development. It was perhaps one of the most farsighted principles willed to us. The Board was free to concentrate on the examination affairs of the specialty, unencumbered by the need to support the necessary infrastructure and interactions of a healthcare specialty. Those drawn to the Board's mission have had the opportunity to develop considerable expertise in the outcomes of OMS education and training, and exercise their talent in the service of the Association and the specialty. Conversely, those of the fellowship interested in other aspects of governance found fulfillment in the affairs of the Association. In recent years leaders of ABOMS have been elected to the AAOMS Board of Trustees, reflecting the coalescence of responsibility in the governance of the specialty.

In 1981, the AAOMS House of Delegates mandated that board certification be a requirement for representative leadership in the AAOMS. This act strengthened both the Board and the specialty. It was a declaration that we had one standard that is set by ABOMS. In 1990, ABOMS adopted recertification as a means of encouraging competence and that it be required every 10 years. We had taken a major step in upgrading the quality of our services.

The Board has been valuable in enhancing the scope of the specialty through its certifying examination. Together with the Association, they have been steadfast in defending the integrity and scope of our educational system, no matter the setting. This offspring of the Association has grown to be

indispensable to our continued existence; a fact that was well demonstrated in 1988, when the Board joined the Association in drafting the definitive position paper on the issue of the dual degree.

The specialty obtained its official journal when the first edition of the *Journal of Oral Surgery* appeared in January 1943. The *Journal* was originally published jointly by the ADA and the specialty. Both organizations guided it through its formative years. In 1981, the Association purchased the *Journal* from the ADA to gain more editorial freedom. Thus, we fulfilled the specialty's longstanding desire to create an independent journal. This goal had been set in 1928, when the assembly of the ASOSE passed a resolution urging the creation of an independent journal. We have also been well served since 1948, by the *Journal of Oral Surgery, Oral Medicine and Oral Pathology (Triple O)* what today is the *Journal of Oral Surgery, Oral Medicine, Oral Pathology, Oral Radiology and Endodontics*. The *Journal* matured and prospered to become a respected purveyor of ideas and worldwide research. It has maintained an enviable standard throughout its history and remains the monthly reminder of who we are and who we aspire to be as a specialty. A great deal of the credit for the success of the *Journal* has been its leadership. Journal editors have been among the brightest and wisest among us.

By 1953, we had a functioning Board and an academic journal, but we lacked a fully integrated curriculum to complement the gradually accepted definition of the specialty. It was implicitly understood by some of our leaders that the formal education available to our residents was not congruent with our now accepted scope. The existing curriculum was a polymorphous affair that resulted in a number of one-year training programs often staffed by part-time instructors. There were some two-year programs, but only about 50% of those completing one year of the training could or would take a second year of training.

By 1956, three-year graduate programs were being created in teaching institutions that offered an initial academic year devoted to comprehensive basic science courses succeeded by two years of clinical training. Some universities offered only one year of postgraduate training, largely devoted to basic science courses intermingled with clinically-oriented lectures and, on occasion, surgical experience. The prospective resident had to complete the clinical training in another institution. This system supported the specialty until the three-year curriculum became the accepted standard in 1972.

Only candidates who completed a three-year course qualified for the ABOS examination. However, there was a lack of an accepted curriculum on which to construct a standardized examination. At the 1956 annual meeting, the ASOS Committee on Graduate Training proposed an outline of a three-year curriculum, which was accepted by the House of Delegates. It discussed in detail not only the goals and content of the curriculum, but also the reasons for its institution.

We understood that the dentally trained prospective resident needed additional basic science and physical diagnosis training as supplemental learning prior to caring for patients. We proposed to do it during a three-year postgraduate training program.

In order to facilitate the implementation of oral and maxillofacial surgery educational standards, both the Association and the CODA approved the creation of the Review Commission on Advanced Education in Oral Surgery in 1964. It was to evaluate the performance of training programs through site visits and paper records. The triumvirate of the Association, the Board and the Commission on Dental Accreditation (CODA) became and remains the guardian of the quality of our training programs. Although the relationship between the specialty and the CODA has been strained at times, much has been accomplished.

Our efforts to establish and define the specialty did not fully clarify the position of the oral and maxillofacial surgeon in the hospital environment. Consequently, the late 1940s, 1950s and 1960s were tumultuous years for the specialty as organized medicine spearheaded by otolaryngology and plastic surgery challenged our scope of practice and place in the hospital. These medical specialties were themselves undergoing seismic changes in their scope of practice. Plastic surgery was attempting to create a specialty without a defined anatomic or systemic base. The introduction of antibiotics in the 1940s reduced the need for surgical intervention in the region of the ear, nose and throat, and tonsillectomies were on the decline. Otolaryngology was searching to expand its procedural and diagnostic base, and in the 1970s, it declared the head and neck region its specialty. Otolaryngology now joined plastic and reconstructive surgery, ophthalmology and oral and maxillofacial surgery as specialties that treated segments of the acquired and congenital deformities of the region.

Our name change in 1946 to the American Society of Oral Surgeons hastened the inevitable confrontation with these medical specialties. In 1950, otolaryngology presented a resolution in the American Medical Association's (AMA) House of Delegates restricting the specialty of oral surgery to the care of teeth. It also contended that dentists were practicing medicine without a license; a charge that was to be repeatedly hurled at us. It was clear that the specialty alone could not contest the resolution, but the American Dental Association (ADA) was willing and able to help. Although we have had sporadic disagreements with the ADA, usually on educational matters, it has historically been indispensable in solving our disagreements with other professions and national organizations. After much discussion between the ADA and AMA, the latter accepted the ADA definition of oral surgery that stated, "Oral Surgery is that specialty of dentistry which deals with the diagnosis, injury and malformations of the mouth, jaws and of their associated structures."

The AMA further concluded that the resolution presented at its house by otolaryngology was illegal. In doing so, it invoked the principle that one profession cannot define the scope of another. In 1952, the AMA House of Delegates refused to rescind its original resolution defining oral surgery.

It would take the creation of the JCAH in 1964 to define the place of the oral surgeon in the hospital structure. Since its inception, the JCAH (now Joint Commission (JC)) has had broad medical support. It was created by four medical and surgical organizations: AHA, ACS, the American College of Physicians (ACP) and the Canadian College of Physicians (CCP). Its creation had the long-term advantage of a more cohesive voice on hospital policy, as previously hospitals were under the jurisdiction of the ACS, and its decisions were at times challenged by the AMA and the AHA.

The relationship between the JCAH and the specialty was difficult from the beginning. The JCAH placed restrictive regulations on dentists in hospitals without consulting the ADA or the specialty. In addition, interpretations of JCAH guidelines were varied because there were no standards for dentistry in hospitals. It would take 10 years for the JCAH and the ADA to reach an accord that helped cement the position of the specialty in the hospital structure. That occurred with the 1964 publication of the JCAH Bulletin 36, which reaffirmed the principle that one profession cannot set professional limits for another. It also approved the ADA's definition of oral surgery, affirmed the

right of oral surgeons to admit and discharge patients, write necessary orders, and granted us full membership on the medical staff. Dentists were accepted as members of the medical staff, a right they initially obtained from the AMA in 1922.

Otolaryngology strenuously opposed the document. The issues addressed in the Bulletin would be challenged, altered and refined. It would take many years for prejudice to decline, familiarity to occur and our own intellectual maturity to significantly improve our place in the hospital. The issues of admitting privileges and independence of treatment were, and to a degree remain, complex and sensitive, for at their core they dealt with academic and organizational competence.

The 1951 resolution on the scope of oral surgery by the AMA House of Delegates was predominantly a political act. However, we were as yet not a fully formed academic specialty. At a time when medical academia had been functioning for over 50 years, we were attempting to define our scope and the necessary postgraduate training. Between 1900 and 1939, the AMA, through its Council on Medical Education, created in 1904, inspected 160 medical schools, set standards for internships, adopted guidelines for specialty training and encouraged the recognition of such specialty boards as the ACS, which was formed in 1913.

It is not entirely surprising that in the 1950s, the medical profession found it difficult to give us autonomy in the admission and discharge process, in treating our patients and in allowing us an equal voice with our medical colleagues in the affairs of the hospital. In 1953, three years after the JCAH introduced its *Standards for Dental Care*, the ASOS Committee on Graduate Training presented its initial and minimal requirements for postgraduate training in oral surgery hospital programs.

The American Board of Oral Surgery, still in its infancy, determined three years as one of the qualifications for the certification examination, but did not have a set curriculum on which to base a standardized examination. On top of our lack of academic preparedness, the press was ready to sensationalize any untoward surgical event by condemning the specialty for incompetence or lack of credentials.

Our dental curriculum did not adequately prepare us for residency training. Our remedy was to utilize the initial part of the residency to provide residents the remedial academic education they needed to subsequently pursue their training. Indeed, that was the structure of most early three-year programs before integrated academic and clinical programs were developed.

One of the most important decisions made by the JCAH was its adoption of the principle that specialties were to determine the quality of their residents' training, and the local institution was to judge the performance of practitioners in the treatment of patients. This decision affirmed the principle that the quality of patient care is evaluated not exclusively by a professional degree, but by performance. This influenced the future course of the specialty in a number of ways; it validated our academic system and implicitly recognized our ability to largely eliminate the informational and technical gap between the medical and dental curricula. The four-year curriculum was approved and required in 1988.

It took 50 years for the specialty to provide a training curriculum, a process that began in 1907 when oral surgery training programs were created at Cincinnati General Hospital and the University of Michigan. Additionally, it took from 1958 to 1964, and six conferences to develop the content and methods that would be used in *The Essentials of An Adequate Training Program in Oral Surgery*, the training manual created by the Committee on Residency Education and Training (CRET). This monumental task took from 1965 to 1969 to complete because it required the ASOS and the ADA to form an overarching accrediting agency, known today as the Commission on Dental Accreditation (CODA). The final document published in 1969, has proven to be a cohesive, forward-looking and flexible blueprint for our graduate training programs. It has undergone periodic revisions.

Although the JCAH clarified the position of the oral surgeon in the hospital, it did not grant operating privileges. This issue remained a local matter and would ultimately prove to be restrictive to the specialty. Site visits continued to be contentious until the JCAH separated oral and maxillofacial surgery from dentistry on the basis of training. This action reduced ambiguities in rules and regulations.

Dentistry realized that in order to effectively represent the profession, it needed a permanent seat on the JCAH. Repeated efforts by the ADA Board of Trustees were rebuffed until 1982, when the ADA board instructed its counsel to sue the JCAH. In 1983, oral and maxillofacial surgeon Charles A. McCallum (1925–) became the ADA representative on the JCAH governing board, eventually rising to chairman of the Board of Commissioners of the Joint Commission. John F. Helfrick (1942–) followed Dr. McCallum as the ADA representative and took the helm from 1992 to 1998. Dr. David A. Whiston served as the ADA representative from 2000–2011, and as chair of the Board from 2009–2010. He was followed by Dr. David H. Perrot in 2012. This change was long in coming since it was in 1957 that the ADA House of Delegates passed a resolution seeking a permanent seat for dentistry on the JCAH governing board. In 1987 the JCAH changed its name to the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) to better define its expanded responsibilities. In 2007, JCAHO was renamed the Joint Commission (JC).

Fluoridation and Its Consequences

While we were strengthening the specialty academically, the United States Public Health Service was implementing a program to fluoridate the water supply. The program began on January 25, 1945 in Grand Rapids, Michigan. The Centers for Disease Control and Prevention considered water fluoridation to be among the top public achievements of the 20th century. Its effect on dentistry was dramatic and lasting.

Between 1967 and 1992, the mean number of decayed or missing teeth per person due to caries or filled permanent teeth (DMFT) dropped from 4 to 1.25. In less than a generation, the need for exodontia in private practice fell from 13% of total services in 1950 to 3% in 1999. By the mid-1970s, the Association became deeply worried about the loss of patients needing our care and searched for solutions. A 1973 survey sponsored by the Association found that 43% of the membership already thought there were too many oral surgeons. Concern about the decrease in demand for our services had persisted sufficiently for the profession to commission manpower surveys on four different occasions between 1973 and 1997. We were experiencing growing competition from within and outside the specialty, especially from periodontics, now deeply affected by studies indicating that antibiotic therapy was comparable to surgery in eradicating periodontal disease. The resulting decline in the need for preprosthetic surgery hastened our need to expand our scope and altered our educational system.

From our inception, we were a specialty overwhelmingly involved in providing acute care. Dentoalveolar surgery and treatment of facial injuries were our core areas of practice. Our access to dentoalveolar surgery was curtailed when the ADA declined in 1964 to be part of Medicare,

the newly inaugurated national healthcare system for the care of the elderly, thereby reducing the opportunity for us to fully care for 20% of America's population and its fastest growing segment.

Coincidentally, we were becoming more aware of the pioneering facial reconstructive procedures developed by our colleagues in Europe. Historically, we had contributed to procedures designed to realign the facial skeleton. Orthognathic surgery had been introduced in the United States prior to the 1960s. Dr. Simon P. Hullahen (1810–1857) performed the first successful mandibular osteotomy to correct a protrusive malposed alveolar segment of the mandible. In 1897, Dr. Wilray P. Blair (1871–1955), the first chairman of the Washington University Medical School, Department of Plastic Surgery, corrected a mandibular prognathism by resecting the mandibular body above the foramen. He subsequently resected other parts of the lower jaw and proceeded to classify congenital deformities of the mandible. In 1864, Dr. David Cheever utilized a hemi-maxillary downfracture approach when resecting a nasal tumor and subsequently performed a complete maxillary downfracture. In 1954, Dr. Jack B. Caldwell (1913–1994) introduced the bilateral intraoral sagittal split osteotomy technique for the correction of mandibular prognathism.

Overseas, German and Austrian oral and maxillofacial surgeons made major advances in the correction of the skeletal deformities of the jaws. In 1957, Dr. Hugo L. Obwegeser (1920–) and Dr. Richard Trauner (1900–1980) published the bilateral intraoral sagittal split osteotomy technique for the correction of mandibular prognathism. In 1969, Obwegeser described a series of Le Fort I down fractures of the maxilla and in 1970, performed the first total two-jaw corrective surgery procedures. In 1975, Dr. William H. Bell (1927–) significantly aided the acceptance of total and segmental maxillary surgery when he published his landmark research on the vascularity of the maxilla demonstrating the safety and predictability of these techniques.

Despite these landmark surgeries and publications, orthognathic surgery was not fully embraced in the United States until American surgeons observed the full capabilities of their European colleagues both at home and abroad. In the 1950s and 1960s, American oral surgeons, both military and non-military, were exposed to the innovative techniques developed by their European counterparts, who were treating facial congenital deformities as well as oral and maxillofacial cancer.

In 1966, Professor Obwegeser presented a series of lectures in Washington DC demonstrating his techniques of performing orthognathic and pre-prosthetic surgical procedures through intraoral approaches for both the maxilla and mandible. He then undertook a national tour on which he lectured and demonstrated his groundbreaking surgical procedures. With the initial aid of the American OMSs who trained with him, he helped make elective reconstructive surgery an integral part of our surgical future.

Our leaders were divided in their search for solutions to the apparent manpower excess in the specialty. Some counseled caution and expressed the belief that the high quality of our work would protect us. Others advocated three possible solutions: 1) curtailing the number of graduating residents; 2) appeal to the CODA to enforce the perceived boundaries between the dental specialties; or 3) expand our scope of practice. We chose the third option.

In 1973, AAOMS President Dr. Robert V. Walker (1924–2011) provided the rationale for expanded scope in his presidential address to the House of Delegates, in which he stated, “We are educating and training our future members in anatomical areas and procedures that directly overlap those of other specialties. Unless we pursue the right to practice in these regions of interest to our specialty, there will eventually be little justification or cause to train these men.” It seemed prudent for the profession to reclaim our traditional but neglected areas of surgical interest.

In 1981, AAOMS’s outgoing president Dr. John A. Babett (1925–1989) noted, “While our scope has expanded, the frequency which we are called upon to perform dentoalveolar surgery has declined.” He also presciently observed, “Slowly the barriers that traditionally have defined dental specialties are eroding.”

In retrospect, our first two proposals were unwise. We failed to recognize that reducing the number of graduating residents would eventually be detrimental to the specialty, and we overlooked the fact that the mission of the CODA was not always congruent with ours. To advocate a reduction in manpower was to put forth a policy of reducing the number of graduating trainees and/or the number of training programs. The potential result of such a policy could be the weakening of the specialty since our reduced presence

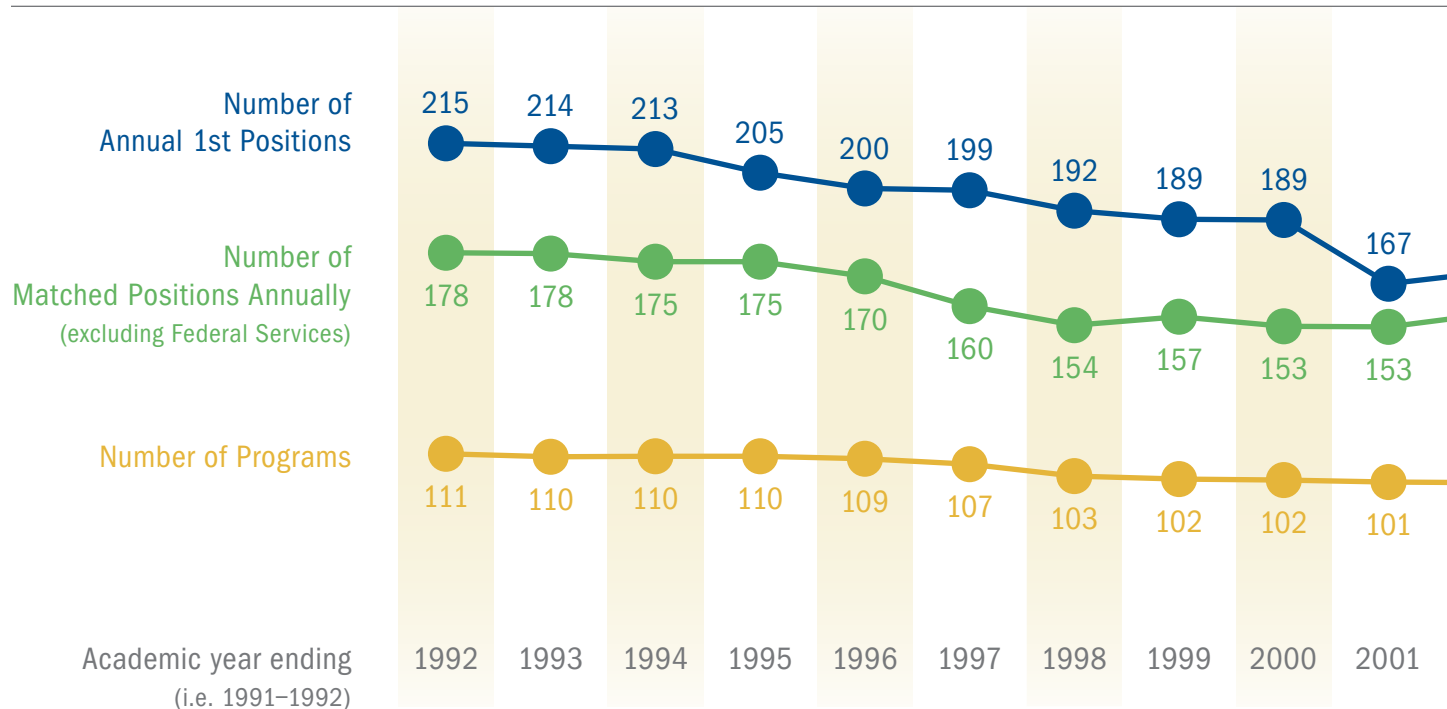
in teaching institutions would diminish our ability to compete for teaching cases and meet our clinical responsibilities. The net result would be our long-term inability to adequately train residents.

Indeed, we experienced a decline in graduates in the late 1960s to mid-1970s, when their numbers fluctuated between 216 and 262. During the next decade, their numbers ranged from 200 to 225. The 1990s saw a further decline in the number of trainees until the nadir was reached in 2002 at 172 graduates. Since then, there has been a steady increase in numbers and in 2009, the number of residents rose to over 200 for the first time in a decade and a half. [Figure 2].

The attempt to reduce the number of graduating residents also contributed to the shortage of manpower during the first decade of the 21st century, as the population increased beyond projections and affluence allowed more practitioners to retire or work part-time. It is difficult to quantify the damage done to the specialty by the retrenchment. The actions we took to control manpower could have facilitated the encroachment of periodontics into our

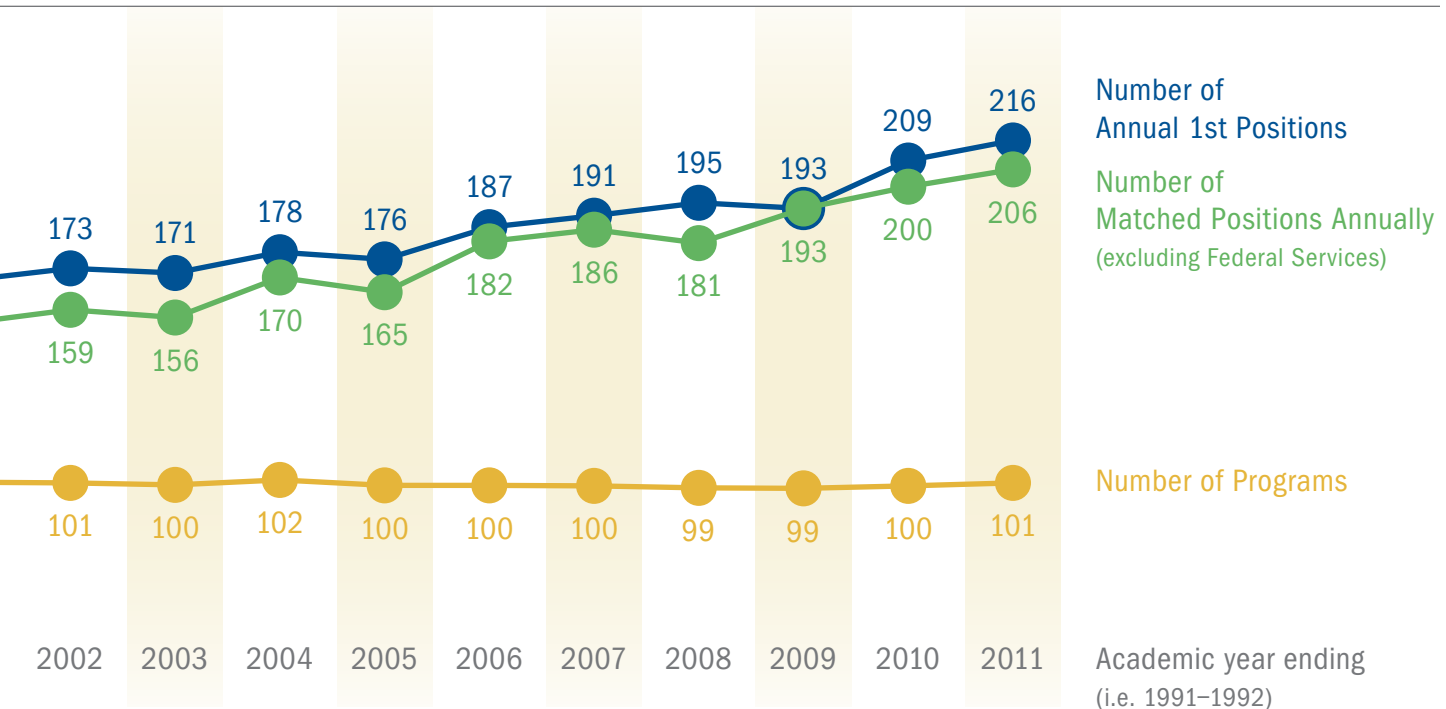
Figure 2

Accredited Advanced Training Programs in OMS (1992–2011)



surgical domain. Perhaps more telling were the actions of the CODA when it allowed periodontics and subsequently other dental specialties to perform the necessary surgical procedures for the placement of implants.

At the root of our long-standing frustrations with the CODA is its inability or unwillingness to enforce procedural boundaries between specialties. Our abilities to influence its course are somewhat limited since its charter was granted by the US Department of Education and it, therefore, has political independence. The ADA's responsibility is to act as its sponsor and partially fund the commission. Our interests are, however, overlooked when they conflict with the priorities of dental schools. This has been especially true since the 1995 reform that granted the dental specialties seats on the commission. Many other commissioners had dental school appointments and when joined by four ADEA representatives, commonly deans of these institutions, they used their appointments as a means to maintain the academic and fiscal health of all segments of their schools.



It is highly unlikely that we could have prevented competition from other dental specialties. Eventually we realized that organized dentistry would not enforce distinct territorial boundaries between the dental specialties. Our ill fortune has been that we had remedies for them; they had none for us.

Our inability to protect our perceived boundaries also had a legal base. The scope of the dental license endows dental graduates with the legal right to perform dentistry in all its forms. Dentistry, unlike medicine, does not recognize the need for postgraduate training before a license can be granted to treat the public. Similarly, hospital privileges are only given after proof of clinical and academic competence.

The power rested with the CODA to determine the scope of the residency curriculum of all dental specialties. It refused to do so for periodontics as well as endodontics, prosthodontics and general practice residencies. This was the path taken to blur the boundaries between the dental specialties and, in fact, create a shadow oral surgery specialty within dentistry.

The blurring of boundaries between dental specialties has created an inefficient organizational model resulting in the duplication of services and calling into question the specialty structure of dentistry. Essentially, the CODA policy has attempted to resuscitate ailing dental specialties.

In 1986, 13 years after it was first proposed, the AAOMS sponsored the landmark conference on the issue of expanded scope for the specialty. The concluding recommendation of the conference was that we should enhance our basic curriculum in three broad areas: facial esthetic surgery, resection and reconstruction of oral and maxillofacial cancer, and the repair of cleft lip and palate.

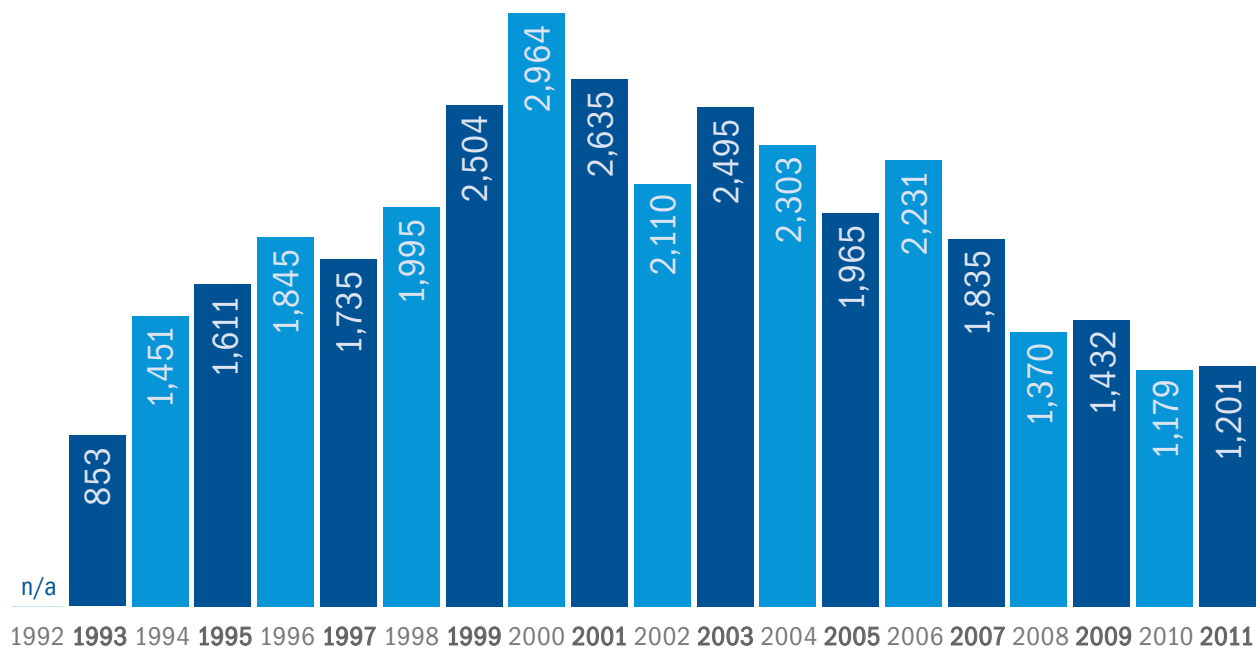
Facial esthetic surgery was a logical extension of our increasing expertise in the reconstruction of the facial skeleton, a process that was given marked impetus by two developments: our enthusiastic embrace of orthognathic surgery since the mid-1960s and our growing surgical competence in the use of transcutaneous exposures in the treatment of facial trauma. Inherent in the planning of orthognathic surgery is awareness of esthetics and facial balance. For us, it was a logical step to correct facial deformities after evaluating them.

The introduction of facial esthetic surgery into our core curriculum precipitated daunting academic and political problems, foremost of which was the inadequate number of teachers within our ranks. We augmented instructors from our own ranks with a cadre of talented surgeons from other disciplines to instruct in various settings. Our own instructors replaced these in due course. The AAOMS has continued to support the establishment of fellowships and preceptorships.

Our success in incorporating esthetic surgery into our curriculum has been mixed. In 1992, 853 esthetic procedures were completed in our residency programs. In 1999, the number had increased to 2,964. In 2008, however, it declined to 1,370. [Figure 3] The possible decrease in esthetic surgery teaching cases may be reflected in the overall decline of continuing education courses offered on the subject at annual meetings. There were 18 courses given in 2000, as opposed to 7 in 2010. Lectures and symposia on esthetic surgery have, however, become permanent features at the Association’s scientific meetings. At the 1985 annual meeting, there were no symposia or lectures

Figure 3

Esthetic Surgeries



Ending year of academic year indicated above (ex: 1992 = Academic year 1991–1992)

Procedures performed/conditions treated in oral and maxillofacial surgery residency training programs. ADA Survey of Advanced Dental Education, 1992–2011

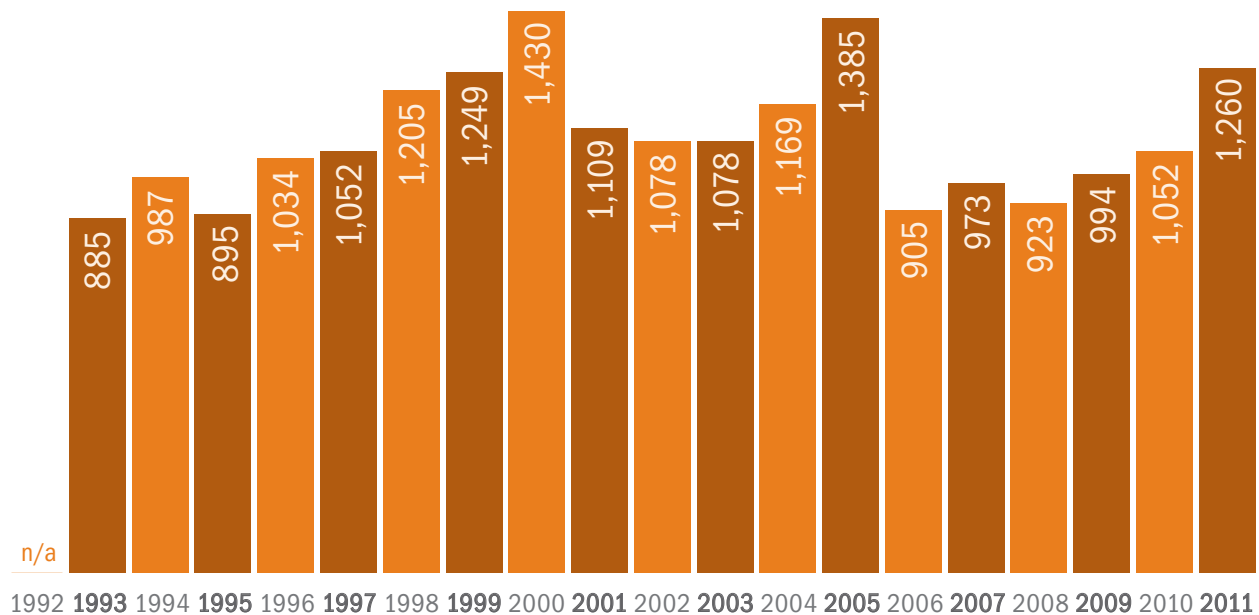
on esthetic facial surgery. Since then, with the formation of a clinical interest group in this area, an average of two have been held annually. Currently, esthetic facial surgery is unevenly taught in our core curriculum due largely to the shortage of qualified faculty.

The annual number of rhinoplasties completed in our residency programs, however, has been constant, with 885 procedures performed in 1992–93 and 923 procedures performed in 2007–08. These numbers could be attributed to our adoption of orthognathic surgery, which provides the opportunity to perform the procedure concomitantly. [Figure 4]

Unlike facial esthetic surgery, we have historically participated in the holistic treatment of oral and maxillofacial cancer. In the first half of the 20th century, Drs. Elmer Hume, Kurt Thoma, Fred Henny, and Claude LaDow, among others, actively performed definitive and reconstructive surgery for the disease. With rare exceptions, we neglected the extirpative part of the treatment. We did, however, maintain our involvement in the reconstructive portion.

Figure 4

Rhinoplasty 1992–2011



Ending year of academic year indicated above (ex: 1992 = Academic year 1991–1992)

Procedures performed/conditions treated in oral and maxillofacial surgery residency training programs. ADA Survey of Advanced Dental Education, 1992–2011

During the military conflicts of the 20th century, we gained much experience in the bony reconstruction of the region, especially the mandible. This experience provided us with new hard and soft reconstructive techniques that were augmented with research from our academic centers. Most notable were Dr. Phillip Boyne and his associates, who performed seminal research and developed techniques for bony reconstruction of the mandible. Notable research and clinical contributions were also made by Dr. Robert E. Marx, who helped develop hyperbaric oxygen treatment protocols to reduce or eliminate the incidence of radiation necrosis.

Oral surgeons shared their interest in the disease primarily with general surgeons who specialized in surgery of the head and neck, and who developed the procedures and techniques used to treat the disease to this day. In the 1940s and 1950s, plastic and reconstructive surgeons gravitated to the area. In 1954, general, plastic surgeons and surgical oncologists formed the Society of Head and Neck Surgeons [SHNS]. In 1958, an alternate society was created by otolaryngologists, the American Society for Head and Neck Surgeons (ASHNS). In 1998, the two associations amalgamated to form the American Head and Neck Society (AHNS). From mid-century, with few exceptions, we were limiting our involvement to the reconstructive phase of the treatment, primarily of the mandible. Competition from the medical specialties also limited the opportunities for the single degree OMSs to train and obtain hospital privileges.

In the 1970s, interest in head and neck cancer seemed to wane among plastic and general surgeons while increasing among otolaryngologists. In 1980, they formed the American Society of Head and Neck Surgeons, reflecting their new responsibilities as the premier specialists of the head and neck. By the end of the first decade of the 21st century, however, otolaryngology saw fewer applicants for their two-year fellowships in head and neck cancer. Interest remained low among general surgery residents.

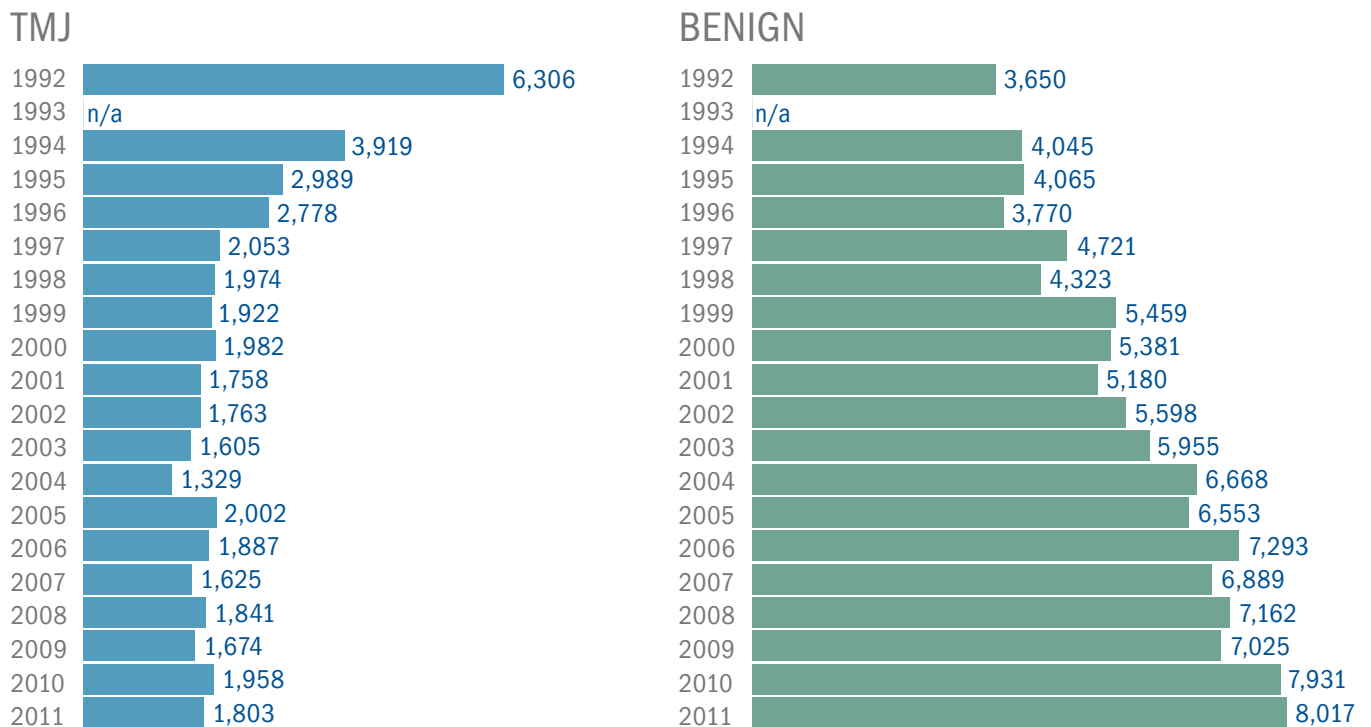
General surgery residents continue to show some reluctance to care for this cohort of patients. Oral and maxillofacial cancer seems to have been a province of acute interest to a succession of surgical specialties during the past century, yet not fully sustained by any. The decline in interest in the treatment of the region speaks to the complex and demanding nature not only of the surgical components of its treatment, but also of the need for continued and often intensive multifaceted patient care.

According to the Cancer Institute, 23,110 cases of oral cancer were diagnosed in the United States in 2009, 7,566 of which were in the oropharyngeal region. In that year there were 5,370 deaths from oral cancer, 1,338 of which were oropharyngeal in origin. The Oral Cancer Foundation estimates that in 2013, 42,000 Americans will be diagnosed with oral or pharyngeal cancer. During the past half century the long-term prognosis of the disease has remained bleak, with only slightly more than half of the afflicted patients surviving to five years.

Since the mid-1980s, we have made steady progress in providing our graduating residents opportunities for comprehensive training in the treatment of oral and maxillofacial cancer. Our growing involvement in the disease is reflected in the number of cancer cases performed in our training programs. These have increased from 850 in 1991–1992 to 1,916 in 2007–2008. [Figure 5] Early teaching programs in oral and maxillofacial cancer were created at Jackson Memorial Hospital in Miami, Florida, at the

Figure 5

Pathology

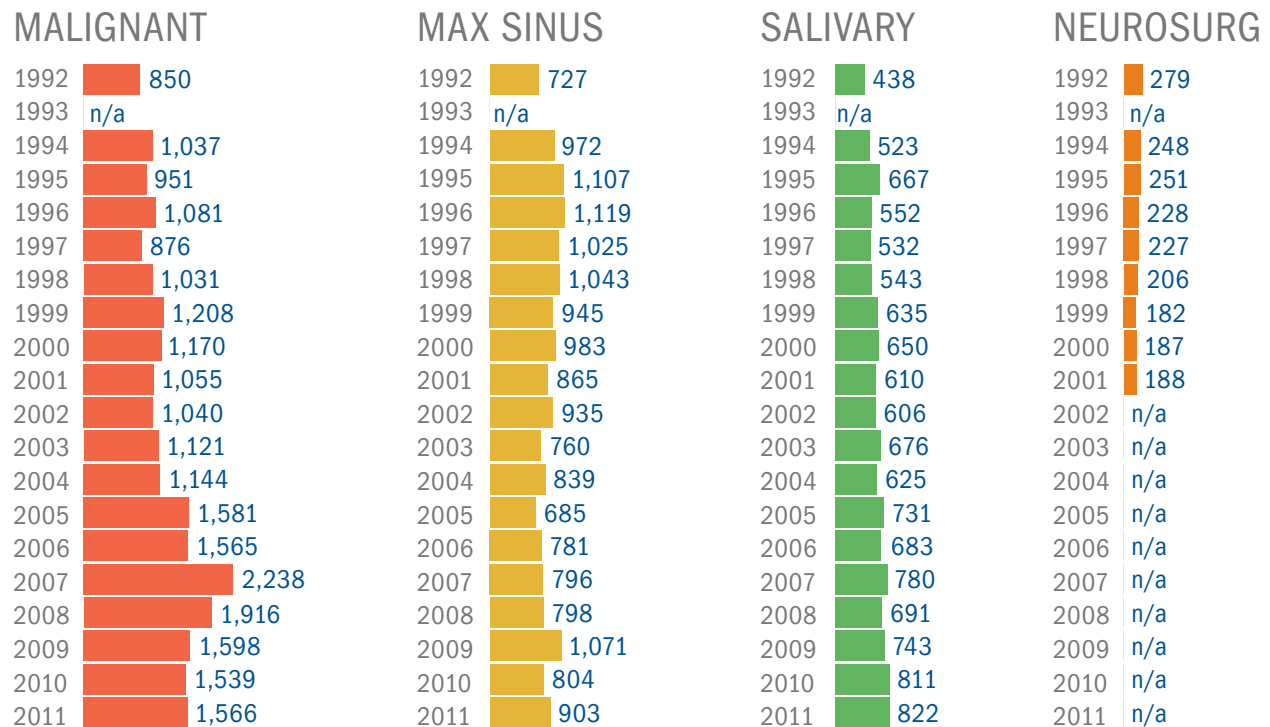


Ending year of academic year indicated above (ex: 1992 = Academic year 1991–1992)

University of Michigan in Ann Arbor, at the University of Maryland, where the first two-year fellowship in oral and maxillofacial cancer was created, and at the University of Oregon in Portland.

By 2010, the number of training opportunities increased. There were eight formal fellowship programs in oral and maxillofacial cancer accredited by the CODA. These programs are located at the Universities of Maryland, Michigan, California in San Francisco, Oregon, Florida in Jacksonville and Miami, Tennessee in Knoxville, and Louisiana State in Shreveport. Currently 67 fellows have completed their training in comprehensive care of oral/head and neck cancer, and two of them head their institution's head and neck cancer service. Others are employed in academic centers and private practice where they are involved in patient care, as well as teaching.

A further gauge of our involvement in the treatment of oral and maxillofacial cancer is the number of scientific presentations on the topic at



our annual meetings. Whereas at the 1985 annual meeting no presentations on cancer were made, in 2005, there were seven presentations on the topic in addition to a symposium dealing with all aspects of head and neck cancer. At the 2010 and 2011 pre-meetings, day-long symposia were held on clinical and scientific advances in the treatment of oral and maxillofacial cancer. Further symposia on maxillofacial cancer are scheduled for future annual meetings.

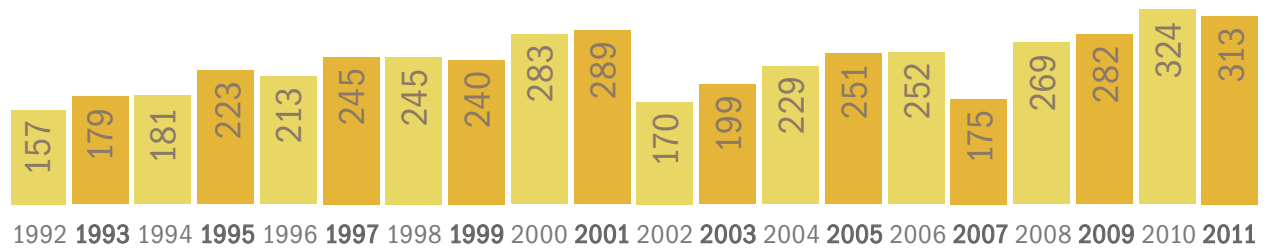
During the quest to enhance our involvement in oral and maxillofacial cancer care, the International Association of Oral and Maxillofacial Surgeons, and especially the European oral and maxillofacial surgeons, offered us unstinting aid. The British Association generously opened the doors of its institutions to our fellows and members.

Repair of cleft lip and palate, the third disorder identified as part of our expanded scope initiative, has been a qualified success as can be seen in the numbers of surgeries performed in our training programs. In 1991–1992, 157 cleft lip surgeries were performed. This number increased to 269 in 2007–2008. In 1991–1992, 985 cleft palate surgeries were performed, but this number declined to 794 in 2007–2008. [Figure 6] There has continued to be a high level of interest in facial cleft research and surgery. At the 1985 annual meeting there were three presentations on cleft lip and palate, while at the 2010 annual meeting there was an open forum on the subject and 10 presentations.

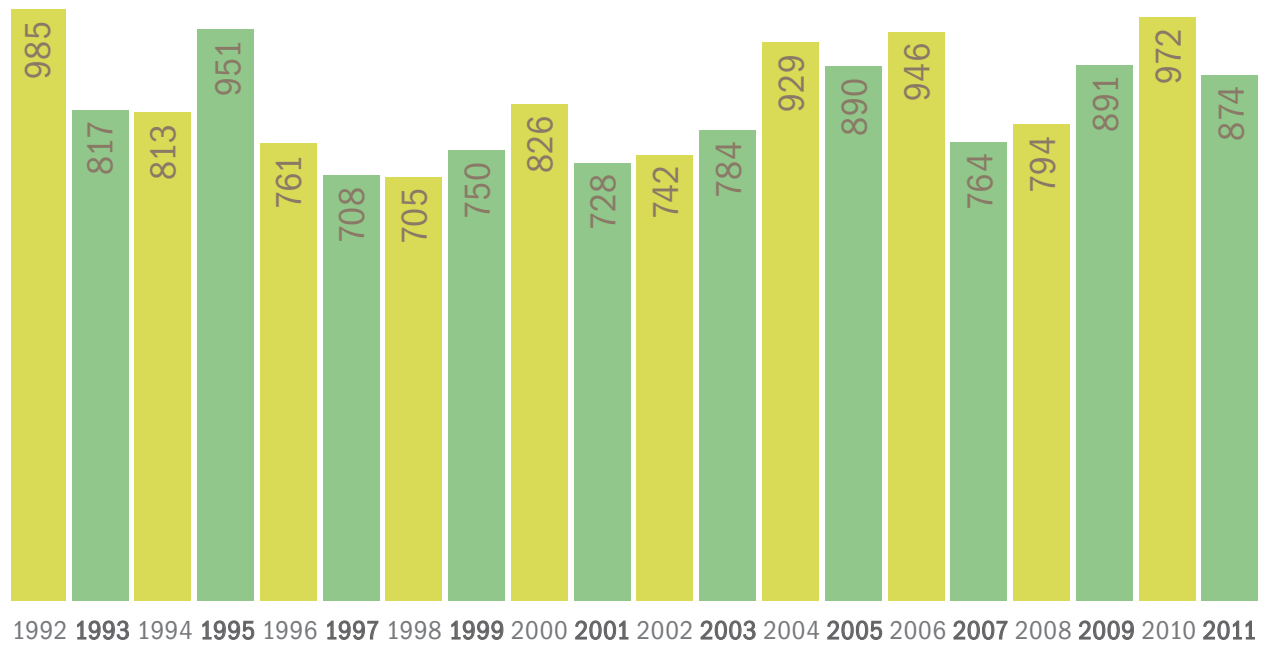
Competition from plastic and reconstructive surgery has hindered efforts to increase our involvement in the treatment of cleft lip and palate. The primary cause has been the dominant role that the specialty has in determining who performs the repair. Plastic surgeons either head, or are the primary surgeon, on the vast majority of the 192 cleft repair teams in the United States. These local multidisciplinary teams, usually hospital-based, are designated as the providers of care for congenital facial clefts. As of 2010, 14 oral and maxillofacial surgeons headed or were among the principle surgeons on a cleft team; only three were involved in a residency program, thereby limiting the opportunity to train our residents to competency. A further deterrent to our participation has been the reluctance by hospitals to credential an oral and maxillofacial surgeon who is not trained in an accredited training program in the United States. Yet another reason for our slow involvement in the treatment of this disorder, is the relatively low incidence of cleft lip and

Figure 6

Cleft Lip 1992–2011



Cleft Palate 1992–2011



Ending year of academic year indicated above (ex: 1992 = Academic year 1991–1992)

Procedures performed/conditions treated in oral and maxillofacial surgery residency training programs. ADA Survey of Advanced Dental Education, 1992–2011

palate in the United States. According to the Centers for Disease Control and Prevention, the number of primary cases of cleft palate in 2010 was 2,651 and cleft lip with or without cleft palate 4,437.

Despite the limited opportunity to treat primary clefts in this country, our specialty has had a long history of involvement in their care. Our fellows and members have for many years participated in cleft surgeries abroad under the auspices of such organizations as Project Hope, Healing the Children, and Health Volunteer Overseas, as well as a number of religious-affiliated missions. The AAOMS has continued to facilitate postgraduate training for our residents abroad and in this country.

The decision to formally incorporate an expanded scope into our curriculum was not capricious. It was preceded by enhanced surgical training, advances in anesthesia, the elevation and broadening of our academic curriculum, and developing academic cohesion and organization within the AAOMS. These undertakings coincided with the implementation of the four-year curriculum. The impetus to change the curriculum from three to four years was spurred by the opportunity provided by the JCAH in the 1960s and the CODA in 1988, when a huge number of residency programs voluntarily changed to four years. The CODA approved the *Standards for Advanced Specialty Education in Oral and Maxillofacial Surgery*. The new curriculum mandated that residents were to spend 12 months in a core medical-surgical year composed of clinical rotations, including four months on general surgery, two months on the medicine service, four months on anesthesia, and two rotations on medical or surgical specialties, all at the resident level. Thirty months were allocated for resident-level training in oral and maxillofacial surgery. Residents gained experience in research and private practices by allotting time for these endeavors.

In 1982, the JCAHO gave us the privilege of performing an admitting history and physical examination on our patients. However, since implementation was contingent on the approval of local hospital policy, the mandate has been unevenly applied. In 1992, a course on physical diagnosis became part of the residency curriculum.

Ultimately, the four-year curriculum fulfilled its promise to close the practical and informational gap that existed between medical and dental graduates. As a result the new curriculum created a platform on which our

residents could continue to learn, mature and acquire a wider perspective of their specialty. To help evaluate a resident's progress the Forum on Residency Education adopted in 1976, an in-training resident examination, the future OMSITE. The first examination was given in 1977. The examination has been widely supported by the academic community since its inception. In 1986, the American College Testing Service (ACT) administered and improved the test. In recent years, the AAOMS concluded that the examination should be administered by the ABOMS, based on its long-standing expertise in creating and presenting the written portion of its qualifying examination.

Our educational infrastructure was also strengthened in 1982, when the Forum on Residency Education became the Section on Education to better oversee the educational mission of the specialty.

In 1971, the Educational Foundation financed the first meeting of our training program directors. This event was subsequently held annually. Among its other actions, the Foundation underwrote public relation initiatives and attendance at national and international scientific events outside the organization's jurisdiction. Resident welfare and research were another early focus of the Foundation. In 1975, it initiated a residents' emergency loan fund and awarded scholarships in the form of fellowships for continuing education. In 1977, the Foundation's financial support facilitated the initial OMSITE examination.

From early in its history, support of research was part of the Foundation's mission. In 1983, the Fred A. Henry Research Fellowship was created and in 1984, the AAOMS Board of Trustees created within the Foundation an endowed education and research fund. This structure was unique since it amalgamated the specialty with interested individuals from the business world. The latter added immeasurably to the subsequent success of the organization. These dedicated individuals imbued the Foundation's operations with enduring creative ideas and business principles.

In 1990, the Foundation was renamed the Oral and Maxillofacial Surgery Foundation (OMSF), dedicated to "advancing the long-term development, health and well-being of the specialty and the public it serves through financial support of research and education consistent with the goals of the American Association of Oral and Maxillofacial Surgeons."

In 1992, the OMSF was officially charged with the responsibility of distributing funds raised by the specialty for research. Within three years, it accumulated \$2.2 million. Since 1959, the Foundation has raised and distributed over \$11 million to fund various research projects and initiatives. The Foundation stands as one of our luminous achievements. Its effect has been widespread and constant, but never more so than in the post-2008 period when, during difficult economic conditions, its economic support made research and the initiation of academic endeavors possible in a number of teaching institutions.

The Foundation has also been sensitive to the financial challenges encountered by residents and young faculty who continue to struggle with mounting debt as they pursue an academic career. In 2011, the Foundation awarded three research awards and fellowships of \$75,000 each, and two clinical surgery fellowships of \$60,000 each. In order to ease the financial responsibilities of aspiring academicians, the Foundation and the AAOMS jointly awarded three Faculty Educator Development Awards of \$130,000 each to be spread over three years.

To further accommodate the growing diverse but focused interests within the specialty, the Board of Trustees in 1992, approved the formation of clinical interest groups (CIGs) to facilitate the interchange of ideas and identify subjects for research. In 1993, CIGs were formed in anesthesia, temporomandibular joint (TMJ), cosmetic maxillofacial surgery and implantology. In 2010, the number had increased to nine with the addition of CIGs in neurologic disorders, sleep related disorders, pediatric oral and cranial surgery, trauma, pathology, and reconstructive surgery. The CIGs have immeasurably aided the specialty in satisfying the intellectual demand by a membership ever more diversified in its scientific and professional interest.

In an effort to assure the quality of our care to a public more aware of the vagaries of health care, and to aid a profession in need of common standards, the specialty implemented the *AAOMS Parameters of Care* (Clinical Practice Guidelines for OMS) in 1986. The final document included 60 diagnoses for which therapeutic goals, risks factors, standards of care and outcome indicators were published. This was a notable achievement. The *Parameters of Care* were published as a supplement to the July 1992 *JOMS* to assure wide distribution. The goal of the Association remains to update the parameters every five years to maintain the currency of the specialty.

The specialty was well prepared when the ABOMS incorporated into its certification examination a section on esthetic surgery, and augmented its examination in the management and treatment of oral and maxillofacial cancers and cleft/craniofacial repair. The specialty now had the academic standards and the board imprimatur in all its clinical undertakings.

With the expansion of our clinical endeavors, we still lacked the political right to practice some procedures involving expanded scope. The specialty sagaciously concluded that the dental degree could confer on us the legal right to perform expanded scope procedures by an amendment to the states' Dental Practice Acts. That policy proved ultimately successful. The incorporation of expanded scope into our curriculum and more so into private practice was contentious and long. From the very beginning, organized medicine predictably opposed our expansions and also procedures we had long been performing, such as distant site skin and bone harvesting. Facial esthetic surgery, however, became the most contested issue. Unfortunately, the battle has continued in the courts of law, state legislatures, and the national press or in hospital committee rooms for the past 30 years. The latest encounter occurred in 2009 with the AMA. Invariably the ADA and, in most cases, state dental associations supported our mission and protected our privileges.

The tactics used by our intellectual and, perhaps equally important, financial competitors to limit our scope changed from initially indicting us for practicing medicine without a license to being a specialty that didn't offer adequate training. Eventually, the right to perform cosmetic surgery was resolved in the state courts together with the already noted successful expansion of the definition of the scope of dentistry in the states' Dental Practice Acts. An example of that was the case of Joe Niamtu III vs. the State of Virginia where Dr. Niamtu, a practicing OMS under a dental license, was charged by the state with performing esthetic surgery without a medical degree. The parties pressing suit were the specialties of otolaryngology, plastic and reconstructive surgery, and dermatology. The defense successfully argued that competence rather than an academic degree should provide the basis for judging the quality and safety of a surgical procedure. Further, the states of Arkansas, Tennessee and California gained qualified OMSs the right to perform the full scope, including cosmetic surgery. To further assist oral and maxillofacial surgeons, the ADA House of Delegates revised the OMS definition in 1990 and in 1997, and also established a definition of dentistry.

In 2010, the AMA threatened a public campaign questioning our fitness to perform facial esthetic surgery. In a confrontational meeting, the AMA was informed that they had no legal right to evaluate any part of our curriculum just as we had no right to question their resident training, thereby reaffirming the principle agreed upon over 50 years ago by the AMA and ADA. The opposition to our expanded scope has succeeded in slowing our progress as hospital credential committees withhold privileges, especially from single degree OMSs. In time, expanded scope procedures have become an integral part of the profession. Approximately 700 AAOMS fellows and members currently practice some form of facial esthetic surgery.

The pursuit of an expanded scope created academic and legal problems for the specialty, but arguably the most divisive event of the past half century was the often acrimonious debate regarding the relative difficulty single degree fellows had in obtaining training opportunities and hospital privileges in expanded scope procedures when compared with their medically qualified colleagues. No matter the extent of their talent, accomplishment or training, single degree fellows were barred from membership in most of the professional organizations associated with expanded scope. This caused a schism within the specialty and, in the eyes of some, heralded the creation of a degree-based hierarchy.

The majority of the specialty, irrespective of degree, concurred with the Virginia court's findings when it ruled in the Niamtu case that performance rather than degree was the seminal issue. Implicitly, it recognized that the four-year curriculum intellectually enabled the single degree fellow/member to master the expanded scope curriculum. It was the issue that arose from expanded scope that exposed the inherent vulnerability of the specialty. The single degree fellow/member felt the sting of discrimination.

The growing number of dual degree fellows and members also felt aggrieved. Some viewed the AAOMS as too involved in charting a course to ensure equal opportunity for its single degree fellows and members and insufficiently representing their specific interests. In spite of its history of being largely a degree-blind Association, a small vocal group of double degree fellows/members felt that the AAOMS was not the right vehicle to aid their professional aspirations. Indeed they saw the dentally-based Association as a hindrance to their ambition and considered a medical specialty as an alternative.

To unambiguously state the position of the specialty, the AAOMS and ABOMS in 1988, jointly published the following statement:

The AAOMS and the American Board of Oral and Maxillofacial Surgery (ABOMS) recognize that education is an evolutionary process. Rapid changes in education and the scope of oral and maxillofacial surgery for improved patient care have resulted in recent national and international discussions by fellows and members of our specialty about the future direction of oral and maxillofacial surgery education and practice. The recent revisions in the *Standards for Advanced Specialty Education Programs in Oral and Maxillofacial Surgery* recognize the need for expanding training by extending the time spent in clinical oral and maxillofacial surgery and by establishing a medical/surgical core year. The complexity of our specialty and need for quality of care have demanded this expansion of formal training.

The AAOMS and ABOMS acknowledged that enhanced educational opportunities are the result of a dynamic process that includes latitude for educational enrichment, provision for expanded educational options, and the offering of opportunities to pursue individual and program interests beyond the core requirements, be it in the MD, PhD or MS mode. This is in keeping with the specialty's historical acceptance of opportunities to expand the educational experience. The document further stated:

The AAOMS and ABOMS boards recognize the roots of oral and maxillofacial surgery to be in dentistry and strongly recommend that these ties be continually strengthened. Both boards further endorse unreservedly the evolutionary process by which any change in the formal teaching curriculum occurs. They view any mandatory acts as divisive and not in the interest of the global community of oral and maxillofacial surgery. The desire and opportunity for each training program will be expressed in the educational path they take. The AAOMS and ABOMS boards believe that any enhancement of the educational process will ultimately be translated into improved patient care.

The degree-based schism presented us with the most serious challenge to our integrity. It was accentuated by the changing demographics of the specialty due to the growing number of graduates from our dual degree programs. Whereas the number of dual degree programs grew by five between 1976 and

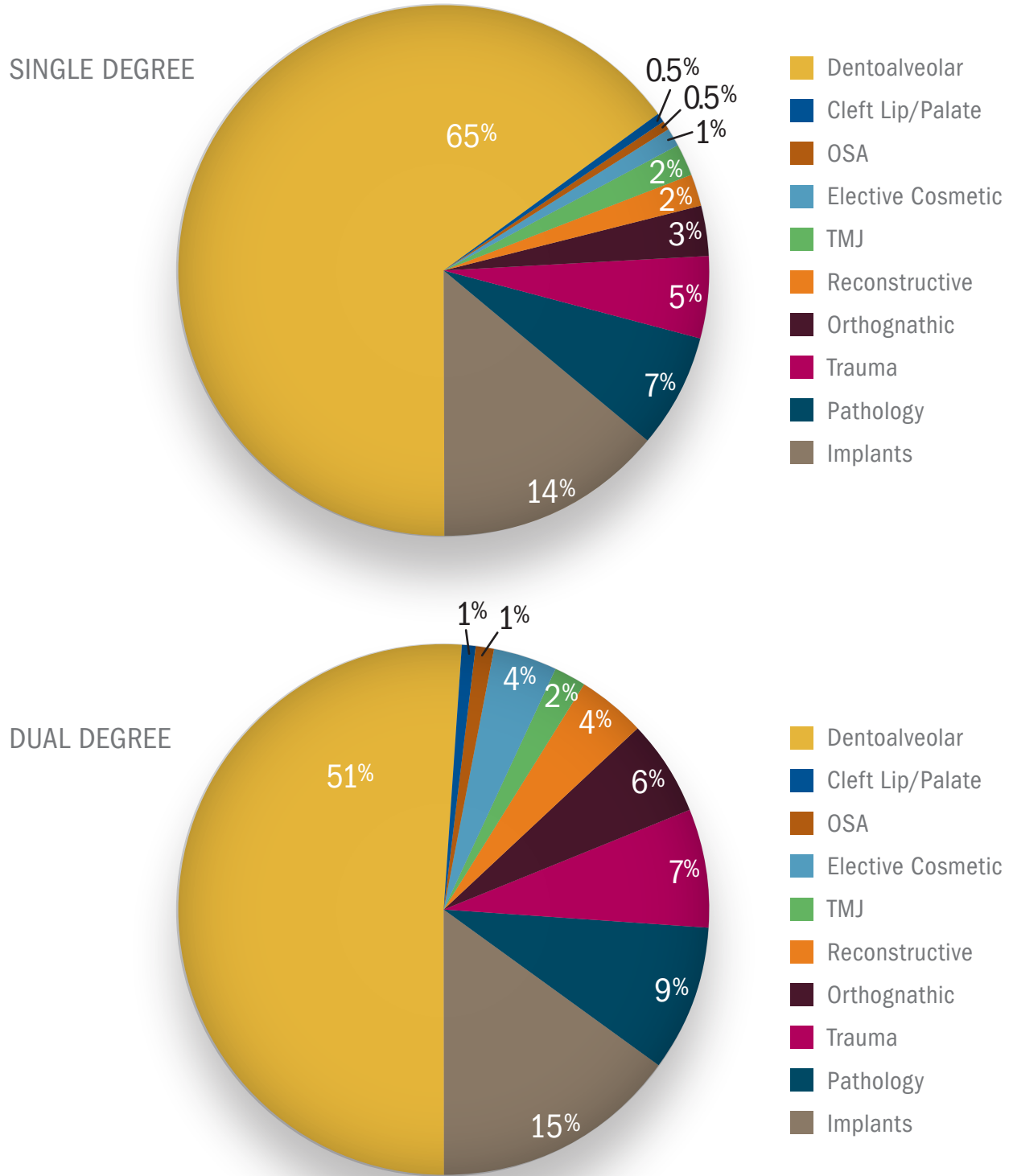
1986, they increased from 11 in 1987 to 30 by 1990, and reached 44 in 2010, when they constituted 43.8% of the 103 OMS programs. The number of dual degreed residents to complete training in 2011 was 78 out of 221 graduates; constituting 35% of the cohort. In 2010, 1,507 fellows/members or 22% of the membership had the double degree. [Figure 7]

Multiple causes led to the dramatic increase in dual degree programs during the period. Foremost were the financial incentives offered by the federal government, including the 1971 *Comprehensive Health Manpower Training Act* and the 1976 *Health Professions Education Assistance Act*, which focused on increasing the supply of primary medical and dental care providers, improving the geographic distribution of care and increasing the number of minorities in the health professions. Grants were also provided for postgraduate training of physicians and dentists, and teacher training in the health professions. One of the incentives was a capitation plan that compensated medical schools for each enrolled student. Financially, these schools could not afford to have unoccupied places in their upper classes. Therefore in the 1980s, they decided to fill them at the advanced level with qualified dental graduates. The solution was facilitated when dental schools adopted standardized testing that allowed the determination of student performance in the basic science curriculum. By passing the first part of the Medical National Boards, qualified dental students were granted two years' advanced standing. The specialty was receptive to this change. The challenge was to create a curriculum that would within a reasonable time bestow the medical degree and a certificate of satisfactory completion of oral and maxillofacial surgery training. The first year of the dual degree program had to be structured to allow the incoming residents sufficient time to prepare for the first part of the Medical National Boards to be taken towards the end of that year. A number of hybrid programs evolved. These ranged from five to seven years in length and successfully managed to combine oral and maxillofacial surgery residency training with obtaining the MD degree. The devised programs were often ingenious and the end product was uniformly a success.

In 1994, the AAOMS House of Delegates voted unanimously that oral and maxillofacial surgery is and will always remain a specialty of dentistry. It is perhaps ironic that the hoped for intellectual and financial expansion should result in the potential schism of the specialty. It can be argued that the expansion to a four-year curriculum, the end result of the hard-won agreement with the Joint Commission (JC), was obtained primarily for the

Figure 7

Distribution of Surgeries Performed by Degree Status



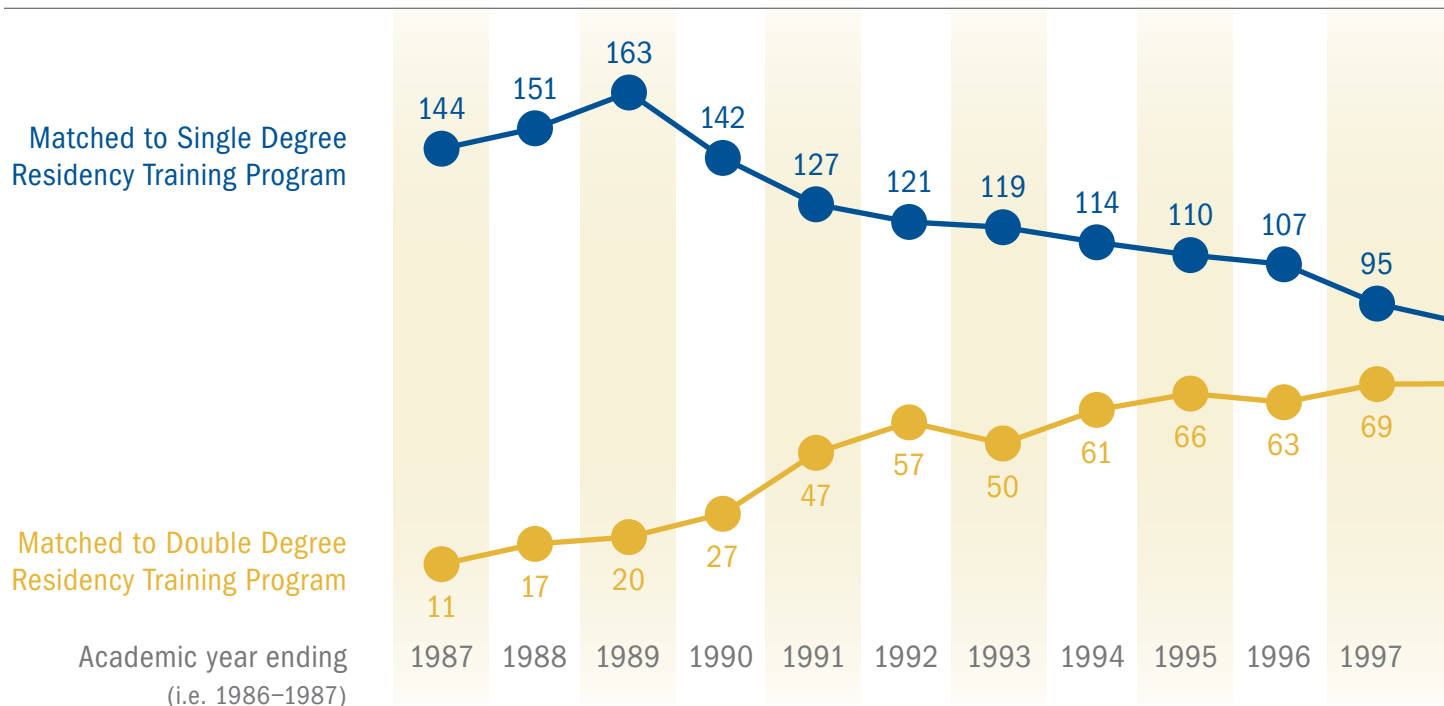
Procedures performed/conditions treated in oral and maxillofacial surgery residency training programs. ADA Survey of Advanced Dental Education, 1992-2011

benefit of the single degree portion of the specialty. Expanded scope could be viewed to benefit the present and, more importantly, the future double degree fellows/members who wished to pursue their academic ambitions within the AAOMS structure. The AAOMS survey of practice has supported the view that dual degree oral and maxillofacial surgeons perform double the number of expanded scope procedures as compared to their single degree colleagues.

In time, the specialty benefited from the resolution of the conflict, and ultimately the soul searching ended with the realization that the price of divorce was too high. The integration of the double degree OMS has enhanced stability and potential of the specialty. Of the 103 accredited oral and maxillofacial surgery programs in the 2010–2011 academic-year, 59 were single degree and 44 were dual degree based. Thirty-eight (38) programs were associated with dental schools and 10 with medical schools. In the academic year 2010–2011, there were 1,064 residents in training, of whom 54% were in single degree and 46% percent in dual degree programs. There was almost a 10% increase in dual-degree graduates between 2004 and 2010.

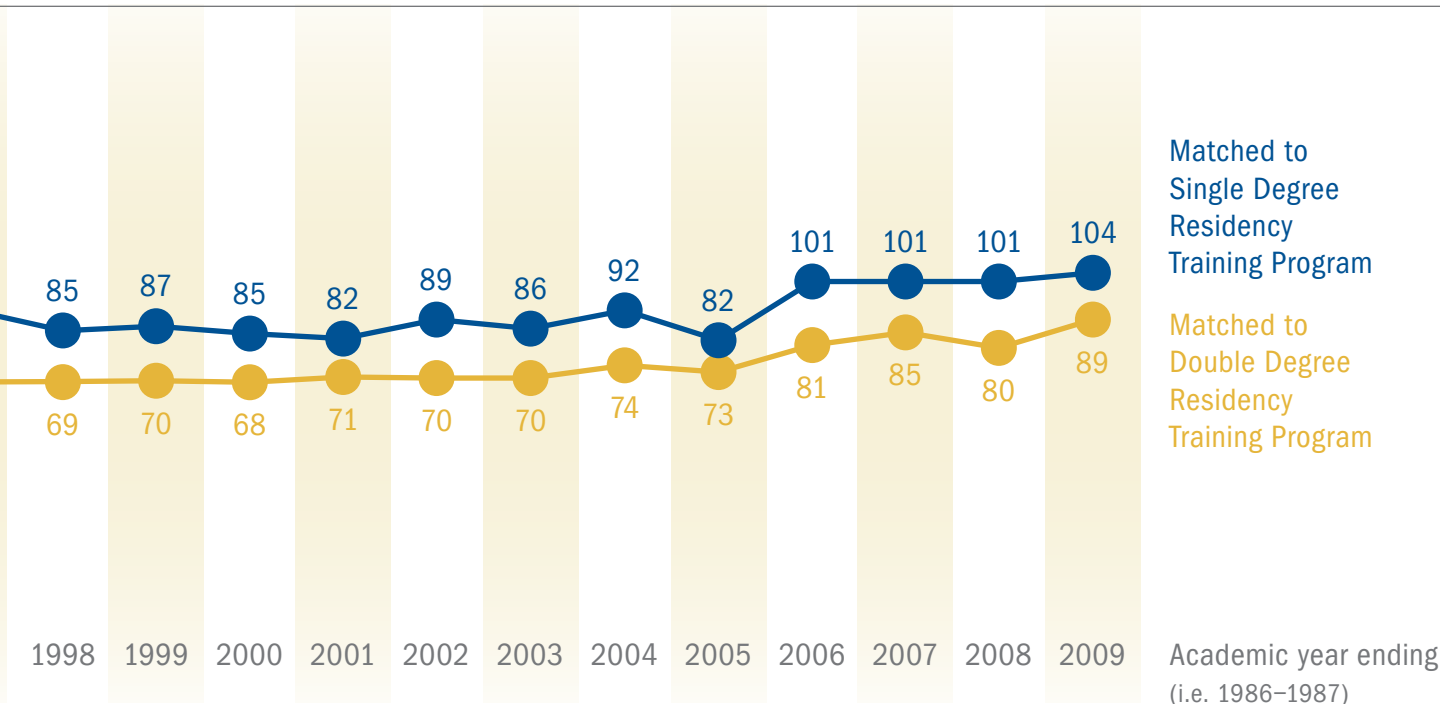
Figure 8

National Match Data (1986–2009)



In academia, there were 372 full-time faculty members of whom 124 had the dual degree, accounting for 33% of the full-time faculty. In spite of the different educational tracks, there are significant similarities between the single and dual degree OMSs. According to a 2011 survey, dentoalveolar surgery is practiced by over 99% of our specialty. Generally, single degree fellows and members perform more dentoalveolar surgery than their dual degree counterparts, yet both place almost the same number of implants. Both single and dual degree oral and maxillofacial surgeons perform major surgery. The single degree surgeon performs more temporomandibular procedures, but overall the dual degree fellow/member performs more major surgery than his single degree counterparts. [Figure 8]

Possibly, expanded scope did not meet the most optimistic expectations of three decades ago; perhaps it was unrealistic to expect transformative changes to occur. Of the three principle components of expanded scope, only esthetic surgery ever had the numerical potential to provide a sufficiently large base



for our practitioners. Maxillofacial cancer and cleft lip and palate cases are limited in number. Furthermore, we have to share cosmetic surgery with more entrenched disciplines.

The result of almost 30 years of effort to expand our scope has resulted in a small segment of those in private practice performing expanded scope procedures. In academic programs, expanded scope procedures form part of the curriculum. Is the result worth the effort? It can be argued that expanded scope has served us well. It continues to provide a home for those who wished to master these areas of interest and in the process, solidified and enhanced the specialty.

Reimbursement, Insurance and Healthcare Policies

In the 1980s, the specialty experienced serious difficulty in predictably obtaining malpractice insurance at reasonable rates. To correct this problem and eventually to provide insurance to those in the specialty practicing expanded scope, the AAOMS created its own wholly owned subsidiary insurance company in 1988. We were aided in our efforts by the 1986 congressional legislation that permitted professional organizations to form risk retention groups to provide malpractice insurance for their members. In the spring of 1988, the AAOMS National Insurance Company emerged as a licensed insurance carrier.

In order to provide service nationally, the AAOMS National acquired the Fortress Insurance Company of America in 1993. From its headquarters in New York, this now independent insurance company created the necessary protective umbrella for its membership with predictable and reasonable malpractice insurance, and incidentally enabled us to perform expanded scope procedures.

The availability of dental insurance dates back to 1951, when the Massachusetts Medical Service in conjunction with the Massachusetts Dental Society altered the 1941 Enabling Act sponsored by the Massachusetts Medical Society. The revised act declared “any dentist registered in the Commonwealth may become a participant dentist on complying with the provisions of the bylaws and the rules and regulations of the corporation.” The plan was limited to oral surgical procedures performed in a hospital and did not require an increase in premiums.

Comprehensive dental insurance, however, was offered considerably later than its medical counterpart when rural individuals and families paid a set fee to a physician to provide needed care. The concept of prepaid healthcare was given an impetus during World War II when comprehensive healthcare was provided to some workers in the war industries. Subsequently, that became a model for the prepaid system of care developed over the years in spite of significant objections by organized medicine. The AMA managed to convince states to prohibit prepaid healthcare organizations: The federal government, however, saw prepaid plans as a model for providing affordable and efficient healthcare to the population, especially the needy. These two criteria have remained the basis of governmental healthcare policy. It was aided in its policy when the AMA was sued and found guilty of restraint of trade by the Supreme Court under the Sherman Antitrust Act. The court rejected the argument put forth by the AMA that medicine is a profession and not a trade and is therefore immune to the Act. This decision had significant repercussions.

In 1975, the Federal Trade Commission in an attempt to stimulate competition in order to reduce the cost of health care, allowed the professions to advertise. Inherent in that ruling was the belief that professions and trades respond similarly to market forces. These decisions by the FTC and the Supreme Court heralded a distinct change in how society viewed us and how we viewed ourselves. Altruism gave way to practicality and enhanced self-interest as demonstrated in 1964, when dentistry declined to participate in Medicare. The governmental healthcare program for those over 65 years of age, was arguably one of the most important pieces of legislation enacted by the US Congress. H.R.6675 created a healthcare reimbursement system for the elderly and the disabled, and helped fund the Medicaid program that gave federal aid to the states to help the impoverished and disabled obtain medical and acute dental care.

Dental coverage under Medicare was and remains very limited. It does not cover routine or acute dental care, including extractions, unless performed prior to radiation or as part of reconstruction due to accidents or trauma. Examinations associated with either kidney or heart transplants were covered, as were inpatient oral procedures as long as they were not performed for dental purposes. Major surgical procedures for trauma and resections of

tumors are covered under Medicare Part B. The decision not to participate in Medicare would in time affect our curriculum, scope, composition and the direction of the specialty.

It is estimated that the Medicare eligible population in 2012 numbered 48 million or 16% of the population. Lack of dental care for this group has resulted in a declining level of dental health as noted by the low number of Medicare beneficiaries who saw a dentist. In 2010, 34% of them had not seen a dentist during the previous two years, and 22% the previous five. Fifty percent of Medicare beneficiaries living below the federal poverty level and eligible for aid did not see a dentist during the previous two years and 33% in five years.

Comprehensive dental insurance plans made their appearance in the 1970s, as dental health was viewed a necessary part of systemic wellbeing. Because dental insurance is a low risk policy, insurers have used it to attract a comparatively healthy cohort of patients. Other insurance companies offered dental coverage as a separate policy in order to be more competitive in the individual and corporate marketplace.

It is not possible to discuss health care apart from governmental healthcare policies. Ultimately, the federal government failed to control the cost of health care, as its cost almost continuously outstripped the national inflation rate. Both the Nixon administration in 1973, and the Clinton administration in 1993, hoped that managed care would ameliorate the problem and, indeed, for a few years following the incorporation of their respective healthcare initiatives, there was a decline in healthcare costs, only for inflationary forces to reassert themselves.

Because of the scope of the specialty, we were and remain deeply affected by federal healthcare initiatives. In 1993, when the Clinton administration was proposing its healthcare reform, the specialty independently lobbied hard and successfully to ensure there will be no discrimination based on degree for any procedure in our area of interest. At the same time, the AAOMS heeded an appeal from the ADA leadership to support the political decision taken by organized dentistry not to support the Clinton healthcare initiative.

When a 1995 comprehensive healthcare bill failed to pass, Congress passed the Health Insurance Portability and Accountability Act (HIPAA) that attempted to offer protection for participants in group healthcare plans. The Act limited exclusion for pre-existing conditions and prohibited discrimination against employees and dependents based on their health status. HIPAA also provided individuals the right to purchase individual coverage if they did not have group health plan coverage available.

The strategy employed by managed care during the 1990s was to reduce costs by emphasizing primary care and reducing access to specialists. This was done by capitation, wherein providers received a fixed amount per month per member. Denying access to specialist care had a direct effect on OMS practices.

In 2009, the 111th Congress passed the Patient Protection and Affordable Care Act (PPACA), whose goal was to provide universal medical care. Unlike previous healthcare reform bills, the mandated comprehensive pediatric dental care, now known as the Affordable Care Act (ACA). At this juncture, it is unclear to what degree the ACA will affect the specialty. It is certain that its emphasis on centralized health care and greater control of healthcare education will usher far reaching changes.

There is an expected shortage of dentists as 20 million children are expected to have insurance as a result of ACA. It is not known how the expected dentist shortage will be solved and what influence the graduates of the newly created dental schools or the graduating dental midlevel providers will have on the anticipated manpower problem. The decision by the ADA not to participate in Medicare gave the profession the latitude to continue our practices as we had, free to set fees based on market forces. That opportunity stimulated the expansion of the profession for the subsequent half-century.

The specialty was not harmed by federal policies encouraging managed care; however, the rising cost of dental care eventually made it unaffordable for a growing part of the population. Currently over 60% of our patients have private dental insurance and over 10% have public assistance. Independent OMS private insurance coverage decreased between 1997 and 2009, from 57.9 % to 45%. If, however, managed care coverage, which did not exist in 1997, is added to the 2009 figure, the percentage rises to 60.3% of the billing. During the same period, direct patient payment remained essentially stable

at 32.7%. Between 1997 and 2009, the reimbursement from government programs rose from 9.2 % to 10.7%, and managed care from 9.1% to 11.8%. The specialty eventually became reliant on third party participation. Our relationships with insurance companies regarding reimbursements have at times been contentious, as historically they played a contradictory role in our development.

Insurance company reimbursement for oral surgical procedures has undoubtedly contributed to the continuous financial health of the specialty, but historically, the companies were also a destabilizing element when they sought ways to minimize coverage of our procedures or deny payment for their performance often based on the academic degree of the surgeon. Past midcentury, this discriminatory practice still existed and required state and federal laws to eliminate reimbursement based on the degree of the provider. The specialty doggedly challenged the insurance companies beginning in the 1950s. Finally in 1957, they agreed to meet with the ADA in an attempt to resolve these practices. By 1960, the 1,000 fellows/members of the AAOMS achieved some success with the enactment of the Federal Employees Health Benefit Act, which recognized that oral and maxillofacial surgery procedures performed by oral and maxillofacial surgeons, irrespective of their surgical degree, would qualify for reimbursement.

Through the 1960s and 1970s, little progress was achieved in negotiation with Blue Cross, Blue Shield or with labor unions offering healthcare insurance. Eventually, in the 1980s, the Blues, now a confederation of 38 health insurance companies insuring about 100 million subscribers, agreed to enhance coverage of oral and maxillofacial surgery procedures. However, they continued to exercise some control over our practices by their reluctance to provide coverage for procedures they deemed outside our scope, or by reducing coverage for others for economic reasons. Eventually that behavior helped to reduce the number of orthognathic and TMJ surgery cases performed in the private sector. Practitioners were reluctant to undertake the arduous and time consuming process of planning and executing these procedures for what they judged inadequate reimbursement.

The influence of insurance payment on the character of our practice was also evident in the decline of the diagnostic part of our practice. Reimbursement for the diagnosis of such disorders as facial pain and TMJ was often contentious, resulting in the a prolonged delay of treatment. In

order to counter the egregious policies of insurance companies and Federal policies we felt restrictive, the AAOMS developed a highly efficient and effective response system. When prudent, we have employed direct contact with the legislature. AAOMS's Day on the Hill exemplifies the willingness and dedication of the membership to advocate our position to legislators.

We have always had access to excellent legal advice and used it effectively. Above all, the Association has ensured that the membership remained fully informed of all pertinent issues. The result is a knowledgeable and effective advocacy corps.

Over the years, we also maintained open communications with the American College of Surgeons (ACS). Our relations have gained added importance with the dominant position of the federal government in the nation's healthcare. These developments gained further significance when the ACS decided to admit to its rank qualified fellows and members of the AAOMS by changing the application process and, in 2011, eliminating the requirement to request a waiver. Simultaneously, a formal OMS Section was established within the College. For the first time in our history, a medical organization will also represent the interests of a sizable component of the specialty. We have traditionally had good relations with the ACS and with the road ahead still uncharted, it is reassuring to have a strong advocate for our principles.

The Reaction of Academia to the Times

During the past quarter century, three major factors have influenced the chronic shortage of teachers entering academia; the discrepancy in earnings between private practice and the salary structure of academics, the fundamental changes in academic life and the soaring cost of higher-education. The acute shortage of academicians has afflicted both undergraduate and graduate education. That environment has been radically altered in recent years by how universities, hospitals and teaching centers have reacted to growing financial constraints. As previously noted, the introduction of managed care in 1994 was an unsuccessful attempt to control the cost of healthcare, which had grown steadily since 1960 at a rate 2.5% faster than the Gross National Product (GNP). In 1960, healthcare costs were 5% of the GNP. In 2012, they reached 17.9% of GNP, or \$8,000 per person.

Although academic salaries have increased, they have not kept pace with the rise in income of the OMS in private practice. Indeed, from 1991 to 2008, the average salary of the dental faculty of all ranks increased on average between 25–30%. At the same time, the average net income of a solo private practice practitioner rose 78%. During the same period, the salary increases in academia kept pace with the cost of living, but in private practice they exceeded the index by two and half times. In a 2010 survey conducted by the American Dental Education Association (ADEA), the average gross salary of an OMS full professor associated with a dental school was \$300,000, and for an assistant professor \$175,000. The average net income for an independent OMS in 2009 was \$462,360. The contrast in remuneration is deceiving as universities subsidize base salaries.

The biggest reason for the chronic shortage of faculty is student debt. Already in 1993, the AAOMS president in a testimony before the Academy of Medicine noted that student and resident indebtedness was beginning to have an adverse effect on academia and the profession. In the past two decades, debt assumed by undergraduate, graduate and postgraduate students has become a matter of great national concern. Twenty (20) million Americans attend college and of that cohort 12 million [60%] borrow annually to finance their education. The total national student debt reached over \$1 trillion dollars in 2012.

In 2011, ADEA reported in its *Survey of Dental School Seniors* that the average debt for those who attended public dental schools was \$150,000; for private school graduates it was in excess of \$220,000. In many cases, the debt incurred by a graduating OMS during undergraduate, graduate and postgraduate training often exceeded \$250,000. The cost of undergraduate training has more than tripled since 1975, and the cost of dental school tuition has increased by 7% to 10% yearly during the past decade. The causes for the above findings are multifactorial and, in the case of dentistry, there have been unique reasons.

In the early 1960s, the federal government studied the needs of the nation's healthcare system and concluded that the country had a shortage of dentists. During the 1960s and early 1970s, the government built 14 new dental schools, and expanded and renovated most of the existing ones. Furthermore, the federal government underwrote one-third of the cost of a dental education. However, by the early 1970s, government funding for dentistry ceased, ostensibly because it believed the effects of fluoridation would relieve the expected dentist shortage. The policy change raised speculation that the action was a response to the ADA's refusal to support the Medicare Legislation of 1964. Federal financial support of undergraduate dental education ended, and by 2001 its contribution was less than 1% of the academic budget. States helped fill the financial vacuum until they too experienced financial problems. State support for dental schools declined and, by the end of the first decade of the 21st century, a number of state schools did not receive meaningful state support.

To compensate for the loss of external funding, schools resorted to raising tuition and clinic-derived income. The yearly costs of education rose to between \$55,000 and \$70,000 in some private institutions. The net effect

of student indebtedness has been to limit those who can afford a dental education, and influence such career choices as where or how to practice and how to shape a career. A 2009 survey of graduating dentists asked what influence educational debt had on their choice of postgraduate activity. 28.08% said none, the rest to different degrees, said yes.

Similarly, the median debt is a burden for medical graduates. Between 2007 and 2011, the average total debt of indebted medical students increased from \$138,608 to \$160,911, with more than 86% having some debt. The burden of debt is also increasing in a larger segment of graduating medical students. From 1997 to 2011, the percentage of students whose debt exceeded \$200,000 increased from 12.6% to 23.6%.

The second possible deterrent to aspiring academicians may be the changing academic environment. Teaching centers had to cut costs and generate an ever growing portion of their budgets from clinical income. They did this by mandating that their clinical faculty generate more income. On occasion, salaries were linked to clinical reimbursement, a departure from the traditional academic life that provided the rewards of teaching and scientific exploration for those wishing to pursue them.

The result of these changes was that time spent on academic endeavors, such as teaching and research, was reduced. Mentoring became difficult and the academic environment, once conducive to the sharing of ideas became less hospitable. In order to reduce costs, universities in the 1980s began hiring more part-time teachers who did not have to receive costly fringe benefits associated with tenure. Medical centers also introduced the clinical track, which besides reducing costs, was designed to generate income. It also carried no obligation to perform research, but some institutions mandated a limited teaching load. It was an acknowledgment that the academician of today is often unable to simultaneously perform clinical work, do basic research and teach, thus becoming a victim of the age of specialization. Neither of these initiatives provided tenure.

Tenure has traditionally been an inducement to enter academic life. It historically provided eventual job security, protection from intellectual coercion and a mark of academic competence. By making tenure more difficult to obtain, academic institutions discarded one of the powerful inducements to enter an academic life. For those wishing to pursue a tenure

track, the biggest challenge remains the need to publish a specific number of academic papers and perform original research in a finite period of time. For an aspiring academician, time and money remained the two critical challenges in obtaining tenure during a period of increased clinical responsibilities and decreased availability of research funds.

The shortage of dental faculty has been a chronic problem since the 1990s. Dentistry needed between 200 and 260 teachers. Both the profession and specialty have attempted to encourage graduates to consider an academic career. The ADA and the AAOMS have offered financial inducements of different types, but the results have been spotty. The number of OMS graduating residents entering academia has steadily declined during the last decade. Whereas 38 residents entered academics in 2000, only three did so in 2010. The number entering the teaching corps was exceeded by those academicians either retiring or entering private practice (23 in 2002, the first year statistics were collected; 40 in 2005; 25 in 2006; 31 in 2007; 38 in 2008; 35 in 2009; and 15 in 2010).

Part-time help from the private sector has been forthcoming and has proven of critical importance to a number of programs. In a 2010–2011 study by the AAOMS, there were 372 full-time OMS faculty, of which 308 were board certified. There were also 365 part-time faculty members, of which 296 were board certified. This group was supplemented with 268 teacher volunteers. The profile of our academic force highlights the critical need for the private practitioners teaching in academia.

Academia has continued to fulfill its traditional role of caring for the indigent and performing surgical procedures eschewed by the private sector; thereby helping to maintain the scope of the specialty. The clinical demands on academic departments have curtailed teaching and research. The reduction in the number of abstracts and publications in refereed journals are reliable barometers of the vitality of an academic department. This malaise is not limited to our specialty.

We Join the World Community

We have been sustained throughout our existence by a willingness to master new techniques and incorporate them into our practices. We have also been fortunate to be the recipients of ideas and innovations from our colleagues that improved, often dramatically, the care we could offer our patients. The International Association of Oral and Maxillofacial Surgeons (IAOMS) was the organization that stimulated, encouraged and facilitated the exchange of these ideas.

The International Association of Oral Surgeons (IAOS) was formed in 1962, and in 1986, it was renamed IAOMS. By 2011, it had a membership of over 6,000 members from 75 affiliated organizations. The AAOMS was present at the birth of the IAOMS and during its half-century of existence. Five fellows of the AAOMS served as its president, two as executive director and one as assistant executive director.

The early relations with the international community predominantly involved colleagues from Western Europe with whom we shared a common history when American volunteers helped in the treatment of the wounded during World War I. The need to reconstruct these patients after the war affected the character of our respective associations. AAOMS, because of a limited need, did not create specific treatment centers for oral and maxillofacial reconstruction as did some European countries. These ultimately influenced the differing character of oral and maxillofacial surgery in Western Europe and the US.

The subsequent exchange of ideas with colleagues from foreign lands has benefited the specialty. Indeed, it can be argued that our exposure to international oral and maxillofacial surgery has been the dominant influence on our surgical development. We received major breakthrough techniques in preprosthetic surgery from Europe in the 1950s and 1960s. In the 1960s, orthognathic surgery arrived from Switzerland, and rigid fixation for mandibular and midface immobilization from Germany and France. In the 1970s, osseointegration came from Sweden and in the 1980s, rigid arthroscopy and arthrocentesis from Japan. In the early 1990s distraction osteogenesis came from the Soviet Union. All of these were accompanied by innovative instrumentation.

We also benefited from the basic research on the pathophysiology and treatment of the temporomandibular joint disease from our European, Israeli and Japanese colleagues. This was especially welcome as we were chastened by our attempts in the 1980s to restore the TMJ to its pristine form. Subsequently, there was a reassessment of the treatment of internal derangement and its consequences, with fewer cases judged amenable to surgery.

We in the US contributed to the specialty in a number of ways with the development and improvement of outpatient general anesthesia. In 1963, the Hall Drill was introduced and had a historic impact on the specialty. The original handpiece was fingertip operated, driven and cooled by nitrogen or air as it rotated at 100,000 rpm, and had 20 times the torque of the dental high-speed drill. We also pioneered the use of sophisticated imaging devices in the specialty.

It was a long journey from Dr. Thoma's X-ray machine to the orthopantomogram, and in 1995 to the digital orthopantomogram. Prior to the digitalizing of dental radiography, revolutionary changes were occurring in full body imaging. As with all healthcare professions, we had diagnostic and reconstructive tools we could scarcely have imagined: computed tomography (CT) developed in the US and magnetic resonance imaging (MRI) developed in the US and Great Britain were the two modalities that provided practitioners with the methodology that incalculably aided in the diagnosis and treatment of trauma and pathology of the oral and maxillofacial region. For those undertaking these treatments, helical CT scanning, the current norm, allowed the creation of three-dimensional (3-D) reconstructions.

These considerably enhanced our ability to not only diagnose the extent of disruption of the facial skeleton, but also visualize the results of the proposed corrective procedure.

Dentistry had been a late employer of CT scans. However, with the introduction of the maxillofacial cone-beam computed tomography (CBCT), it became part of our diagnostic armamentarium. For the OMS, the CBCT has greatly aided the placement of implants, the proposed removal of impactions and the location of the inferior alveolar nerve. It also found use in the critical visualization of the TMJ and in the diagnosis of sleep apnea.

In the late 1980s, we were seeing the results of the orthopedic treatment of long bone fractures using the principle of distraction osteogenesis. Intrigued by the ability to successfully move bones and elongate shortened limbs, we adapted the technique to orthognathic surgical problems. In time, distraction osteogenesis became a viable substitute for the traditional open procedures, as the jaws could now be moved greater distances without the need for bone grafts. We also applied the principles of distraction osteogenesis to other conditions, among them acute micrognathia in the pediatric population, thereby shortening the dependence on tracheostomies. Congenital facial deformities could now be treated earlier with more predictable results and greater safety. The incorporation of distraction osteogenesis and its adaptation to the treatment of facial congenital deformities highlighted our enterprise as a specialty.

The use of hyperbaric oxygen therapy in the treatment of osteoradionecrosis was a major contribution that, in time, found applications in the treatment of conditions such as recalcitrant infections and carbon monoxide poisoning. In recent years, we diagnosed the condition of bisphosphonate-induced osteonecrosis, and developed diagnostic and treatment protocols for its treatment.

While our curriculum requires engagement in scholarly activity, our dedication to clinical research has unfortunately dwindled as noted by the decline in research-related articles submitted to refereed journals and to symposia at the annual meetings. There are multiple reasons for this. Historically, the time set aside for research in the four-year curriculum is designed to familiarize residents with the principles and methodology of research, but is inadequate for the performance of serious research. The

AAOMS, wishing to add qualified researchers and teachers in the late 1980s, generously underwrote a combined PhD basic science course and clinical training in OMS. Those who completed the course rarely, if ever, entered full academics. The financial climate of academia reflecting the uncertain national economy since 2008, has limited research funding and escalated demands that academic departments be responsible for earning an ever-growing percentage of their budget. Governmental budget constraints also affected the ability to perform research in academic institutions. We have, however, continued our research activities.

In 1993, the AAOMS Board of Trustees initiated the only ongoing multidisciplinary, multiple site, prospective, longitudinal study to help develop criteria for the treatment of impacted and erupted third molars. Dr. Raymond P. White, Jr. of the University of North Carolina was appointed the project director. The decision by the Board of Trustees, subsequently ratified by the House of Delegates, was significant for it recognized the responsibility of the specialty to scientifically justify its treatments. It also demonstrated to the public our confidence in our therapeutic approach.

The harmonious and mutually supportive relationship that historically marked the relationship between the AAOMS and the IAOMS was severely tested by the differing views we held on the desirability of OMS trainees worldwide obtaining both the dental and medical degree. The Europeans felt its adoption would help validate and solidify their place in their healthcare system and upgrade the profession globally. To further this goal, 53 appointed members of the IAOMS from 24 countries were invited to a meeting in Tenerife in 1987, and Bermuda in 1988, to evaluate the scope and education of the OMS worldwide and how to structurally strengthen the IAOMS. The conclusions of these meetings were presented at the 11th ICOMS meeting in Buenos Aires, where they served as a draft for the “International Guidelines for Specialty Training and Education in Oral and Maxillofacial Surgery.” This document and especially its preface recommended that the dual degree curriculum be adopted as the preferred educational track for the specialty. The AAOMS Executive Committee had a profound disagreement with the process utilized and the conclusion reached. We felt that invited attendees to the Tenerife and Bermuda conferences from the US, no matter their undoubted prominence, were not the elected leaders of the specialty. The Board of Trustees, for cultural and pragmatic reasons, unanimously voted to reject the concept of universal dual degree training.

We in the US have dissimilar professional needs based on a healthcare delivery system that differs from that of many other countries, including those of Europe. The European Association of Maxillofacial Surgery formed in 1970, changed its name in 1986 to the European Association for Cranio-Maxillofacial Surgeons to better reflect their surgical interests. Their graduates are qualified in medicine and dentistry. They developed as a relatively small academically oriented hospital-based specialty and were designated in the 1970s by the European Union as a medical specialty. In some European countries, such as Germany and Great Britain, a parallel dentally-based oral surgery specialty exists.

The AAOMS has a membership of over 9,000 OMSs caring for 320 million citizens. We were formed and essentially remain a clinically oriented private practice-based specialty of dentistry, as academia consists of less than 1% of the total membership. Over 90% of our fellows and members, no matter their academic degree, practice some form of dentoalveolar surgery. In concert with our medical and dental colleagues, we developed a private practice-centered health delivery system with hospital privileges available to private practitioners. Our academic programs developed in both freestanding hospitals, some of which are affiliated with universities. Since our formation, we have fostered a symbiotic relation between academia and private practice.

Since our inception, we, as any specialty, needed a secure political and financial base. For that, dentistry could not be replaced. As noted earlier, our expanded scope created significant tensions in the specialty as we attempted to create equal training and practice opportunities for all AAOMS fellows and members, irrespective of academic degree. Even though the European curricula were somewhat different from ours, similarities were sufficient to make it an attractive alternative academic model to some within our ranks.

A fierce debate ensued on the future character of the specialty. It pitted nation against nation and increased intra-national as well as international tensions to levels not experienced in our history or that of the IAOMS. Every AAOMS president from 1989 until 1995 was compelled to urge the delegates and the membership at large to remain united and protect the viability of the specialty, which could only survive if it had a common purpose and a critical number of fellows/members. To heal the divide with the IAOMS, the AAOMS Board of Trustees in 1995 presented a proposal to redirect the

international OMS community towards a common goal; the treatment, control and, if possible, eradication of the diseases and disorders of the oral and maxillofacial region.

That proposal had five basic components: (1) regionalization of the IAOMS countries; (2) building and/or upgrading of teaching centers in areas of acute need; (3) exchange of faculty and residents for continuing education; (4) wider distribution of academic OMS publications; and (5) the acceptance of the principle that the training curriculum should reflect the needs of each country. Five geographic regions were created: Africa, Asia, Europe, Latin America [AR2], North America and Oceania.

We felt that a consensus was possible on a basic curriculum that would care for the needs of the population of each country and region. The organization would have greater resources to address educational and clinical needs. A further consideration was the worldwide shortage of practicing OMSs. One of our primary challenges was to correct that deficiency. The World Health Organization has reported a worldwide shortage of healthcare workers approaching 4.6 million, including 2.3 million physicians. It also noted that those who seek training in foreign countries tend to remain there, thus further impoverishing a region of its expertise and teaching potential.

To foster an international exchange of knowledge, the AAOMS has regularly hosted joint annual meetings with national and regional sister organizations. Uniformly, they have been academically and socially enriching. In the process, these encounters helped participants better comprehend the cultural and political realities of other countries. Closer cooperation has also occurred between the respective boards of the IAOMS member nations.

The North American region, which was formed in 1998, consists of the American and Canadian Associations of Oral and Maxillofacial Surgeons. This association formalized the traditional strong bonds that have marked the relationship between the two geographic and cultural neighbors. An executive board was created to meet every other year. The chair would be the representative to the IAOMS.

The Changing Personality of the Specialty

The personality of the specialty changed as we reacted to such scientific advances as osseointegration, socioeconomic changes marked by the centralization of healthcare, and the search for a more balanced life style. Predictably these forces affected each other as we contended with them and attempted to chart a future.

As we were engaged in the problems generated by an expanded scope and its accompanying eddy currents, perhaps the most far-reaching discovery in modern dentistry was introduced to North America at the 1982 Conference on Osseointegration in Clinical Dentistry in Toronto. This gathering drew the leading researchers in North American dentistry and featured Professor Per-Ingvar Brånemark (1929–) presenting the results of his landmark research. Five oral and maxillofacial surgery centers were chosen to be training centers for the insertion of titanium implants, and training sessions were offered to OMS faculty. The original indication for osseointegrated implants was for edentulous jaws, but by early 1991, single tooth and short span replacement prostheses were developed and the age-old dream of replacing man's natural teeth was upon us.

Initially, we may have failed to grasp the historical role osseointegration was destined to play in our future and that of dentistry. It is hard to discern why Professor Brånemark abandoned his initial desire to exclusively have OMSs place osseointegrated implants. Perhaps it was a perceived early lack of enthusiasm for implantology by the specialty. The result was that the Brånemark group

identified periodontology as another dental specialty to train in the placement of osseointegrated implants. In 1991, they actively embraced implantology as a critical part of their curriculum. In time, other dental specialties as well as general practitioners followed suit.

As our literature and lecture presentations of the period illustrate, implantology has been part of our practice since the 1960s. During the last half century, the specialty, together with gifted and innovative general practitioners, searched for ways to substitute for lost dentition. In 1951, the American Academy of Implant Dentistry was founded. In 1952, Leonard Linkow began his illustrious career as a pioneering force in American implantology. In 1969, Norman Goldberg and Aaron Gerskoff developed the first successful sub-periosteal implant. In 1969, Irving J. Stevens and J. Alexander filed for the first American patent for a titanium dental implant and received it in 1971. As we placed subperiosteal, blade endosseous, and transosteal implants, the specialty advanced implantology in 1970, Irwin Small published a "Preliminary Report on Mandibular Staple Implant for Denture Prosthesis" in the *Journal of Oral Surgery*. This ingenious and successful device to stabilize a mandibular full denture quickly became a mainstay of the therapy for edentulous mandibles. It was eventually eclipsed, as were all implants, by osseointegrated titanium implants. We continued to enhance the utilization of implants with such techniques as sinus augmentation, horizontal osteotomies, and utilization of hydroxyapatite, as well as for facial reconstruction.

We may have been somewhat tardy in our comprehension of the revolutionary potential of osseointegration and the swiftness of events that followed the Toronto conference, but the 1985 AAOMS board reacted vigorously to prepare the specialty for the incorporation of the new implant technology. In that year, a permanent Special Committee on Implantology was established and a survey of the membership was undertaken to determine the nature and demands of our future needs in this new area of practice.

Our Board of Trustees further informed the ADA Council on Dental Education and Licensure of our objections to the formation of a proposed dental specialty of oral implantology, and asked the Committee on Residency, Education and Training (CRET) to develop guidelines for the education of implantology in our residency programs. Finally, the 1985 board launched an ongoing marketing program that emphasized implantology as part of

the specialty. This was aimed at healthcare providers, third-party payers and the public. At the 1986 annual meeting, a three-hour symposium on implantology was held, as well as mini-lectures and a course in periodontal surgery. The board also instructed the Committee on Scientific Sessions to devote the 1987 Clinical Congress to implantology and periodontal surgery, as we attempted to define a strategy to compete with another dental specialty.

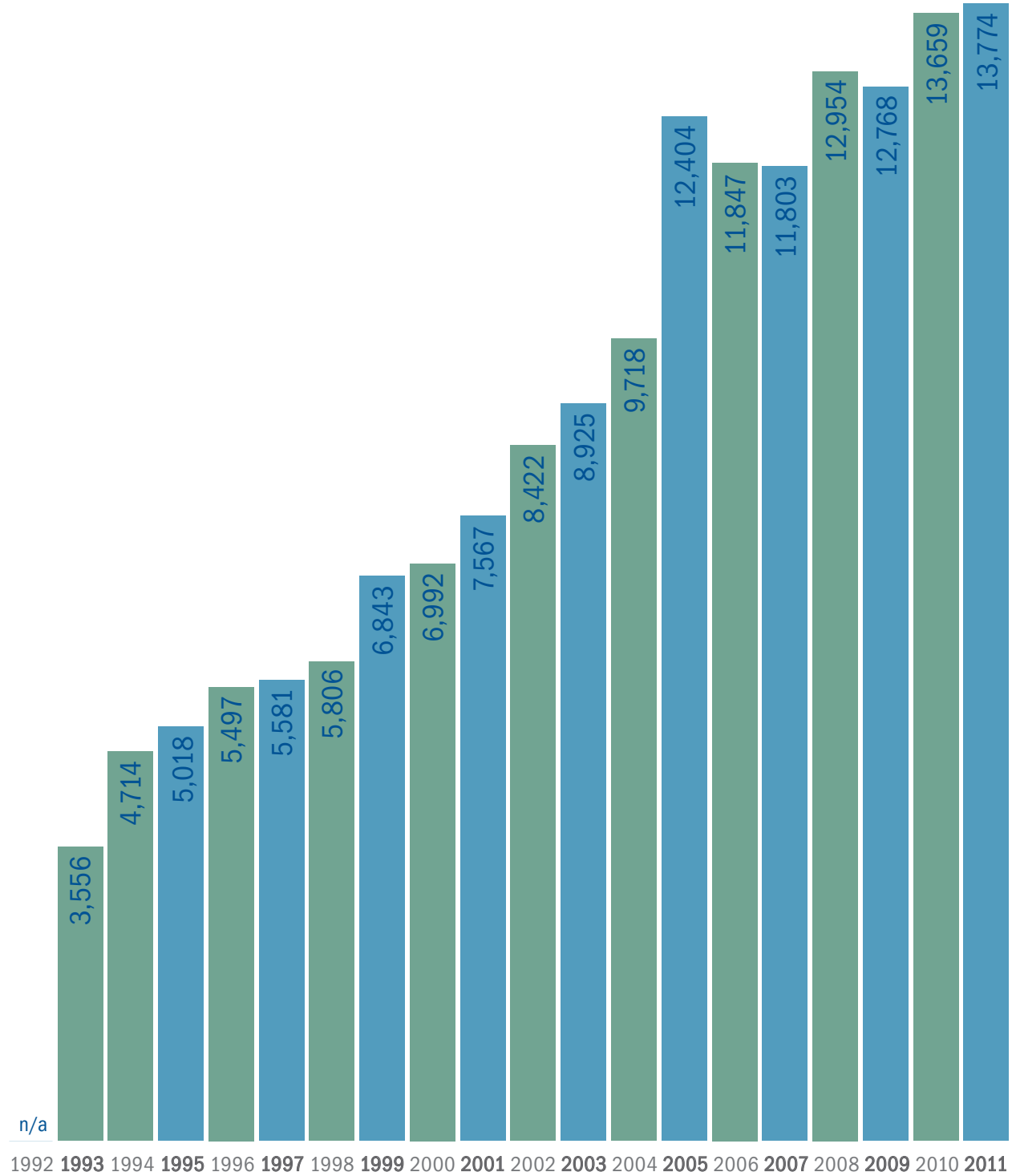
The emphasis of implantology in our practice may have been the expanded scope the specialty was seeking. Osseointegrated implants altered the specialty as few other events in our history. It changed our clinical focus, altered the financial base and caused us to compete with fellow dentists for procedures that were once exclusively part of our domain. Over time, the availability of osseointegrated implants negated the need for a substantial number of preprosthetic procedures that accounted for a significant portion of our hospital use.

Previously, the specialty needed to provide a platform of optimal size and shape for the reconstruction of edentulous jaws. It also had the perpetual challenge to prevent loss of alveolar height under the resorptive forces of mastication. To meet these objectives, it was necessary to hospitalize patients to perform procedures such as vestibuloplasties, lowering the floor of the mouth, skin-grafting, osteotomies and placement of interposition bone grafts, as well as performing onlay grafting utilizing autogenous bone allografts, or more commonly with bone substitutes such as hydroxyapatite. We had an opportunity to expand intellectually and clinically as the necessary skin grafts were usually harvested from the thigh, and autogenous bone most commonly from anterior and posterior iliac crest, appropriate ribs and the calvarium.

We originally had to rely on our orthopedic and neurosurgical colleagues to harvest bone and skin, and for postoperative care. Eventually, we learned the necessary operative techniques and postoperative care. In time, we obtained the desired hospital privileges to perform procedures in distant anatomic sites. That privilege has successfully withstood periodic challenges. Our training programs were usually the first to obtain the necessary privileges and became the engines of our professional development that hastened our acceptance as a necessary part of the nation's healthcare system.

Figure 9

Growth of Implant Surgery 1992–2011



Ending year of academic year indicated above (ex: 1992 = Academic year 1991–1992)

The demand and lucrative nature of osseointegrated implants made it possible to ignore many of the procedures that required hospitalization. This development was unfortunate since it occurred at the time when we were performing more expanded scope procedures. The popularity of implantology could conceivably be one of the prime reasons for our diminishing interest in cosmetic surgery. [Figure 9] The number of esthetic procedures performed in academia during the last decade of the 20th century steadily increased, only to begin an ongoing descent in the last decade. The number of implant placements has continued to increase during the period. The declining interest in cosmetic surgery is verified to a degree by the finding that only 1%–2% of the membership performs cosmetic procedures.

Dentists are more likely than ever to practice in a group practice than as solo practitioners. The ADA estimates that by 2015, 11% of all private practitioners will be in group practices; an increase from 2.9% in 2009. This trend is also visible in medicine where the proportion of otolaryngologists in group practices increased from 37.8% in 2001 to 53.4% by 2009.

The movement to practice in larger structures is mirrored nationally. Insurance companies and increasingly the federal government determine service fees as they promote the locale of care and the insistence that health records be computerized in all healthcare settings. An early example of centralization was the institution of the fee-for-service based on Relative Value Units (RVU). In 1989, it became the determinant of reimbursement by Medicare and Medicaid to physicians and was eventually adopted by private insurance companies. That reimbursement system is based on how much time and effort a physician expends solving clinical problems, but does not measure the outcome of treatment and patient satisfaction criteria the forthcoming ACA would prefer. The Federal government has encouraged centralization of care in hospitals and other large healthcare facilities by reimbursing hospitals at a higher level than private practices for identical procedures.

The seismic changes in healthcare during the past 50 years followed three major actions by the federal government: the 1964 adoption of Medicare and Medicaid; the introduction in 1993 of managed care following the failure of the Clinton healthcare reform initiative; and, most recently, the 2010 passage of the ACA and its companion, the Healthcare and Education Reconciliation Act (HERA). The elements of the 2010 acts, which will be introduced over a four-year period, will impact one-fifth of the nation's economy.

Academia greatly benefited from the Medicare legislation of 1964. Although the ADA chose not to participate in Medicare, the bill funded graduate medical education and included OMS resident training in teaching hospitals on the same level as our medical counterpart. Direct federal funding of graduate medical education (GME) was mandated in the bill to compensate teaching hospitals for the added costs incurred in providing care to Medicare patients. Essentially GME funding underwrites medical resident training in the US.

Successive federal legislations have attempted to coalesce the often contradictory objectives of cost-control and extension of care. The latest iteration of this effort has been the forthcoming attempt at nationalizing the healthcare delivery system. In response to managed care, hospitals in the late 1990s bought or co-opted private practices into their orbit in the belief that size offered greater flexibility in dealing with the new healthcare system. The policy was not overly successful. Since the physician was no longer the owner in this scenario, many practices were sold. The 1999 pattern is currently being repeated in anticipation of ACA and HERA, but now physicians are hired and their practices closed or amalgamated into a larger entity.

Hospitals have also accelerated the hiring of hospitalists. These have been defined as “Physicians whose primary professional focus is the general medical care of hospitalized patients.” In recent years, hospitals have added general practitioners and specialists as full and part-time employees. It is estimated that since 2000, there has been a 75% increase in the number of active doctors employed by hospitals and that by 2014, 50% of physicians will be employed in hospitals or hospital-controlled practices. The number of physicians and dentists employed full-time by community hospitals has grown from 62,152 in 1998 to 91,282 in 2010, and the number employed part-time has increased from 15,837 to 24,139 during the period. The manner of a physician’s practice is not solely determined by personal considerations. The surgeon in private practice may not be as welcome in the hospital as before. There appears to have been a generational cultural change among those entering the health professions as they seek a more predictable professional life. About one-third of the newly graduated physicians would prefer to be employed by hospitals. The AMA is concerned about the growing number of physicians employed by hospitals, principally because this arrangement could restrict the manner of care delivered by the physician.

The inability of a segment of the population to gain access to dental and medical care has strained the ability of the healthcare system to care for acute head and neck pathology. In 2008, 3.1% of all visits to the Emergency Department (ED) were prompted by maxillofacial problems. If the head and neck region is included, the percentage of visits rises to 8%. EDs and clinics are straining their resources in dealing with dental patients unable to obtain emergent care in the private sector. According to The Pew Charitable Trust report, there were 830,590 ED visits by patients seeking treatment for preventable dental disorders nationwide in 2009. The report notes that in Florida, the state's payment for ED dentally related visits in 2010 exceeded \$88 million. Approximately a third of the ED visits were by Medicaid patients. There was a 16% increase in the number of Medicaid patients seeking ED care for dental related problems between 2006 and 2009. The report concludes that the main reason for the use of the ED by patients with dental disorders is due to a lack of access to dental care.

Our behavior has also been shaped by the changes in the culture and personality of hospitals. Historically, the poor were most often treated in hospitals run by charitable organizations, religious or secular, as well as in local and state-run facilities. The arrival of managed care in the 1990s and the imminent institution of federal control over healthcare in the first decade of the 21st century has changed that. Many non-profit community hospitals are now for-profit institutions and consequently are often not a part of the civic fabric of their locale. The bond between practitioner and hospital was frayed.

Practitioners were also looking at a more balanced life. George Shelton, writing in the March 2010 issue of the *Annals of Surgery*, commented on the changing mindset of those entering medicine. He noted that, "the current generation of physicians is less interested in the dominance of professional life over personal lifestyle than previous generations." *The Wall Street Journal*, in an article titled "As Doctors Get a Life, Strain Shows," noted that US medicine is in the middle of a cultural revolution as young physicians intent on balancing work and family challenge the assumption that doctors should be available to treat patients around the clock. A 2006 survey by the physicians staffing company Mary Hopkins and Associates revealed that 63% of medical residents were significantly concerned by the lack of available free time. In the American Association of Medical Colleges' (AAMC) 2008 survey of applications for medical resident positions only five specialties had more applicants than available positions. These were plastic surgery, radiology,

dermatology, orthopedic surgery and radiation oncology. Only orthopedic surgery among these specialties dealt with acute care. A 2008 AAMC survey concluded that the basis for the career choice among medical students was a “desire for a controllable lifestyle, a predictable schedule and fewer call hours.” The AAMC survey further concluded that, beyond considerations of salary and lifestyle, other influential factors were prestige, intellectual interests, malpractice concerns, and opportunities for fellowships, the influence of a mentor, and, finally, exposure to the specialty.

In academia there was recognition in 2003 that, in the interest of patient safety, a directive put forth by the Accreditation Council for Graduate Medical Education (ACGME) limited the number of work hours per week to 80, the frequency of night duty to every third day, and a maximum of 30-hour shifts and 10 hours between them. Further clarifications and augmentations of the guidelines were published in 2008 and 2012. Inherent in the directive was also awareness that residents would fare better if their lives were more balanced.

The ability to pursue a balanced life was perhaps less available to the OMS of previous generations than to the practitioners of this era. In time, hospitals reacted to this nationwide development encompassing both medical and surgical services by paying those willing to take emergency call and encouraging employment of hospitalists. Anecdotally, it seems that our behavior has also been shaped by the changes in the culture and personality of hospitals. Taking call in a not-for-profit community hospital was part of professional and civic responsibility.

Commencing in the early 1990s, the country experienced a series of recessions. We emerged from these relatively unscathed. The 2008 recession, by some accounts the worst since the great depression of the 1930s, was difficult for the specialty and raised concern about our private practice model. In a 2009 survey conducted by the ADA of all independent OMSs, 21.5% stated they were not busy enough and 53.5% “treated all but were not overworked.” According to a study by Vuljicic et al, the general dentist experienced a decline in net income beginning in 2005. The ADA news reported the trend might be continuing, and its analysis indicates per capita dental spending has remained flat since 2005. According to a 2013 ADA report measuring the dental economy post-recession, the improvement in the nation’s economy has not been reflected in expenditure on dental care.

In its 2009 *Surveys of Dental Practice*, the ADA noted that between 2008 and 2009, OMSs experienced a 15.2% decrease in net income as the average real net income of independent OMSs increased from a low of \$325,000 in 2000 to \$351,404 in 2009. We barely kept up with inflation during the decade. Indeed according to an ADA study, spending on dental care has been anemic since 1996. It is possible that the sustained rise in earnings by dentists in the past few years may reflect the inflationary component in the cost of dentistry. According to the 2011 report of the Cumulative Percent Increase (CPI) of all medical care and dental services, the US Department of Labor's Bureau of Labor Statistics reported that in six out of the last 10 years the inflation in dental services exceeded the inflation in the whole of medicine and the CPI. Accordingly, the ADA Health Policy Resources Center noted "Inflation adjusted per capita dental spending slowed well before the recent slowdown." The question is whether the decline is transient.

Insurance coverage for OMS procedures from 2005 to 2009 dropped 1.3%, while the portion of patients with no insurance remained stable and public assistance spending rose 0.8%, according to the *ADA Surveys of Dental Practice*. The survey noted that we were seeing fewer patients as evidenced by a decrease in gross billing of 16.9% from 2008 to 2009, and in the average number of days patients waited for an initial appointment with an independent OMS. The recession may also have demonstrated that competition from our dental colleagues is a concern. At present, the basic procedures that sustain us seem to demonstrate a public need, but no trend is available. According to a study by the *American Journal of Public Health* in 2007, American dentists extracted 10 million third molars a year on five million patients at a cost to society of \$3 billion. This translates to 1,111 third molars extracted by each OMS.

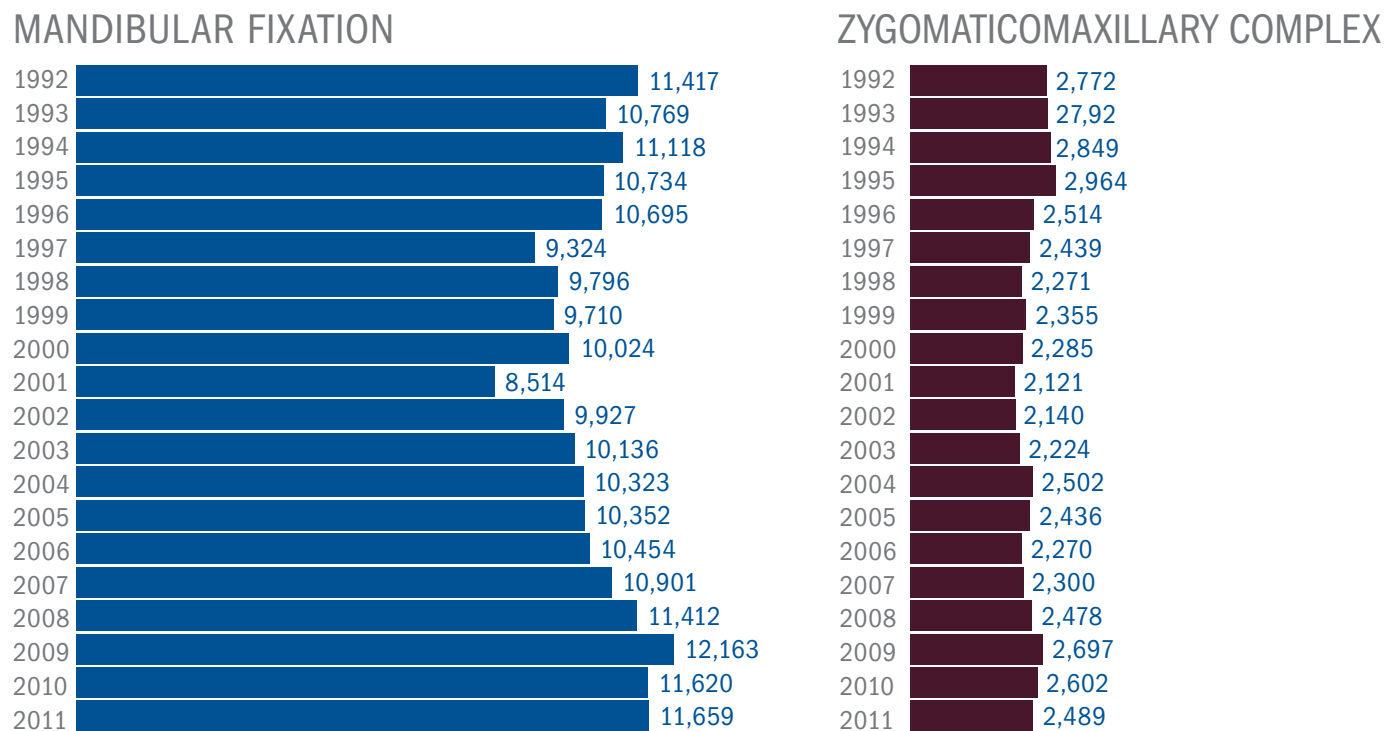
In 2011 there was a consensus among implant companies that implantology was continuing to grow worldwide, but at a slower rate that will remain in the immediate future. The reports also predicted competition for implant placement will intensify as a growing number of specialties practice implantology and its required ancillary surgical procedures, and more general practitioners graduate with some training in implantology. The growing number of implantology courses have only cemented this trend. More dentists are competing in a US market where 1.3 to 2 million implants are placed annually.

We were reminded anew how closely we are tied to the dental economy, how little flexibility we have had since our population base was limited by competition within the profession, and that we have a limited variety of acute care procedures that are less sensitive to economic changes. A significant portion of the specialty performs less hospital-based surgery. For many practitioners, Ambulatory Surgery Centers (ASC) have replaced the need for acute care hospital; their utility is demonstrated by over 22 million surgeries a year being performed in over 5,000 centers.

In the treatment of acute facial trauma, some have been reluctant to provide treatment for which we assume responsibility, since there is often little or no reimbursement and court legal action is involved. Despite the reduction in facial trauma, mainly due to airbags, statistics from our academic centers demonstrate an increase in procedures treating trauma to the facial region from 1991–92 to 2011. There was a steady decline in the number of

Figure 10

Trauma

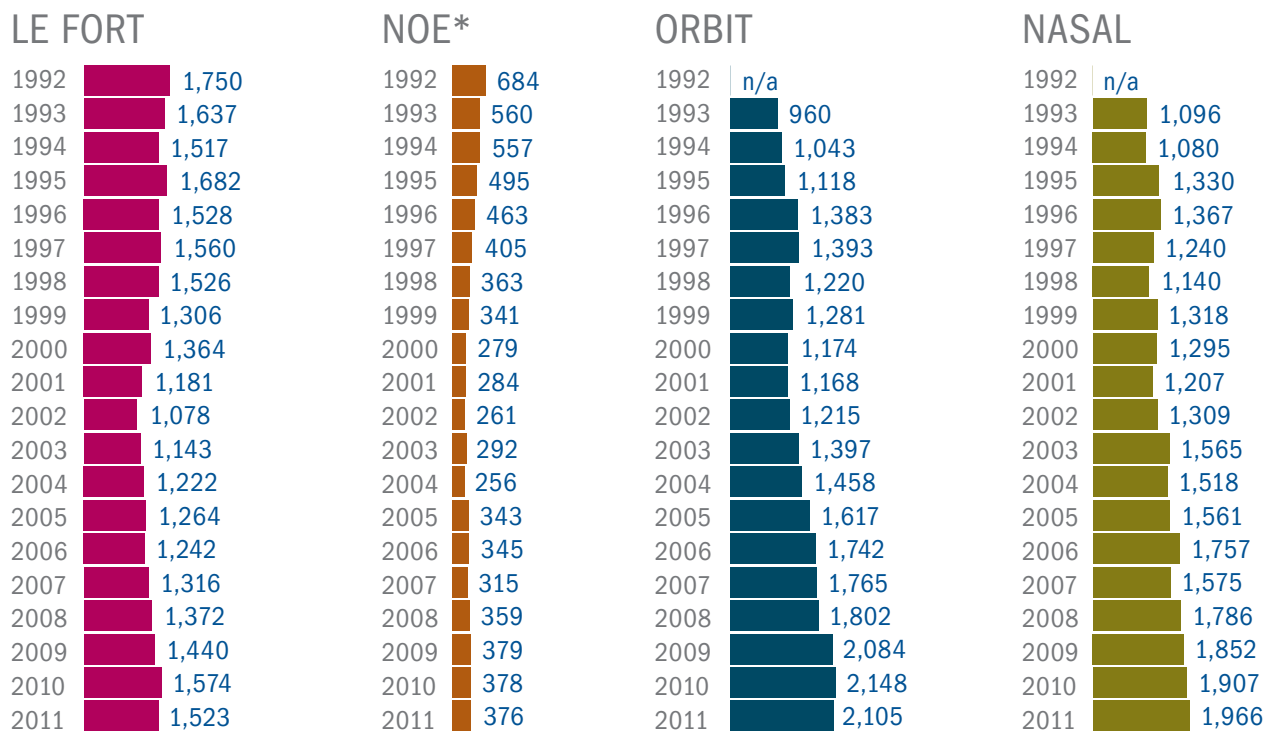


Ending year of academic year indicated above (ex: 1992 = Academic year 1991–1992)

mandibular fractures from 1990 to the year 2000, only to increase from 2001 to 2011. Similarly there has been a marked rise in the treatment of Le Fort type fractures since 2001, but a decrease since 1991–92. An increase was also noted in the frequency of zygoma and orbital fractures and a steady decline in naso-ethmoid-orbital fractures. [Figure 10]

The reasons for the increase in facial trauma on academic services could be due to outlying hospitals being less willing to treat these injuries and referring them to trauma centers. It is also possible that there is less competition among the specialties treating facial injuries.

Similarly, orthognathic surgery is performed more frequently in academic centers, as well as procedures treating benign and malignant lesions of the region. The surgical treatment of temporomandibular joint pathology underwent a sharp decline after the mid-1990s, as the specialty reduced its

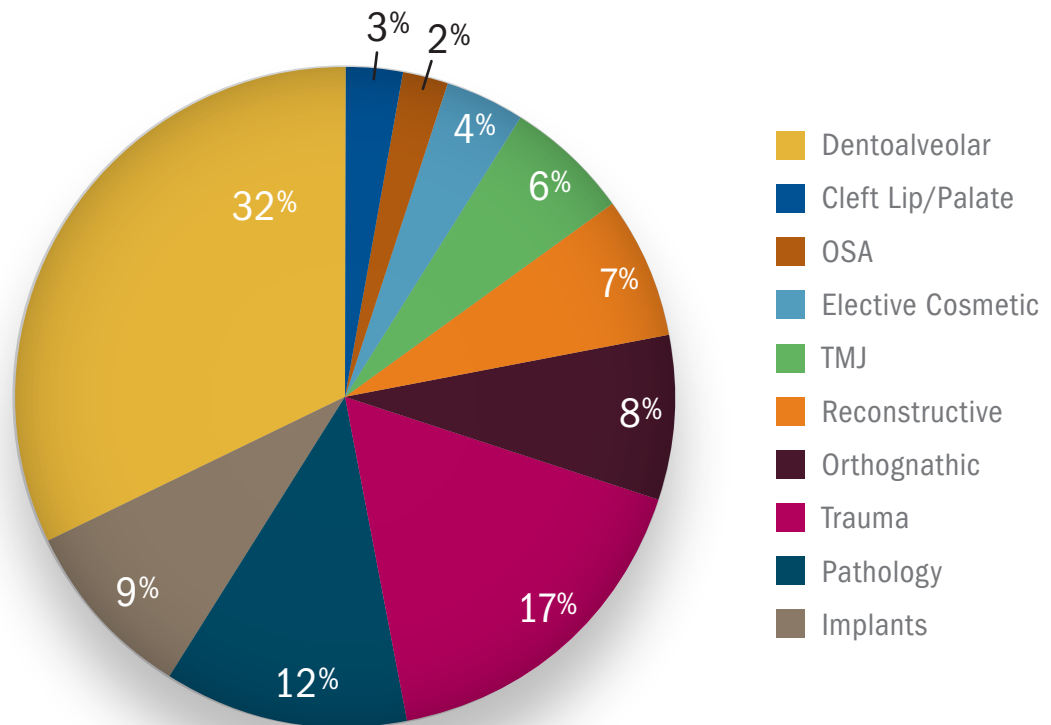


*Naso-Orbital-Ethmoid

reliance on open procedures. Arthroscopy and arthrocentesis together with conservative management allowed most treatment of joint pathology to be performed outside the hospital. The trend seems to be for major surgery to be increasingly performed in academic centers, a reversion to earlier times when there was a sharp divide between the surgeries performed in academia and private practice. [Figure 11]

Figure 11

Distribution of Surgeries Performed by OMS Faculty



Conclusions

In the past, we wrestled with contentious issues typical of a new specialty aspiring to create a need for its services and to play an important role in the health care of the nation. The current and forthcoming challenges seem equally demanding as we continue to grapple with third-party payers, an aging population, the rising cost of delivering healthcare and more intense competition.

Can the past offer us guidance as we confront a future we can only vaguely discern? In his book *Rise and Fall of the Great Powers*, Paul Kennedy advanced the theory that the success of a nation depends on the following factors: 1) its economic strength and the strength of its social and political organizations, and 2) the achieved success must be compared to the success of the competition. He went on to add... “the success in obtaining national goals is most dependent upon the nation itself, the people, their skills, energy, ambition, discipline, initiative and belief.” It is possible that an organized healthcare profession has similarities with the national state. Not unlike a government, it must satisfy the public’s demand for a high level of care or it will lose its relevance and its place in the healthcare spectrum. It must at the same time be financially viable, be well organized, united, clear in defining its goals, be flexible, and have the will and ability to carry out its mission.

A healthcare specialty does not fit neatly into this paradigm, for it does have contradictory roles. It must behave in an altruistic manner, for that is its calling and the justification for its existence, but at the same time it has to adopt a narcissistic, aggressive stance, for we live in a competitive, constantly evolving environment where the principle of the survival of the fittest rules.

When we measure our success according to these principles, we can take some satisfaction in having achieved societal relevance, a well-organized and politically adept organization and an admirable academic structure. However, we have not successfully contended with the aspirations of our competitors. It was not for lack of trying. Historical currents are influenced by power and how wisely it is used. Since our inception, we have been limited by our numerical size within the profession, and in the last quarter century by the divergent and antithetical goals we pursued. Each party was convinced its aspirations are existential. The future will test the thesis of whether it is possible for a specialty to prosper when deprived of an uncontested referral base. The profession has to discover whether its current course can long sustain a structural model where specialties resemble each other and the resulting competition will weaken all.

The guidelines announced by Kennedy for a successful government can act as a future measure of our continued achievements as we approach the 100th anniversary of our founding. How relevant will we be to the public's needs? Can our political and organizational base remain strong and will our clinical and academic base be sufficiently virile to propel us scientifically and financially?

ABOUT THE AUTHOR

Daniel Lew, MA, DDS

Daniel Lew, DDS, MA, completed his graduate training in oral and maxillofacial surgery (OMS) in 1966 and entered private practice. He left 17 years later to pursue an academic career. In 1983, he was appointed associate professor in the Department of OMS, University of Missouri, Kansas City.

From 1984 to 1991, Dr. Lew served as chief and subsequently professor of OMS at Louisiana State University, Shreveport Medical Center. In 1992, he was appointed chairman and head of the Department of OMS at the University of Iowa, a position he relinquished in 2000 to continue his career in teaching and clinical pursuits. In 2012, Dr. Lew retired and became professor emeritus in the OMS Department at the University of Iowa. During his academic career, Dr. Lew published 48 articles in refereed academic journals, 13 abstracts and 11 chapters.

Dr. Lew served the specialty in a number of capacities, including president of the AAOMS in 1993–1994, president of the Section of Educators in 1984–1986, and chair of the Committee on Residency Education and Training in 1991–1992. In 1978–1981, he served on the Advisory Committee of the American Board of Oral and Maxillofacial Surgery. From 1984 to 2007, he was a manuscript reviewer for the *Journal of Oral and Maxillofacial Surgery* and a member of its Editorial Board from 2000 to 2008.

In the service of the American Dental Association (ADA), Dr. Lew chaired the Review Committee on Oral and Maxillofacial Surgery and represented the specialty on the Commission on Dental Accreditation. He was the ADA representative on the Joint Commission's Professional and Technical Advisory Committee for Ambulatory Health Care and a member of the Commission's Medical Staff Chapter Workshop.

Dr. Lew represented the AAOMS on the Executive Board of the International Association of Oral and Maxillofacial Surgeons from 1995 to 1997, and presided over the formation of its North American component.

Dr. Lew has been elected to a number of professional organizations, including the American College of Dentists, the International College of Dentists and the Dental Section of the Royal College of Surgeons of England.